TESIS DOCTORAL

UCAM
UNIVERSIDAD CATÓLICA DE MURCIA

ESCUELA INTERNACIONAL DE DOCTORADO

Programa de Doctorado en Ciencias del Deporte

Dual career of high-performance student athletes in China (mainland):a comparative study based on the analysis of partial Chinese national and provincial teams

Autor:

Song Bin

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AUTHORIZATION OF THE DIRECTORS OF THE THESIS FOR SUBMISSION

Prof. Dr. Antonio Sánchez Pato and Prof. Dr. Luis Manuel Martínez Aranda as Directors(1) of the Doctoral Thesis "*Dual Career of High-Performance Student Athletes in China (mainland):A Comparative Study Based on the Analysis of Partial Chinese National and Provincial Teams*" by Song Bin in the Program of Doctor of Sport Science, **authorizes for submission** since it has the conditions necessary for his defense.

Sign to comply with the Royal Decrees 99/2011, in Murcia, 26 May, 2023.

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RESUMEN

Con el objetivo de destacarse en el foro deportivo internacional, la mayoría de los países prestaron una gran atención a los deportes competitivos. Los deportistas de élite, por tanto, se ven obligados a dedicarse cada vez más a alcanzar la excelencia en su carrera deportiva (Dawn Aquilina, 2013). En este caso, les queda mucho menos tiempo para desarrollar otros aspectos fuera de su carrera deportiva. Sin embargo, como persona integral, los atletas de élite deben considerar su vida post-atlética. Esto les impulsa a desarrollar su doble carrera. Con el objetivo de convertir a China en una poderosa nación deportiva a partir de la principal nación deportiva actual, las autoridades deportivas chinas han realizado grandes esfuerzos en deportes competitivos, incluida la inversión en instalaciones modernas, invitar a entrenadores extranjeros, mejorar el bienestar de los atletas y brindar más oportunidades. para recibir la educación superior. Para asegurar las conductas, los organismos deportivos chinos y las autoridades educativas formularon una gran cantidad de políticas. Sin embargo, todavía existen algunas deficiencias. Dentro de este estudio, se encuestó a una gran cantidad de participantes que involucraban 24 deportes olímpicos que incluían 33 disciplinas, lo cual se documentó por primera vez en la literatura china de HPSA. Este estudio contribuyó a la formulación de políticas de las partes interesadas de alto nivel, además de proporcionar necesidades a la ruta de DC de HPSA.

Esta disertación se desarrolló para explorar la carrera dual de los estudiantes-atletas chinos en China continental mediante la realización de un cuestionario abierto a estudiantes-atletas de élite parciales de equipos nacionales y equipos provinciales. Para proporcionar una imagen completa de la carrera dual de los estudiantes-atletas chinos, esta investigación adoptó una investigación descriptiva cuantitativa basada en tres marcos teóricos. Además, también se discutieron las políticas de carrera dual europeas y estadounidenses para compararlas con las políticas chinas.

Los **objetivos** de esta disertación fueron: 1) explorar el desempeño de las

instituciones de educación superior chinas y las autoridades deportivas para facilitar el logro de títulos universitarios a los estudiantes-atletas; 2) examinar la disponibilidad referénciale de políticas europeas y americanas de estudiantes deportistas de alto rendimiento para las autoridades chinas; 3) identificar el desempeño de los estudiantes deportistas de alto rendimiento en su contexto de Instituciones de Educación Superior. Con todo, el objetivo central fue abordar las preguntas centrales: ¿Cómo es el desarrollo de la carrera dual de los estudiantes atletas de alto rendimiento en China?

Esta investigación empleó **marcos** psicosociales, de desarrollo y económicos para examinar el desarrollo de DC de HPSA chinos y su autopercepción de la implementación de estrategias de DC de la organización educativa china y las autoridades atléticas. 1) Se adoptó el modelo holístico de carrera atlética para evaluar las políticas de DC sobre las diferentes etapas de desarrollo de los atletas de élite, entre las que se trataba tanto de la transición normativa como no normativa de los mismos. Mientras tanto, también se involucraron las transiciones surgidas a nivel deportivo, nivel psicológico, nivel psicosocial y nivel académico/vocacional. 2) En esta investigación se aplicó la teoría del capital humano como un enfoque interdisciplinario para revelar la práctica realizada en las IES y organismos deportivos chinos. 3) Se introdujo la teoría de la resiliencia para evaluar el desempeño de SA frente a la adversidad. 4) Con el fin de profundizar en las políticas de DC prevalecientes en diferentes países, esta investigación también expuso la relación entre el modelo deportivo y el sistema social. Las diferencias radicales entre el socialismo y el capitalismo conducen a perseguir de forma diferente su modelo deportivo. Sin embargo, sea cual sea el modelo deportivo, está muy relacionado con la política.

En cuanto a la **metodología**, esta tesis doctoral adoptó un enfoque de investigación cuantitativa. Se utilizó para identificar problemas con la práctica actual en la carrera dual de los estudiantes atletas chinos, justificar la práctica actual de las autoridades deportivas y educativas chinas, emitir juicios o determinar qué deberían hacer todas las partes interesadas en situaciones similares. Por lo tanto, 1) se utilizó un cuestionario basado en la web que contenía 79 elementos para recopilar datos; 2) Participantes (n=675, Mago=21,3) que participan en 21 deportes olímpicos y algunos otros deportes no olímpicos participaron; 3) El cuestionario fue diseñado y analizado desde tres aspectos,

incluyendo la carrera deportiva, la carrera académica y el servicio de tutoría.

Con respecto a los **resultados**, se extrajeron cuatro conclusiones: 1) La restricción de tiempo se convirtió en una barrera importante, lo cual es consistente con la literatura histórica que reveló que las restricciones de tiempo sirvieron como un desafío crucial relacionado con el equilibrio entre el rendimiento académico y el rendimiento deportivo; 2) China ha proporcionado instalaciones de entrenamiento modernas, acogedoras y convenientes para los estudiantes atletas, pero el servicio de entrenamiento estaba subdesarrollado, incluidos los entrenadores, la psicología, etc.; 3) La mayoría de las universidades chinas han empleado métodos de enseñanza modernos y amigables con los atletas, mientras que algunas instituciones de educación superior proporcionaron un contexto académico sesgado, que incluye especializaciones limitadas, falta de un servicio de tutoría específico, etc.; 4) Era necesario mejorar aún más las creencias de auto resiliencia para que los estudiantes atletas mejoraran su capacidad para hacer frente no solo a las adversidades que enfrentan en los deportes sino también fuera de los deportes.

PALABRAS CLAVE

estudiantes atletas; carrera doble; política China; China; Instituciones de Educación Superior; Deportes competitivos; autoridad deportiva; estudiar;

ABSTRACT

With the goal to highlight itself on international sports forum, most countries attached tremendous attention on competitive sports. The elite athletes, therefore, are forced to dedicate themselves more and more to achieve excellence on their athletic career (Dawn Aquilina, 2013). In this case, much less time is left for them to develop other aspects outside of their sporting career. However, as a whole person, elite athletes should consider their post-athletic life. This drives them to develop their dual career. Aiming to develop China into a powerful sporting nation from the current major sporting nation, Chinese sports authorities have been made great efforts on competitive sports, including to invest the modern facilities, to invite foreign coaches, to improve the welfare of athletes and provide more opportunities to receive higher education. To ensure the conducts, Chinese sports bodies and educational authorities formulated a great deal of policies. Nevertheless, there still exist some deficiencies. Within this study, a large number of participants involving 24 Olympic sports including 33 disciplines were surveyed, which was documented firstly in Chinese HPSA literature. This study made a contribution to the policy-maker of high-level stakeholders, in addition to providing necessities to DC pathway of HPSA.

This dissertation was developed to explore the dual career of Chinese student-athletes in mainland China by means of conducting an open-ended questionnaire towards partial elite student-athletes from national teams and provincial teams. In order to provide a whole picture of dual career of Chinese student-athletes, this research adopted quantitative descriptive research based on three theoretical frameworks. In addition, European and American dual career policies were also discussed to compare with Chinese policies.

The **objectives** of this dissertation were: 1) to explore the performance of Chinese High-Educational Institutions and sports authorities on facilitating college degree accomplishment towards student-athletes; 2) to examine the referenceable availability of European and American policies of high performance

student athletes for Chinese authorities; 3) to identify the performance of high performance student athletes in their High-Educational Institutions context. All in all, the core objective was to address the central questions: How is the development of the dual career of high performance student athletes in China?

This research employed psychosocial, developmental, economical **frameworks** to examine the development of DC of Chinese HPSA and their self-perception of the implementation of DC strategies of Chinese educational organization and athletic authorities. 1) Holistic athletic career model was adopted to evaluate DC policies upon the different development stages of elite athletes, among which both normative and nonnormative transition of them were concerned. Meanwhile, the transitions arising at athletic level, psychological level, psychosocial level and academic/vocational level were also involved. 2) Human capital theory as an interdisciplinary approach was applied in this research to reveal the practise conducted in Chinese HEIs and sports bodies. 3) Resilience theory was introduced to appraise SA's performance in front of adversity. 4) In order to further explore the DC policies prevailed in different countries, this research also expounded the relationship between sports model and social system. The radical differences between socialism and capitalism lead to different pursue to their sports model. Nevertheless, no matter what sport model, it is much related to politics.

As for the **methodology**, this doctoral thesis adopted quantitative research approach. It was used to identify problems with current practice in dual career of Chinese student athletes, justify current practice of Chinese sports and educational authorities, make judgments, or determine what all stakeholders should do in similar situations. Therefore, 1) A web-based questionnaire containing 79 items was used to collect data; 2) Participants (n=675, Mage =21.3) who take part in 21 Olympic sports and some other non-Olympic sports were involved; 3) The questionnaire was designed and analysed from three aspects, including sports career, academic career and tutoring service.

Regarding the **results**, four conclusions were drawn: 1) Time constraint taking up major barrier, which is consistent with historical literature that revealed time constraints served as a crucial challenge involving with balancing academic performance and athletic achievement; 2) China has provided modern, cosy and convenient training facilities for student athletes, but training service

was underdeveloped, including the coaches, psychology, etc.; 3) Most Chinese universities have employed modern and athlete-friendly teaching methods, while some higher-educational institutions provided biased academic context, including limited majors, lacking of specific tutor service, etc.; 4) Further enhancing self-resilience beliefs was necessary for student athletes to improve their capability to cope with not only adversities faced in sports but outside of sports.

KEYWORDS

student athletes; dual career; Chinese policy; China; Higher Education Institutions; competitive sports; sports authority; study;

ACKNOWLEDGEMENTS

Long , long had been my road and far , far was the journey : I would go up and down to seek my heart's desire (Hawkes, 1989).—Qu Yuan (c. 340 BC- 278 BC)

I would like to thank my parents, without whom I wouldn't be a truly virtuous man, not to mention to be a person who never gives up his dream. When I was young, once my parents asked my dream when I grow up. I answered off the top of my head "to be a doctor". Probably, no one took it seriously then. However, this remark was deeply impressed into my mind . And it had been a spur in my academic pathway.

I want to extend a heartfelt thanks to my directors. To Dr. Antonio Sánchez Pato, thanks for providing guidance and support through my research process. You encouraged me, like the spring rain watering the earth, gently and sincerely; you raised me up from an academic research rookie to a real scholar. To Dr. Luis Manuel Martínez Aranda, thank you for your insight and meticulous observations. Your profound knowledge towards academic research has proved to be a tremendous assistance in my Ph.D. study.

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Last but not the least, I would like to express my deep appreciation to my family. To my wife, without your understanding and unselfish support, I could not accomplish this life goal. To my sister, your encouragement was an inexhaustible motivation. To my son, believe or not, you are my future and I hope I could be your model in your life.

PRELUDE

These episodes really did happen to me. All about sports and education.

Episode I:

Locale: a basketball court

Time: one day in September, 1994

Scenario: It was happened at my 1st P.E. class in high school. As the whistle blowing for free time, all of us were excited to do our favourite sports. For me, unfortunately, nothing was included because I am indifferent to any sports.

From the very young age, I was only fascinated by study in the classroom instead of playground. However, no one cares about my P.E. score at that time. The reason not only lies in that my academic work excels among my peers but also loose demands and management on P.E. class in my time in primary and junior middle school. All the people around me attach most attention on educational study, by which their children can embrace a bright future. Therefore, I had the opportunity to be awarded the honour of "Three-Good Student"(means good at moral, study and health) in consecutive years during my whole range of compulsory education.

Let's move back to my story. I assumed it was a new start for my high school life. I proactively picked up a basketball and tried to dribble and took a shot. As you imagine, a series of awkward movements exposed to my classmates and P.E. teacher.

Student A: *"Seems you never played basketball!"*

Student B: *" Just stand aside and let us show you how to play".*

All the comments were true facts. And my teacher stood by and did nothing. Eventually, I didn't touch basketball in my whole 3-year-high-school life, because I know the P.E. score was not counted in the final score of College Entrance Exam.

Probably, my ego went astray. Otherwise, I ventured to say then educational system or culture value had some biases.

Episode II:

Locale: a meeting room of my institute (a sports university)

Time: one day in September, 2017

Scenario: As required, all the new employees should sign a contract with their institute. The content of "Education" is mandatory in our contract. When we read the items of the contract, one of my new colleagues spoke out " how can I know my education experience of primary school since I've never been there and my coach managed all the data"? I was shocked and wondered if all my new colleagues hold doctor degree, master degree or even bachelor degree. Otherwise, how can an incoming university coach never go to a primary school? Later on, I learned that she does have a bachelor degree and she was a national team player before and won the championship of National Game. Therefore, she was introduced into my institute as a "Special Talent". I have to say she has the talent in sports otherwise she cannot achieve such a high honour. However, is she qualified to be a coach in a university? How did she get the college degree with attending primary school?

Here I do not intent to debase my institute and colleague. I dare to say she is not the special case among thousands of Chinese elite athletes. In order to pursue the honour in competitive sports, the authorities would like to win at all costs. Someone may argue that my colleague finds a good job anyway. Surely with luck. But can you imagine, in China, a world champion of gymnastic became a street artist and a female national champion of weightlifting had worked in a bathhouse? They have a similarity which is less formal educated.

Episode III:

Locale: a class room of UCAM

Time: someday of November, 2019

Scenario: With much efforts and assistance, I was enrolled in UCAM as a Ph.D. candidate. At the very beginning, my supervisors recommended me select the topic of "dual career of elite student athletes". Luckily, my compatriots introduced me their classmates who came from different countries of Europe. And occasionally, I listened to their lectures. From their class performance and participation, it's easy to find the differences between my Chinese friends and their classmates. Most of westerners are active in the class, while my Chinese fellows tend to be reserved. Apart from the proficiency of language, I was also impressed by the broad vision and scope of knowledge and athletic expertise of

the westerners. As I know, most of them were student athletes. At breaktime, I chatted with one guy from Italy.

" Can all of your college classmates speak English fluently?"

---"More or less"

What's your opinion about academic work as a student athlete?"

---"Quite important. It can help me understand my coach better. I come here for further study so that I can coach my incoming players more scientifically and clearly or prepare for my further scientific research."

Probably, because of both Italian and English belong to Indo-European languages, bit easier for them to master English as a foreign language. But their perception of academic work is worth deliberating for Chinese student athletes. When I asked my Chinese fellows the reason for coming to UCAM, they prioritized one-year education system.

From the above stories, it is not hard to find, in a sense, the educational work and athletics are not well-connected in China. Perhaps single-mindedness plays a major role in the consciousness of Chinese people. As I remember, we were advised to be single-minded concentration in doing one thing when we were kids. Or we can call it one-pointedness. For instance, if you are talent in language, then focus on it solely and develop it as further as you can; if you are a born athlete, then sports would be the whole career of your life. Never combine them, otherwise you achieve nothing at last. But if so, how can we explain that Deng Yaping, a former Chinese table-tennis player honoured with 18 times world championships, gained her Ph.D. degree of Land Economy from the University of Cambridge. Therefore, we can seek the balance between two careers.

Ironically, I have not so much interest in sports but I work in a sports university. I myself do not incorporate athletics with my academic work very well, but I am conducting the research on the dual career of student athletes. But that is in the case, I would understand their situation according to my experience and I can find what the nub is in their dilemma. I assume it is a fate for me to make up what I missed in sports in the previous decades of my life.

Fortunately, I study in UCAM, Spain. Hence, I have the opportunity to meet different people from different parts of the world so that I can learn different

situations to facilitate my research.

Unfortunately, the outbreak of Covid-19 in Europe forced me to return China from Spain. Therefore, my plan to conduct more face-to-face interviews was broken off. Because of the pandemic, limited options allowed me to continue my research with focus on pertinent literatures. Coincidently, when I was in the trouble to tap into elite student athletes, I was invited to be the translator of China Women's National Water Polo Team (CWWP) so that I have the chance to explore the development pathway of the top tier of Chinese athletes through different scientific methods to fulfil my dissertation.

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INDEX OF ABREVIATIONS

ACSF, All-China Sports Federation

ACT, American College Test

BYMST, Ba Yi Military Sports Team

CCPTC, China Central Physical Training Class

CPGCS, the Central People's Government Committee of Sports

CSSF, China School Sports Federation

CWWP, China Women's National Water Polo Team

DC, Dual Career

DOE, Department of Education

DI, Division I

EAS, European Athlete as Student

EU, European Union

FUSC, Federation of University Sports of China

GANEFO, The Games of the New Emerging Forces

GASC, General Administration of Sports of China

GOAL, Gamified and online activities for learning

GPA, Grade-Point Average

GSR, the Graduation Success Rate

H_0, Null Hypothesis

HPSA, Chinese High-Performance Student Athletes

HEIs, Higher-Educational Institutions

HVC, Higher Vocational Colleges

IUS, the International Union of Students

MOE, Ministry of Education

MOS, Ministry of Sports

MS, EU Member States

NCAA, National Collegiate Athletic Association

NUG, National University Games

P.E. ,Physical Education

PRC, the People's Republic of China

PST, Provincial Sports Teams

QR, Quantitative Research

RFF, Ready for the Final Four

SA, Student Athletes

SAT, Scholastic Assessment Test

SEC, State Education Commission of the PRC

SPCSC, State Physical Culture and Sports Commission

TCSGA, Training Council of State General Administration of Sport

UCAM, Catholic University of Murcia

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I – INTRODUCTION

I - INTRODUCTION

With the closing ceremony of 2022 Winter Olympics, Beijing, veritably became the world's first dual Olympic city (Lingcheng Meng & Neto, 2021). World's attention once again focused on China's flourishing sports. China has always ranked top three on medal tables in six straight Olympics since 2000. In this respect, the goal to make China a powerful sporting nation from the current major sporting nation is expected to achieve soon (Chu, 2021). Accordingly, hundreds of medallists have been widely known at home and abroad. Surely, there are not too many worries about their future. However, tons of athletes who have no chance to participate in mega-events are left negligibly. Notably, these athletes also face the problem of retirement and re-employment. Without glory of medal, a harsher environment is waiting for them comparing to their non-athletic peers. Probably someone may argue that the unknown athletes are capable of being employed with their college degree and expertise in sports. Theoretically, it makes sense. But the true value of the college degree is debatable (Ling, 2019).

1.1 BACKGROUND INFORMATION OF THE RESEARCH PROBLEM

With the aim to carry out in-depth research to Chinese high-performance student athletes (hereinafter HPSA), initially, we attempt to cast light on the selection mechanism of Chinese elite athletes, from which the readers could better understand the role of education in their development pathway in general.

1.1.1 Selective system for elite sport in China

The year 1949 witnessed the foundation of the People's Republic of China, namely new China. Suffered from long-standing turmoil and wars, new China resolved to restore its powerful status in the world stage. Sports played a significant role in the restoration of China in world politics and acted as a useful

tool to build a strong nation through improving the people's physiques (Hong & Zhouxiang, 2015). Although Chinese delegation didn't pocket any medals at the 1952 Helsinki Olympics, won a vital political battle (Hao, 1984). However, the Soviet Union achieved remarkable results and ranked 2nd position with its debut in modern Olympics. Therefore, Chinese government was greatly inspired by the success of the Soviet Union and decided to learn from them to win global recognition through sports. Soon after, "State Physical Culture and Sport Commission"(that is the Ministry of Sports which had the same status and role as the Ministry of Education, hereinafter MOS) was founded under the direct leadership of the State Council, then followed by the establishment of local sports commissions at all levels, including provincial, municipal and county levels. It was a classical top-down pyramid structure. In doing so, all the policies and decisions of China Central Government would be implemented systematically.

In the development of elite sports, China totally copied the Soviet Union both in management system and training model. In 1956, MOS proclaimed the structure of competitive sports, including full-time national sports team and provincial team, that is Professional Team. According to the *Opinion* put forward by several ministries in 1964, all the athletes who were selected into professional teams enjoyed the same benefits as other state officials. Since then, in China, athletes can make a living on their profession (Zhong, 2009).

Under the influence of the Soviet Union, MOS attached more attention on talented youth cultivation so that spare-time sports school[1] model was introduced (Shaozu, Xiaozheng, Hua, Shiming, & Baoli, 1999). Thus, the pyramid selection and training system for Chinese elite sports was formed. And it still is the principal system in mainland China nowadays.

Another trial model combined athletic training with formal school education throughout primary school, middle school and college education. In this way, both their athletics and academic work are developed. And there was a successful model--Tsing-Hua University[2] Diving Programme, from which several champion divers were benefited. Unfortunately, it was compelled to terminate

[1] It was found in 1960s aiming to foster sport talents. It was set up within local and provincial sports bureaus.

[2] One of the top public universities in Beijing, China.

because of irreconcilable conflicts between MOS and Ministry of Education[3] (hereinafter MOE) (Hu & Richard, 2019).

Fostering high level athletic team in higher educational institutes is another on-going model. After China's transition into market-driven economy, Chinese government realized that the academic level of the professional athletes hindered their improvement in athletics and didn't meet the requirement of socialistic civilization construction. Another important reason is that the government cannot solve the employment issue after athletes' retirement for all (Liu Zheng & Ying, 2016). Therefore, Chinese government formulated a policy to facilitate elite athletes to enter colleges to improve their academic work. And also encourage eligible higher education institutes to foster high level student athletes. Since it has been implemented almost four decades, some problems still remain unaddressed. Thus this system would be further discussed in this dissertation.

1.1.2 The definition of student-athletes

Student-athlete is not a new terminology since it has been explored at the start of 20th century in the United States. The National Collegiate Athletic Association (NCAA), as a leading role, protects young athletes and regulates the rules of college sport. In Europe, De Knop et al. assumed student-athletes were in an amateur or at best, a semi-professional status without sustainable income in general (De Knop, Wylleman, Van Hoecke, & Bollaert, 1999). According to Aquilina, student-athlete refers to those individuals who are engaged in university-level education and who are involved in elite-level sport (Dawn Aquilina, 2013).

In China, however, HPSA is composed of three sectors. Some are from spare-time sports schools with less schooling but long-term athletic training; some are from regular high school with more formal education but less sports talent; the rest are from active or retired professional athletes. Given the potential and age, the first two types of student-athletes should be the main body to be cultivated, but generally and unfortunately, almost all of them would end their

[3] It's a cabinet-level department under the State Council responsible for basic education, vocational education, higher education, and other educational affairs across the country.

athletic career in the university because of less athletic requirements on per se, the shortage of scientific guidance, and no access to professional teams. For most active professional athletes, university is a transient "comfort zone" because they seldom attend classes. Some athletes claimed two-visiting is enough. One is for registration; the other is diploma-claiming. Because these two moments are mandatory for presence in person. The only duty they could fulfil for the university is to partake some college-related games and win glory so as to enhance their public visibility and fame. And that's the reason why higher education institutes prefer to recruit this sort of HPSA.

To better understand the concept of student-athlete within China's context, the perception in sports, the relationship of sports and education should be elucidated.

1.1.3 Marginalized sports in Chinese traditional cultural context

Chinese traditional culture heavily valued the literacy. It was encapsulated in the idea " esteem literacy and scorn martiality ". (In Chinese Pinyin[4], *zhongwen qingwu*). As you imagine, sports are often deemed as martial activity in nature (Askew, 2009). Confucianism had played a dominant role in the feudal society of China (475 B.C. to A.D. 1840), among which a famous philosophy goes like, "Those who labour with their minds govern others; those who labour with their strength are governed by others" (Dirlik & Meisner, 1989). This adage completely revealed the attitude of Chinese people towards sports in ancient time. Because of the nature of sports as a labour activity, the people who played sports belonged to the ruled class so that they were debased all the time. Over time, sports activities became popular but also worked as an entertainment and regimen for ruling class. Moreover, the prevailing centralization system in ancient China also confined the development of elite sports which was always taken as the dissident force to the imperial authority (B. Li, 2010).

The idea of "all pursuits are of low value, only studying is high"(In Chinese Pinyin, wan ban jie xia pin, wei you du shu gao) still holds true. This philosophy, generating from Bei Song dynasty (A.D. 960-1127), represents the culture value of most Chinese families. The parents would like to invest their children's education

[4] It is the official romanization system for Standard Mandarin Chinese in China.

at any cost because it may lead them a bright future (Yu, 2010). However, sport is deemed as a time-wasting and frivolous activity (Redmond, 2015, p. 7).

The development of modern sport as a global entity has been inseparably related to education. Modern sport originated in educational institutions initially in Britain during the mid-to-late nineteenth century and was exported to other parts of the world as an essential part of that educational system (Rees & Miracle, 2000). Likewise, in China, sport also has close relationship with education.

1.1.4 Sports and education in China

Modern sports in China is an imported product. After the Opium War with British in 1840, western culture was introduced into conservative China, of which western military exercises was dramatically favoured by then government. Because they firmly believe that military power could serve as a powerful tool for their regime. Therefore it was widely accepted around China and prescribed as a compulsory subject in many schools (Hong & Hua, 2002). As the failure in the first Sino-Japanese war (1894-95), the Chinese government realized that it was vital to strengthen people's bodies. In time, western sports, such as different ball games increasingly accepted by the people. Meanwhile traditional Chinese activities had been marginalized.

In 1911, the Republic of China was established with the end of feudal society. Aiming to build a new society, western philosophy was used to attack Confucianism, which was taken as the key obstacle on the way to modernity. Progressives denounced previous feudal education, which merely highly valued on intellection and neglected the people's physique development. In doing so, some modern physical exercise, physical education (hereafter P.E.) and sport of Europe and the United States once again drew people's attention. With great effort, the Republican government issued "The decree of the reformation of the school system" which abolished the previous military exercises and promoted P.E. and sport.

In 1929, the Republican government promulgated the first law, named National Sport Act, in modern Chinese history. It stated that sport participation is mandatory for boys and girls and stressed that the aim of P.E. and sport is to develop their bodies for the good of the country (Chin-Chueh Su, Chih-Fu Cheng,

& Tsai, 2018). Thus, some extracurricular activities of modern sports, such as gymnastics, athletic, football, basketball and volleyball were promoted widely in all schools (Gu, 1989). Meanwhile, traditional martial arts was also approved to be set as a physical exercise but the fact was that only Taijichao, a slow-motion gymnastics was carried out at primary schools(Gu, 1989).

In the year 1952, Chairman Mao Zedong inscribed for the inauguration of All-China Sports Federation (hereinafter ACSF) to set the tone that "Develop physical culture and sports, strengthen the people's physiques"(Pieke, 2022). Sport and P.E. in this period played a role as a vehicle to improve people's health and serve the national defence. People from all walks of life, including students were encouraged or requested to participate in it. In 1954, the programme of "Ready for Labour and Defence" was introduced from the Soviet Union as the philosophy for Chinese school P.E. which focused on sports technique education but overlooked the students' personal developmental needs(Cheng & Zhang, 2016). In the following years, P.E. polices varied owing to the natural hazards and unstable political factors. In a certain period, P.E. was marginalized and almost suspended (Pan, 2018).

The year 1978 witnessed the Reform and Opening-up policy in China. The P.E. policy was also shifted to evaluating the healthy physique of students as the standard. International communication and exchange have added multiple elements on Chinese P.E. philosophy and therefore, diversified concepts were formulated, such as Happy P.E. initiative (1986); Life-long P.E. programme (1987); All-round Development P.E. initiative (1998) and All-round Education initiative (1999).

In summary, till now, there is no policy to indicate the combination of elite sports and general school P.E.. In other words, high performance players will not be fostered or selected from general schools in China.

Notably, in the year 2020, Chinese government issued a guideline for boosting the healthy growth of young people, in which deepening the convergence of sports and education is strongly recommended. For the first time, the guideline points out sports and education authorities should strengthen the connection between the construction of high performance sports team of college and the reform of national team and provincial team. Moreover, elite student athletes (those who enrolled from high school and sports school) have the chance

to be selected into provincial teams and national teams.

To better understanding the relations of sports and education in China, the authority of each should be well considered.

1.1.5 Evolution of sports organizations in different levels since the founding of the People's Republic of China (PRC)

In 1949, the Communist Party of China[5] and Chinese administration attached great attention on competitive sports to call for the national consciousness and state spirit, meanwhile, resuming production and construction across the nation.(Zhong, 2009)

In this case, ACSF was founded, or rather reorganized from China National Amateur Athletic Federation[6] in October 1949.(S. P. C. a. S. Commission, 1964) Since then, ACSF identified itself as the only legal sport organization on behalf of PRC to attend all the international sports events. China men's student basketball team and China men's student volleyball team were dispatched to partake in the games of the 2nd International Union of Students (IUS) World Student Congress - Prague, in August 1950. It was the first time organized by ACSF to participate in games abroad in new China. Aiming to improve the athletic skills in a short time, China Central Physical Training Class (CCPTC), which known as Training Council of State General Administration of Sport (TCSGA) nowadays, was founded by ACSF in the following year. The mission defined CCPTC core purpose as improving athletic skills and fostering elite athletes with regard to competing in major international sport events. In addition, mass sports could be inspired from their prominent performance. At that time, ACSF picked up elite athletes across the country with the vigorous support from then authorities. The year 1953 saw the founding of many Physical Training Classes in different administrative regions, which known as Provincial Sports Teams (PST) at present. Together with 'Ba Yi military sports team'(BYMST)[7], all of them are called Professional Teams (refer to municipal, provincial and nationals) for now.

In November 1952, the Central People's Government Committee of Sports

[5] It is the founding and solely ruling party in China.

[6] It was found in 1924.

[7] It was founded in 1951 and dismantled in 2020.

(CPGCS) was established to be responsible for sport-related issues and improve people's physique. In accordance with the same mission, it was renamed Physical Culture and Sports Commission of the People's Republic of China, in brief, State Physical Culture and Sports Commission (SPCSC), but now it is called General Administration of Sport of China since 1998.(Xiao-feng, 2018) And all administrations or bureaus of sports from provinces, autonomous regions and municipalities directly under the Central Government are affiliated to General Administration of Sports of China (hereinafter GASC). A clear-relationship diagram was given below (see Figure 1.).

After the foundation of professional teams and CPGCS, the athletic training and academic study of athletes have been being in a dilemma. Thenceforth, professional team and CPGCS had been focusing the intensive physical training and competition of athletes, rather than their academic commitment. And those professional athletes were exclusive to the management of professional team and CPGCS; Comparatively speaking, they were separated from the management of educational organizations.

1.1.6 Educational organizations in China

Speak of student athletes, MOE, the top leading educational administration of China, is surely mentioned, which consists several departments, amongst which Department of Physical, Health and Arts Education is in charge of nationwide sports work amongst all levels of educational systems. Meanwhile, Department of Science and Education which affiliates to GASC exercises its partial guidance rights to HEIs under MOE on their physical training and research; and the formulation of the P.E. plan for higher and secondary education; and the construction of sport teams under the guidance of MOE.

Two major national organizations, China School Sports Federation (CSSF) and Federation of University Sports of China (FUSC), are attached to MOE. CSSF is the only governing body that is authorized to organize the nationwide school sports competitions, and carry through international cooperation and exchange programmes for middle and high school students (Federation, 2016). FUSC is the sole national organization for university sports, with tasks mainly to assist organizing all types of national intercollegiate sports events and participate in

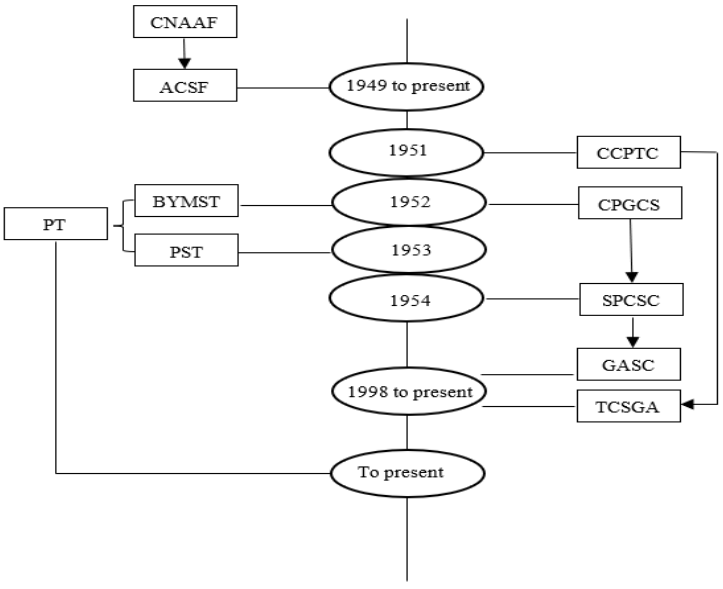
international collegiate sports events.

HPSA was mentioned initially in the policy, Provisional Measures of Approval for the Pilot Schools for Applying High-Performance Athletes Cultivation (hereinafter Provisional Measures) in 1986, which indicated that pilot schools consist of universities and secondary schools(SEC, 1986). Obviously, HPSA refers to the student-athletes from both two levels. Nevertheless, this study sheds light on the policy of HPSA for universities.

To date, almost 2700 Regular HEIs are distributed unevenly in China, amongst which 14 Colleges of Physical Culture and Sports have the priority of Individual Admission （A type of Admission Test which is conducted by certain HEIs through their own test procedure which consists of 4 subjects, Chinese, math, English and Politics）for student athletes.

In sum, the interrelationship of MOE and GASC have a further impact on the development of HPSA and the policy implementation for Regular HEIs. Results from this study could provide practitioners with a better understanding of how to manage, and support HPSA on their athletic and academic way (Walker, 2019).

Figure 1. *The Timeline of Evolution of Sport Organizations Since 1949*



1. CNAAF: China National Amateur Athletic Federation
2. ASCF: All-China Sports Federation
3. BYMST: Ba Yi military sports team
4. PST: Provincial Sports Teams
5. CCPTC: China Central Physical Training Class
6. CPGCS: the Central People's Government Committee of Sports
7. SPCSC: State Physical Culture and Sports Commission
8. GASC: General Administration of Sport of China
9. TCSGA: Training Council of State General Administration of Sport

1.2 STATEMENT OF THE PROBLEM

Based on the body of this research about HPSA, a myriad of literature in Chinese can be retrieved. However, a little of these focus on the self-cognition and self-efficacy of HPSA. As it is, the development of self-efficacy relies on some objective context. HPSA are always challenged by routine training, game pressure, social stereotype, completion of their academic work and more.

The relationship between economy and sports has a profound history (Andreff, 2008). Prior to 1978, being an athlete in China national team or provincial team is desirable for aspiring players because after that, they would benefit worry-free welfares for their whole life (TanZhang, 2005). Since the reform and opening-up in 1978, China has experienced economic transition from planned economy to market-driven economy. Gradually, the Chinese government partially delegates its power to market and society (Li, Tian, & Lv, 2019). From then on, Chinese authorities cannot manage the re-employment for all elite athletes. Therefore, a rising transition challenge after retirement faces most elite athletes. Whether they could benefit the job placement from government, all depends on their athletic achievements and the local economy of their perspective provinces.

Because their untimely engagement in sports, the great majority of them are lack of normal schooling. Aiming to help them to make up the academic work and find a decent job with a college degree, Chinese authority issued series of policies to facilitate their college admission. Likewise, with the help of higher-

educational institutions (hereinafter HEIs), earning a college degree is not a tough work for Chinese HPSA. In this way, it should be a benign cycle to be praiseworthy. But the fact is that they are still stuck in the embarrassment of lower employment rate, limited employment options, and poor quality employment (Cao, Li, Yue, & Wang, 2021).

1.3 Research Problem and Research Question

In this study we address the ensuing central question: How is the development of the dual career (DC) of HPSA in China? This research also explores the following sub-questions:

1. How do the Chinese HEIs and sports authorities perform to facilitate college degree accomplishment of HPSAs?

2. Are there any advantages of European and American HPSA policies for China's reference?

3. How do the HPSA perform in their HEIs context?

1.4 Significance of the Research Question

HPSA is a special population. They enjoy the applause from athletic competence, while at the same time, undergo unpleasant experience in academic study.

Economy transition has led a sequence of remarkable changes in China since the late 1970s. Sports, as a major sector of China, was also involved. According to Zhao et al., during the year 1980 to 1983, Hunan province (located in the south central of China) resettled 184 retired athletes, of which 144 were forced to change their jobs, accounting for 78.1%. The underlying reason was that these athletes' educational level did not match to their job positions. It was a "big waste" for these elite athletes and made lots of troubles for their employers and families. In addition, it induced instability among active athletes who would worry about their transition after retirement ahead of time so that they cannot devote to practice (Mochen Zhao & Wang, 1985).

The year 1986 witnessed the professional athletes[8] entering colleges. Since

[8] Professional athletes refer to the athletes who play sports in national teams and

then, HPSA have been broadly concerned and discussed. Researchers have been conducting different studies from different aspects, such as the assurance fund and student resource (Huang & Wang, 2012), management model (Mao, Sun, Tian, & Wang, 2013), the level of coach staff (Duan, Zhang, & Liu, 2015), the re-employment issue (Liu Zheng & Ying, 2016), the evolution stages (Song, 2018) and more. Nevertheless, hardly found the feasible and practical suggestions to assist HEIs in their HPSA management.

This research intends to analyse the underlying causes based on the current HEIs situation and dig out the potential characters and nature of Chinese HPSA. Further, this study would demonstrate a clear picture of how HPSA policies conducted in Europe and the US. In doing so, readers could find some advantages and disadvantages through comparison with China's policies. Furthermore, this analysis could offer a platform for Chinese HPSA to share their experience as a special population on and off campus. The outcomes of this investigation could benefit Chinese sports and education authorities, correlate HEIs, parents of HPSA, coaches and HPSA per se on how to lead a sound development of HPSA in China.

provincial teams which is explained in the following part of this section.

II– THEORETICAL FRAMEWORK

II- THEORETICAL FRAMEWORK

To conduct the research on the project of "Chinese student-athlete", a string of scientific theories is integrated into the theoretical framework of this dissertation, namely lifespan model, human capital and resilience theory.

A holistic sports career model, that is lifespan model is a solid support for athletes' transitions faced at athletic, individual psychosocial and academic levels(Wylleman & Lavallee, 2004). To ensure their better future after retirement, a list of policies is implemented to elite athletes by Chinese government. In this regard, Becker's study on human capital is one way to explain why and how Chinese government invest in their education (Becker, 1992).Nevertheless, how Chinese athletes utilize their human capabilities to acquire necessary resources(Haugen, 2021) and how Chinese higher institutes provide service for their livelihood enhancement are debatable. This topic is well developed in the following chapters. In addition, the relationship between sports system and social system is also discussed.

In spite of great efforts made by Chinese government on elite athletes' welfare, to be an athlete is still the least option in the perception of most Chinese families(Riordan & Jones, 1999). On the one hand, with over 1000 years of history in China, the ideal of "all pursuits are of low values, only studying is high" still holds true for most Chinese families regardless of they are located in urban or rural areas. On the other hand, even though the elite athletes acquire the identity of university students with the benefit of privileges, but the true value of diploma is in doubt(Ling, 2019).

No doubt, to be successful in academic work is the top priority to the great majority of Chinese students because it can lead them to a better future(G. H.-C. Huang & Gove, 2015). Conversely, speaking of athlete, as a deep-seated stereotype "Dumb Jock" is the first word popping up into most ordinary Chinese people's minds(Wininger & White, 2008). However, are the athletes really less

capable of performing well academically or just because they are reluctant to commit more energy on it? How to combine their investment into sports with education or work is a dilemma facing aspiring elite athletes across Europe (Wylleman, Reints, & De Knop, 2013b). While in China, active elite athletes have a worry-free training since the government undertakes all their expenditures. In this way, the athletes could devote to athletics and academics. But the reality is that most HPSA complain too much workload or various pressures from training and competition so that much less energy or time left to their academic work(Tano, Abraham, & Sitorus, 2014).

In this regard, resilience theory is employed to drive the rationale of the aforementioned phenomenon. Initiating stressors and challenges facing HPSA can be obstacles to devastate individuals and also can become a predictor of resilience process(Kumpfer, 2002) and stress can activate a resilience process which is a "buffering" in facing challenges and adversity(Tano et al., 2014). During this process, the belief of self-efficacy(Bandura, 1982), the stress mediation model and the efficiency of time management(Macan, Shahani, Dipboye, & Phillips, 1990) are introduced to elucidate the relationship among allocation of time, stress, adversity and resilience(Rodriguez, 2007).

Subsequently, this chapter will outline the various theories abovementioned to provide a grounding base from which to conduct literature review, methods and further analysis.

2.1 Developmental Model, A Perspective from Holistic Athletic Lifespan

As the name suggests, two identities are involved in the terminology of student-athletes. Some researchers assumed that "athlete" identity is more salient than his or her "student" identity(Lally & Kerr, 2005), whereas others pointed out that student-athletes showed strong tendency to be students and moderate intention with being athletes(Settles, Sellers, & Damas Jr, 2002). No matter which one is more salient, both students and athletes should be valued. Thus, there is an increasing body of research on their associated academic and athletic works. some studies showed that HPSA dedicated more time and energy to balance the demands of athletics with the demands of academics"(Dawn Aquilina, 2013; Duderstadt, 2000; López de Subijana, Barriopedro, & Conde, 2015). In the long

run, remarkably, a large overlap exists between the athletic career of HPSA and their scholastic and academic career(De Knop, Wylleman, Van Hoecke, & Bollaert, 1999). Therefore, HPSA inevitably are in the dilemma of their athletic and educational careers(Conzelmann & Nagel, 2003).

How to assist HPSA to solve the paradox and facilitate their academic work and sports? According to Wylleman,"to reach and to remain at the elite level in competitive sport require athletes—and those around them—to 'invest' at different levels (e.g., physical, social, financial) during a long period of time"(Wylleman & Lavallee, 2004).

2.1.1 Psychosocial developmental model

The challenges facing HPSA are massive. The HPSA often has not grasped basic developmental tasks because of the consuming nature of sports (Valentine & Taub, 1999). Chickering (1969) proposed a psychosocial developmental model as a practical framework for the developmental needs of HPSA. In this model, Chickering pointed out seven components of developmental tasks for HPSA during their university years. "Chickering used the term *vector* because it implies the directionality and magnitude"(Valentine & Taub, 1999). The seven vectors consist of developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993). In spite of some critiques in terms of the applicability of this model to women and to students of colour, however, Chickering model maintains arguably the most widely known and used model for understanding the psychosocial development of university students.

The ensuing descriptions elucidate the developmental concerns of HPSA related to each vector and suggestions for universities' assistance based on the developmental framework.

Developing Competence

Three key components are included in this vector, that is intellectual competence, physical and manual competence , and interpersonal competence. In this regard, the key point for HPSA is to develop the skills to make excellence in

the three aspects.

Regarding skills acquisition on intellectual competence, there truly exist challenges and pressure facing HPSA from 1) time constraints to make both athletic and academic work successful; 2) biases for non-athletes about the capability of mastering the intellectual competence;3) negative attitudes from faculties towards their academic abilities. Therefore, universities are encouraged to develop academic support mechanism to facilitate their education(Gabbard & Halischak, 1993). The biases or discrimination from peers or faculties are suggested to be removed with the help of advisors and their own self-efficacy.

Originally, physical and manual competence is a privilege for HPSA. However, When they identify themselves principally as athletes, they may distress when injured and unable to achieve their goal(Valentine & Taub, 1999). Thus, advisors are welcomed to address their concerns.

Committing most of their time on sports, HPSAs are lack of contact with the campus community so that much less friendships are developed(Engstrom, Sedlacek, & McEwen, 1995). And also because of the bias from faculties and non-athletic peers, it's hard for HPSA to get support or close relationship from them. In doing so, HPSA are hardly to achieve interpersonal competence. Hence, advisors can encourage HPSA to participate more campus activities in their spare time and also choose nonathletes as their roommates(Engstrom et al., 1995).

Managing Emotions

Such emotions as anxiety, depression, fear, guilt, and shame, as well as more positive emotions are included in this vector (Chickering & Reisser, 1993). With the pressure to acquiring the abovementioned competence, HPSA are hardly to manage the emotions successfully. What's more, the pressure from various competitions and daily struggles from their practise and partners' face.

Moving Through Autonomy Toward Interdependence

Emotional autonomy, instrumental autonomy and interdependence are three major components in autonomy vector. According to Chickering, emotional autonomy was defined as free from immoderate reliance on others approval. As for instrumental independence, Chickering demarcated it as having two elements:

"the ability to carry on activities and to cope with problems without seeking help, and the ability to be mobile in relation to one's own needs and desires"(Chickering, 1969). As a matter of fact, HPSA are forced to respect and obey their coaches absolutely(Ge et al., 2019) and they are aware of being more rewarded to follow directives than to think independently (Petitpas & Champagne, 1988).

Developing Mature Interpersonal Relationships

In this vector, two keys are mentioned. One is the increased tolerance; the other is a shift in the quality of close relationship(Valentine & Taub, 1999). Increased tolerance indicates to accept and respect diversities in different aspects, such as "backgrounds, habits, values, and appearance"(Chickering, 1969). HPSA devote much of their time to their athletic peers, who keep the similarities in features and interests(Heyman, 1986). In doing so, the chances for HPSA to interplay with diverse campus experiences are limited and hardly form close relationships with general students.

Establishing Identity

According to Chickering's model, establishing identity is related to the ensuing: 1) comfort with body and appearance; 2) comfort with gender and sexual orientation; 3) sense of self in relation to one's social and cultural context; 4) clarification of self-concept through roles and lifestyle; 5) sense of self in response to feedback from valued others; 6) self-acceptance and self-esteem; and 7) personal stability and integration(Chickering & Reisser, 1993). Because of the special identities involving students and athletes, HPSA likely meet special challenges(Danish, Petitpas, & Hale, 1993).

Comfort with body and appearance. The major issues are related to body, health and appearance. Although HPSA have much more practice on physical fitness than non-athlete peers, the potential risks on eating disorder, excessive alcohol consumption are more dangerous as well(Hausenblas & Carron, 1999),(Yusko, Buckman, White, & Pandina, 2008). Researches present, in this regard, some coaches were not aware of knowledge about eating disorder(Martinsen, Sherman, Thompson, & Sundgot-Borgen, 2015; Trattner Sherman, Thompson, Dehass, & Wilfert, 2005). Advisors working with HPSA are

recommended to learn related knowledge so as to inform HPSA and coaches through different channels.

Comfort with gender and sexual orientation. In spite of all efforts made on the progress, gender equity is far from complete(Anderson, Cheslock, & Ehrenberg, 2006). It is more complicated to achieve gender equity in sports because most of which are sex-segregated (Pieper, 2016). Concerning sexual orientation, different countries have their own regulations. Anyway, all practices should remain vigilant and amicable.

Sense of self in relation to one's social and cultural context. In this vector, the race, ethnicity and culture were discussed by Chickering (1993). HPSA in China face less or no challenges in race and ethnicity.

Clarification of self-concept through roles and lifestyle. To explore outside of athletic context is important and constructive for the future of HPSA. However, it may not be favoured by their coaches with the worry of being distracted from their athletic practice.

Sense of self in response to feedback from valued others and Self-acceptance and self-esteem. In this vector, the challenges are from 1) the high expectations from their coaches and parents which leaves less option for anything else in the life of HPSA(Valentine & Taub, 1999); 2) the interiorized stereotype of "jock" that some faculties and common people keep(Engstrom et al., 1995). Advisors are recommended to manage the "negative identity" with positive intervention (Heyman, 1986).

Personal stability and integration. As the final step to assist HPSA with identity building, advisors should encourage HPSA to integrate with the mainstream of university life instead of being isolated(Despres, Brady, & McGowan, 2008).

Developing Purpose

Life plan is largely concerned in this vector. No matter what option HPSA will choose, being a professional athlete or stepping into non-athletic life, life plan must be well organized before graduation. Therefore, balancing "vocational plan and aspirations, personal interests, and interpersonal and family commitments"(Valentine & Taub, 1999) is crucial. The limitation in choice of

majors restricts most HPSA in the combination of their educational study, athletics and their future at the very beginning of their enrolment. Because of huge commitment to training and competition, HPSA are void of part-time job experience and sufficient internships. To a large extent, for this reason, HPSA lag behind their non-athlete peers in regard of employment.

Developing Integrity

Developing integrity involves developing personal values and developing such behaviour corresponding to the values. Perhaps initially it is difficult for HPSA since they follow the instructions of their coaches ever.

All that said, psychosocial developmental model elaborates different vectors on the HPSA development from the perspective of psychosociology. To ensure the sound development of HPSA outside of athletic context, the people around them, such as coaches, parents and professors & advisors are suggested to be well-considered about their attitude, manner and plan etc. After reviewing the literature about Chinese HPSA, hardly find any regulations or policies were made based on the components of this model. Therefore, further discussion about how China formulates considerate polices in line with the model is conducted in the following chapters. Nevertheless, this model is only defined within the period studying in the university. As a "whole person", HPSA should be considered in a holistic perspective. Thus, the holistic athletic career model acts as a complement to the research on HPSA.

2.1.2 Holistic athletic career model

To peak at the top level of competitive sports requires athletes and related personnel around them to devote at several different levels, such as physical, financial, social, emotional for a long time (Wylleman & Lavallee, 2004). In the process of development in sports, elite athletes face different stages which are termed as transitions (Lavallee & Wylleman, 2000). Some scholars focused on transition into sport (Cosh, LeCouteur, Crabb, & Kettler, 2013; Light, Evans, & Lavallee, 2019; Minten, 2010) and transition out of sport (Clemmet, Hanrahan, & Murray, 2010; Leonard & Schimmel, 2016; Stephan, 2003). But the wide range of transitions facing athletes during their athletic career were less discussed.

Normative and Nonnormative Transitions

During a normative transition, an athlete enters one stage after another based on an explicit order of age-linked biological, social and emotional events or changes (Baltes, 1987). According to Wylleman & Lavallee, "normative transitions include, for example, the transition from junior to senior level, from regional to national-level competitions, from amateur to professional status, or from active participation to discontinuation from competitive sport" (Wylleman & Lavallee, 2004).

In general, normative transitions are predictable and foreseeable (J. Goodman, Schlossberg, & Anderson, 2006). Nonnormative transitions, on the other hand, normally happens out of the blue with which makes athletes difficult to cope. In the realm of sports, the nonnormative transitions may include serious injuries, an unexpected elimination from the team or a sudden change of a coach, and also those that are expected to happen but failed-named "non-events"(J. Goodman et al., 2006).

In addition, "transitions are also related to the developmental context in which they occur" (Wylleman & Lavallee, 2004). For an athlete, transitions also include these intrinsic to the athlete's involvement in athletic culture, and those related to her/his development at psychological, academic, psychosocial and vocational levels (De Knop et al., 1999). As for the HPSA, those nonnormative transitions should be highly valued. Through literature review, less research on this area related to Chinese HPSA.

Developmental Model On Transitions

The development model on transitions faced by HPSA should be studied in a holistic approach since they are taken as a whole person to be focused (Chartrand & Lent, 1987). This model is composed of four layers, including transitions occurring at athletic level, psychological level, psychosocial level and academic/vocational level.

Transitions related to athletic environment. Bloom identified three stages in the athletic development and one stage concerning the retirement from athletic career, that is a) the initiation stage in which young athletes are recruited to clubs and later they are probably trained as talented athletes at the age about 6 to 7; b)

transition into the development stage during which athletes dedicate more on sports at the age of 12 or 13; c) mastery stage in which athletes reach their elite level at around 18 or 19 years of age; d) transition out of competitive sports between the age of 28 to 30.(Bloom, 1985). Notably, the age groups cover most sports with some exceptions as well. In this regard, when Chinese sports authority formulates policies related to HPSA, all these ranges of age should be taken into account, otherwise some deficiencies would occur. Currently, in China mainland context, some policies for HPSA in place focus on stage 3 and 4. Even so, some works still remain superficially so that many problems existing their university study and employment after retirement(Huang & Wang, 2012; Liu Zheng & Ying, 2016).

Transitions occurring at psychological level. In this level, three clearly defined periods are given, childhood(up to 12-year-old), adolescence (13-18 years), and adulthood (19-year-old onward). From a motivational point of view, a parental decision dominates a child's option to participate in organized sport before the age of 7 or 8(Passer, 1996). Research states that some chronic injuries are formed when they trained at early childhood since it's difficult for them to distinguish the pain of overload workout or pain signalling the beginning of a serious injury(Shuer & Dietrich, 1997). During the stage of adolescence, it is crucial to develop self-identity, including developing mature relations with peers, accepting the changes of secondary sexual characteristics, identifying the sexual role in society(Coakley, 1992). Self-identity acts as a key role in making a nonnormative transition. If they identify themselves predominately as athletes, coping strategies would be unprepared in their career transitions(Crook & Robertson, 1991). Therefore, HPSA are suggested to be well-considered about their self-identity during their adolescence stage.

Transitions related to social development. Every single person interweaves with the people around them(Cohen, 1989). The social relationships with other people play a key role in our daily life(House, Landis, & Umberson, 1988). For athletes, the role of relationships is of great importance through their athletic life in the light of the support they can offer to athletes. Generally speaking, the social relationship of athletes encompasses coaches, family members (esp. parents), and peers. Unfortunately, in China mainland, those relationships in HPSA dual career are not fully considered and highly valued.

Transitions in Academic and Vocational Development. The final layer reflects the transition into elementary education at the age of 6 or 7, and then secondary education at around 12 or 13-year-old, at the age of 18 or 19, the transition into higher education. Finally, the transition into vocational career after higher education. In fact, Because the elite athletes are "employed" by the state even before their senior high education, the vocational career transition in China mainland may start earlier (Riordan & Jones, 1999).

Transitions at financial and legal levels. According to Wylleman & Lavallee, athletes (or their family) will invest in their initial and developmental stages. Only some athletes will earn money or invest less in their mastery stage. In China, however, based on the local government economy, the policies are various. Generally, one principle is followed. If you are qualified to partaking provincial games, then you are free from tuition and accommodation when the athletes' study in municipal sports schools. Once the athletes are selected into provincial teams, then what they should do is focusing on practice and competition without any fees and after signing contract with provincial teams, they will be paid as employees. Not to mention the athletes in national teams. As it is, the system in China also brings some side effects on HPSA. It is further discussed in the following chapters. In this regard, transitions at financial level are not a major concern in China. As for the legal transition, it happens with the financial transition at the same time from the status of amateur to professional athletes. Currently this transition is untapped in China.

2.2 Human Capital and Social Capital Acquisition, Higher Education Institute Implementation

Since reform and opening-up, China has achieved great success in its economy (Sachs & Woo, 2001). For this reason, the role of Chinese sport is getting prominent on the world stage particularly after the return to the International Olympic Committee in 1979 (Ren, 2017). However, China sports authority realized that the elite athletes were deficient in academic knowledge and expertise so that there was a big gap to be a real "sport power"(Luo, 1995). For that reason, the authority privileged elite athletes to go to universities to facilitate their academics. Meanwhile practical skill training and employment support are

provided to assist their transition into retirement stage (Liu Zheng & Ying, 2016). Yet some universities abuse the opportunities to enlarge the enrolment of HPSA for "shadow economy" and do not value the quality of their academic work (Zhang Hao & Ye, 2010). At the same time, the HPSA are lack of assiduity to cope with their educational work. In a sense, it's sort of waste in intellectual investment (Ferenhof & Selig, 2013; Kolawole, 2009).

2.2.1 Human capital and social capital

According to Becker, some intangible forms, such as schooling, skill training and expenditures on medical care are capital as well. This is because they can yield returns, like earning more income, health improvement and more (Becker, 1993). Becker holds the view that "the activities that influence future monetary income and one's ability to consume by increasing the resources in people; these activities are called investments in human capital" (Becker, 1993) and "education, training, and health are the most important investments in human capital"(Becker, 1992, 2002). From this point of view, the quality of individuals is highly stressed, that is a person with higher human capital could obtain higher income (Zhang Xiaoli & Jinhu, 2020).

As Schultz (1961) emphasized the donation of human capital to economic growth, he elucidated that knowledge and skills as a form of human capital individuals acquired by means of education and training and assumed that this capital was an investment that yield outcomes for the organization (Schultz, 1961; Weight, Taylor, Huml, & Dixon, 2021). These returns encompass better skills, knowledge, capability and motivations that can boost economic growth. In this regard, Chinese authorities will benefit from what they have invested in human capital for HPSA if they fully utilize the resources.

In addition, the influence of families to human capital investment is also salient, including the impact on the knowledge, skills, social values and practices of their children (Becker & Tomes, 1986; Turman, 2007). Therefore, during the development of HPSA, especially the stage in university, the influence of families should be considered.

Human Capital and Athletes

Jacob Mincer described human capital is an assemblage of knowledge and skills acquired through a time-consuming education activity (Mincer, 1958). Based on this definition, the accumulation of playing skills by means of physical and on-the-field training can be taken as a form of human capital (Antonietti, 2006). In this sense, athletes are a special group endowed with talent physical abilities and as the development of their skills, they could bring about earnings and costs.

Education as a human capital plays a major role in the development of athletes. Research shows that the influence of academic level of athletes is prominent to the reemployment of Chinese retired athletes. For those holding academic level of primary school, 60 percent are in jobless or unemployment; while around 88.74 percent with college degree or above are in middle or above social status (Liudong, 2014). Someone may argue that athletic achievement as a return of athlete human capital brings more benefits for those no matter who are live athletes or retired athletes. Acting as a stepping stone, it plays an important role to find a decent job. As time passes, however, the influence of education is more salient because the achievement belongs to the past (Zhang Xiaoli & Jinhu, 2020). For this reason, HPSA should attach more attention on their academic work in order to build a better future. In line with literature on HPSA, in China, those athletes whose academic level match their educational background only account for 33.54 percent of the total. Most of them are university graduates of a kind (Zhang Xiaoli & Jinhu, 2020).

Social Capital and Athletes

Social capital, from Bourdieu's point, is an aggregate of social network consisting of actual or potential resources, in other words, which are linked to relationship in a group which provides all its members with the support of shared capital (Zhang Xiaoli & Jinhu, 2020). The volume of the social capital depends on the size of the network of connections the given agent can actively mobilize and on the volume of the capital (economic, cultural or symbolic) possessed in his own scope by each of those to whom he is linked (Hallmann, Breuer, Ilgner, Giel, & Rossi, 2018). As Coleman pointed out, social capital is originated from close social network which is created by, passed on and acquired from human capital.

Study shows that human capital assists retired athletes to enter middle-income category as entering high-income category relying on social capital

(Zhang Xiaoli & Jinhu, 2020). As for the HPSA, the best context to develop their social relationship outside of sports should be in the university. But what's the reality in China? A survey conducted among HPSA would tell the truth in the following chapter.

The Role of Higher Education Institute in Human Capital

Life Human Capital was introduced by Huffman et al. to explain likings in university selection. High school graduates or elite players will choose the university that will "maximize their lifetime net worth after weighing the total benefits and costs" (Huffman, Navarro, & Cooper, 2016). Attending university could facilitate the human capital improvement by increasing the productivity of the HPSA in the labour market. This improvement in human capital varies from one university to another, and any differences are linked with the academic reputation of the university (Dumond, Lynch, & Platania, 2008). It's identical to Chinese HPSA preference. In general, elite athletes or high school students with higher achievements prefer to choose reputable universities so that they could find a job bit easily after graduation. However, some comprehensive universities are lack of experienced coaches so that HPSA cannot improve their athletic performance.

Higher education as a type of formal education promotes the quality of human resources at different levels from an individual to the whole nation. And it serves also as a source for human capital development and an economic result only when it may be properly and efficiently utilized (Tanzharikova, 2012). The motivation to improve education plays a key role in human capital growth and the higher education is considerably costly. In this regard, both government and higher education institutes should motivate the intellectual labours. In addition, higher education institutes can "raise local human capital levels by increasing both the supply of and demand for skills" (Abel & Deitz, 2012).

Nowadays, China authorities highly value the sports both in competitive sports and national fitness (Tan, 2015). Thus, HPSA would have more chances and advantages to compete with non-athletic peers even after graduation. As a result, qualified academic skill for HPSA talented in sports would be a plus for their future.

According to Byrant, individual's human capital is a pack of skills and

knowledge and the time that an individual spends in those activities is also included (Bryant, 1992). Schultz (1960) estimated the schooling time costs accounted for 60 percent of all costs, while Becker's (1964) estimate is around 74 percent for private college education. For HPSA, the time constraint in athletic activities is unavoidable, therefore, the time allocation in academic work is debatable. However, do they dedicate to their study at given time for educational work? This question is one of the topics in the following research.

2.3 Resilience Theory, Self-efficacy of HPSA

Adversity is inevitable throughout one's whole life; however, adverse events do not always yield negative developmental outcomes (Rich & Sirikantraporn, 2018, pp. 75-85). Most of HPSA's time is occupied by athletic training and competition, with little time left to focus on their academics. Therefore, time constraint is a type of adversity for HPSA. In order to overcome the obstacles and get rid of the adversity, problem-solving skills should be fully utilized. Benard pointed out that "Problem-solving skills encompass the abilities to think abstractly and reflectively and to be able to attempt alternate solutions for both cognitive and social problems" (Benard, 1993).

2.3.1 Resilience theory

By definition, resilience has been defined and explained in a wide variety. As a trait, it has been described as the capacity of and process for successful adaptation, positive outcomes despite stress, challenges, or high-risk circumstances (Masten, Best, & Garmezy, 1990). According to Benard, all of us were born with an innate capacity for resilience, by which we could "develop social competence, problem-solving skills, a critical consciousness, autonomy, and a sense of purpose" (Benard, 1995). In light of Murch's model, resilience implies positive coping, namely efforts to recover or keep the inside and outside balance under through one's thought and action. The coping refers to the "capacity to cope with opportunities, challenges, frustrations, threats in the environment" and the "maintenance of internal integration" (Murphy & Moriarty, 1976). Resilience is particularly important during transitions when stresses are increasing, such as competition seasons, exam weeks, or sever injuries (Luthar & Zigler, 1992). In

addition, with the resilience, challenges and dilemmas facing HPSA can be felt lighter, because resilient individuals can manage the situation (Tano et al., 2014). Therefore, when HPSA face challenges in academic and athletic work, they should be proactive with their resilience instead of being dodgers to elude academics.

Notably, resilience is not only exclusive to subjective factors but objective aspects help(Jones & Tanner, 2015). Researchers stated that considerate and attentive interrelations (Ainsworth, 1989) and reliable support networks could facilitate resilience (Steele, 1991). Once the resilient youth cannot get the support, caring or love from their immediate family context, then the help from school environment assists them to develop caring relationships (Benard, 1993). It is also available to HPSA, in China, most athletes detached from their family members at their early age (Epstein, 1988). Thus, the caring, love or influence from their parents are relatively insufficient. Aiming to foster their resilience to acquire support from peers or school context, coaches and educational institutions are encouraged to give them more chances. Otherwise, the school will become an alienating place (Glasser, 1990). Moreover, research has shown that schools/universities that expect high to their students and give them necessary support to achieve their goals have more success in academics (Rutter, 1979). For this reason, higher educational institutes cannot lower the bar for academic performance, otherwise HPSA would aim much lower for their study.

2.3.2 Self-efficacy

According to Bandura, self-efficacy refers to one's belief in his/her ability to execute certain behaviours necessary to yield specific performance outcomes (Bandura & Adams, 1977). Further explanation indicates that self-efficacy represents confidence in the capacity to perform one's own motivation, behaviour, and social context (Hegde & Shetty, 2020). Simply put, self-efficacy is based on what one assumes one can do (Shelangoski, 2013). Moreover, research findings indicate that self-efficacy plays a key role in goal achieving (Brown, Glastetter-Fender, & Shelton, 2000). Bandura also stated that the higher the level of self-efficacy expectation, the more the possibility of a task is accomplished (Bandura, 1977).

Lee and Bobko stressed that the people who have a strong sense of self-efficacy in a certain situation will dedicate to the demands of the situation, and encountering challenges or adversities, these individuals will work harder and stick to it longer than those who doubt themselves in capability. Meanwhile those people are also apt to attribute failures to inadequate effort instead of others (Lee & Bobko, 1994).

Schunk discussed the variations of self-efficacy in different periods of academic learning. As a function of natural aptitude, self-efficacy is various and prior experience. These personal factors, including goal setting and data processing and some situational factors (e.g., rewards and encouragement from teachers), act on students while they are studying. From these factors, students perceive their level of learning, which are used to assess the further study. Once they find they are improving in learning, then the motivation will be enhanced. In this way, they could maintain their sense of self-efficacy for performing better (Schunk, 1991). In light of this explanation, we could utilize the positive influence from college contexts and coaches to increase the sense of self-efficacy of HPSA. But it is particularly noteworthy that the persuasive feedback and vicarious experiences will function temporarily if the following outcome is unsatisfactory.

Besides the intrinsic enhancement of self-efficacy, several strategies could be adopted by educational practitioners to facilitate students' efficacy toward intellectual capability in particular for HPSA because of their time constraints in academic work. According Lane et al., educators can provide clear instructions in order to improve the knowledge of tasks; or introduce previous students who succeed in academics to the new-comers (Lane & Lane, 2001). It is surely also applicable to the academic work of HPSA.

2.4 SPORTS MODEL AND SOCIAL SYSTEM

Sports and society are evidently connected (Budd, 2001).The number of gold medals in the Olympics is important precisely because that count is taken as a measure of political legitimacy, of modernization, or of a people's resolve (Espy, 1981; Heinilä, 1985), despite the International Olympic Committee's protestation that the Olympic medal table is not an order of merit (De Bosscher, De Knop, Van Bottenburg, Shibli, & Bingham, 2009). For this reason, elite sporting success has

frequently been regarded as a resource valuable for its malleability and its capacity to help achieve a wide range of non-sporting objectives(Green & Houlihan, 2005), including political meliority, economic benefit. The idea of "global sporting arms race"(De Bosscher, 2008), as expounded by Oakley and Green was that elite sporting success can be produced by investing strategically in elite sport.

Therefore, most governments have intervened directly in elite sport development by means of bankrolling considerable financial contribution, hence leading to the increasing institutionalisation of elite sport systems (De Bosscher et al., 2009). Nonetheless, two distinct social systems, namely socialism and capitalism, have different influence and expectation on different sports models comparing among China and most western countries.

2.4.1 Sports in China

Sports in specific conditions is an important political instrument(Hong & Xiaozheng, 2002). Sport has proved extremely valuable as a political and diplomatic resource (Leeds & Von Allmen, 2016).

It was not until the early 1970s, when China wanted to escape its isolation from the international community, that competitive sport was brought back to the political centre stage and served as a means of diplomatic communication. 'Ping-pong diplomacy'[9] was the strategy used to open up new diplomatic channels between East and West(Griffin, 2014; Kobierecki, 2016). The Chinese have learned from Ping-pong diplomacy that sport and politics are inseparable. Athletes have shouldered heavy responsibilities, acting as a role of political ambassador.

"Friendship first, competition second"[10] as another sports diplomacy was adopted by Chinese government during cold war(Guanhua, 2003)[11]. The Sports Ministry explained in 1972: 'Friendship means politics. Friendship first means politics first. We use competition to project our socialist country's new image, and to make and win friends in the world (Hong & Xiaozheng, 2002).

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[9] It refers to exchanges of table tennis players between the United States and China in 1970s.

[10] It was proposed in 1970s between China and Japan on the 31st Table Tennis World Championship.

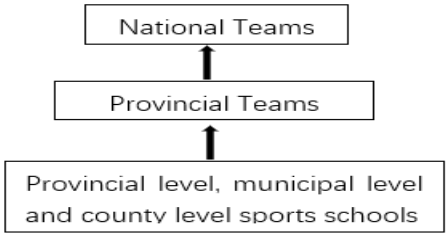
[11] It was a period of geopolitical tension between the United States and the Soviet Union and their respective allies.

Sport in China has always been, therefore, a political tool. It grew out of its infancy and reached its maturity through the 1950s' 'two Chinas' struggle[12], the GANEFO[13] initiative of the 1960s and the 'Ping-pong diplomacy' of the 1970s. Unquestionably, then, sport emerged as a means of implementing political and diplomatic policies in post-Mao era in the 1980s and 1990s in China.

In order to fulfil the political and diplomatic goals, Chinese administrative adopted different sports models in different eras.

After the founding of the PRC in 1949, the main objectives of the Communist Party were to build China into a powerful country, to restore the rightful position in the world, to revive national confidence and the country's self-respect that had been lost during the past decades and, finally, to end the 'hundred years of humiliation'.[14] Therefore, the goal of sports policy was set to serve the people, serve the national defence and people's health(Hong & Zhouxiang, 2015). Consequently, mass sports was highly promoted and became the principle of the sports policy in the early PRC. After Helsinki Olympics, China was dramatically inspired by the Soviet Union's success and started to follow its footsteps to carry out pyramidal administrative and selective system, that is so called Sovietisation of Chinese sport. Therefore, structures of full-time professional athletes at provincial and national level were formed. Furthermore, the Soviet Union's spare-time sports school model was also introduced to foster talented athletes from their young age. Thus, a Chinese elite sports pyramid (see Figure 2.) was completely formed and still prevails nowadays.

Figure 2. *Pyramid of China's elite athletes selection system*



[12] It indicates a lasting political and military standoff between two side of Taiwan Strait, that is Republic of China in Taiwan and the People's Republic of China.

[13] The Games of the New Emerging Forces (GANEFO) were the games set up by Indonesia as a counter to Olympic Games in 1960s.

[14] It refers to the conflicts between China and foreign countries since the first Opium War in 1840.

From now on, the initiative of *Juguo Tizhi*[15] was formulated.

Given some geopolitical conflicts with the Soviet Union and domestic socio-political movement[16] in 1960s and 1970s, China had broken the close relationship with the Soviet Union. Meanwhile, the reform and opening up policy was launched in 1978. It has gathered momentum in an increasing range of economic policy domains(Hu & Henry, 2017). Sport is a field of both cultural and economic significance and hence has been experiencing pressures to open its management up to market forces. For this reason, "Olympic Glory" project[17] has been initiated to get increasing financial support annually from Chinese government and broaden the investment channels from social communities(Theodoraki, 2004).

Nevertheless, Chinese sports authorities could not arrange jobs for all retired elite athletes like what they did prior to the reform and opening up policy due to the limited vacancies in state-owned units. Therefore, Chinese sports and education administrative have been implementing various measures to facilitate elite athlete's academic education so that they can find decent jobs after retirement.

All in all, as a socialist country, China would like to achieve international prestige by means of sports success with might and main. Notwithstanding, the prerequisite is that the interests of the elite athletes are protected.

2.4.2 Sports in the west

From the second half of eighteenth century on, capitalism has been the dominant social reality in most western countries (Drucker, 2012). Capitalism's core relations of exploitation and competition frame all other social relations and are clearly apparent in sport, particularly at a professional and elite level (Budd, 2004). Although elite sportspeople perform differently from other workers as an extension of machinery, since the tools of their trade are often their own bodies, sporting labour processes radically belong to wider capitalist labour processes.

The motivation to achieve acceptable status worldwide and thus to translate this status into political advantage is not confined to developing countries. The US and other western nations have been disinclined to admit their keen interest in

[15] Whole-nation support for the elite sport system.

[16] It refers to the Great Proletarian Cultural Revolution in 1966-1976.

[17] It has been launched in 1995.

international sports success, but it is there nevertheless. International sports success is a very serious goal in the US, for success is regarded internally and externally as "proof" of the superiority of a nation's social, economic , and political systems (Frey & Eitzen, 1991).

According to De Bossecher's research(2008), accepted practice in elite sports of most western countries is observed via the combination of Treasury and lottery funding, of which the proportion differentiated each other. For instance, the United States government conducts the minimal intervention, while the authority of France takes sport as public service(Green & Oakley, 2001).

Although both the United States and most European countries practice capitalism, their sports formations and cultures developed along fairly different paths (Van Bottenburg, 2013). Prevalent sports, such as baseball and American football in America are much less popular than soccer, tennis etc. in Europe. Moreover, these sports are developed and organized in different contexts. Sports clubs and associations are dominant in Europe (Barget & Chavinier-Rela, 2017), while the US prefers schools, colleges and universities sports. In addition, Europe's open sport competitions won an international or even global attraction and were governed by international non-profit federations, whereas in the US closed professional leagues prevailed at home and were formed under profit-oriented managerial control instead of any international governing bodies. Besides, sports in the US developed market-driven, therefore, the government hardly influenced the development of sports formation which is obviously different from European context (Houlihan, 2002). The governments in Europe got increasingly involved in the field of sports.

The exceptionalism of American sports(Markovits & Hellerman, 2014) fits in with the American self-image and pride to be unique(Van Bottenburg, 2013). In general, the public founded educational institutions take the responsibility to provide sport chances, while to a lesser extent to local authorities and quasi-public voluntary agencies(Wilson, 1994). Notwithstanding, only a limited number of sports are played in the high school and college athletic programmes due to the audience-oriented perspective in the United States (Stokvis, 2007). Normally, those sports which attract the most public attention are widely included in educational institutions, including the most commercialized sports, such as football, basketball and baseball; and the most appealing Olympic sports, such as

track and field, swimming and gymnastics. As a consequence of this, athletes are normally channelled into sports for which there are opportunities to compete in school (Houlihan & Green, 2007). It is notable that public investment for sport facilities is mainly channelled through educational institutions in the US (Van Bottenburg, 2013). In addition, the American sport system also demonstrates that sport participation has conventionally flourished during childhood and adolescence. One of the biggest reasons lies that the sports programme in school concentrated on the team sports that students in their later life seldom play and provide sports facilities that are exclusively open to their students.

However, the western European club system is more based on participants than on spectators. Generally speaking, the club facilities are facilitated by government support, generally based on the needs of the sports participants. In terms of age of sports participants, many sport participation in Europe carry on their membership of a sporting club when they are over twenty. Sports clubs in Europe founded regional, national and international associations, and are developed on the basis of a pyramidal system of promotion and relegation (Drewes, 2003; van Bottenburg, Rijnen, & Van Sterkenburg, 2005).

The core argument of sports model in Europe and the America is that the latter model is the product not of grassroots social activity, "as the former model with its pyramidal structure purports to be, but of commerce, purely and simply"(Weatherill, 2006).

2.5 SUMMARY

In summary, an interdisciplinary approach is used in this research. Developmental life span model plays a major role as a thread throughout the whole dissertation. I would follow the principal line to explore what Chinese authority has done on the policy of HPSA and what should be amended as comparing with European and American practices. From this, further discussion about Chinese government investment in human capital would be developed. Related topics, such as how's the process of investment; what's the return obtained from the human capital; any deficiencies during the implementation by the stakeholder, will be anatomised. HPSA, as the key role of this project, are mainly concerned. Within China's context, the benefits and experiences of HPSA

are obviously different from their counterparts in western countries. At present, what's the real crux in their development? Do the subjective or objective factors account for more? In this regard, self-efficacy theory is introduced to elucidate the nature of the problem.

III – LITERATURE REVIEW

III- LITERATURE REVIEW

In exploring how the DC of HPSA develop in China since its inception in 1980s, the literature concerning the evolution of China's HPSA policies and its implementation among HEIs is reviewed. Then, the rules, in particular, college-bound student athletes enrolment policies of NCAA and its influence upon HPSA, is explored. Finally, the literature related to the European Union guidelines on DC of athletes and European Athlete as Student (EAS) Network are also examined.

3.1 DEVELOPMENT OF HPSA IN CHINA

This part examines literature that considers the historical background of HPSA and the corresponding polices promulgated by Chinese authorities. In addition, the section reviews the current status of HPSA cultivation in different HEIs.

3.1.1 Evolution of HPSA Policy in Mainland China

The increasing social significance of sport as well as its indispensable role in economy is greatly embodied in China (Houlihan & Mangset, 2007). HPSA policy, at its inception in 1980s, was introduced to aid high-performance athletes to enhance their educational level so as to meet the requirements of socialism civilization construction. In the meantime, through earning college degree, the HPSA could broaden their re-employment channel after transition into retirement. In the development of HPSA policy in China, few stages were divided.

Stage of exploration (1987-1994)

The year 1979 saw China's return to the International Olympic Committee (Brownell, 2012). It magnificently inspired the Chinese government and people. Nevertheless, no matter the scale or level of sports lagged far behind other

powerful countries then. In this case, 'Sports Power' was first-ever introduced in 1983. School sports as an indivisible part of this initiative was highlighted. *Outline for Carrying out After-school Sports Training and Improving Physical Education and Sports Technique Level in Schools (1986-2000)* (SEC & SPCSC, 1986)(hereinafter *Outline1986*) as a national guidance was issued to guarantee the development of school sports.

On 9 April, 1987, with the purpose of the development of school sports and the improvement of sports level in Regular HEIs, State Education Commission of the PRC (SEC) promulgated policies of pilot admission of HPSA in 1987 (SEC, 1987). The first policy on HPSA admission, *Notice on the Work of Some Regular Higher Educational Institutions Pilot Admission of High-performance Athletes* (hereinafter *First Notice*) was formulated. In the *First Notice*, rigorous criteria for admission were put forward to guarantee their academic level, such as Preparatory Class was mandatory for those who failed to be admitted to study one-year pre-course offered by pilot universities. After that, those who passed the cut-off score had access to the university-level study, otherwise would drop out. Additionally, those who were in Preparatory Class disqualified to participate any National University Games (NUG). Generally, student-athletes had disadvantage in the academic performance than regular students. Hence there were few chances for them to be university students without the athletic advantages. In this regard, all athletes would be encouraged to achieve better score in competitions.

In the same year, SPCSC and SEC launched a policy, *Notice about the Relevant Events of Famous Elite Athletes Admission to Universities* (hereinafter *Notice 1987*), by which some famous retired elite athletes enrolled at universities. Likewise, Preparatory Class[18] was also mandatory for them but for those who were not qualified to be high school graduates instead of failing in entrance exam. By virtue of certain privilege, they entered universities and the Regular HEIs were encouraged to facilitate their academic work. With the emergence of HPSA, the school sports were considerably promoted. The success of pilot Regular HEIs could be assessed from the achievements on the 3rd NUG (1988), of which basketball & volleyball final competitions, 30 out of 40 teams were from pilot Regular HEIs (Wu, 1990). 'President Cup' was initially introduced to NUG 1988 to

[18] In these classes, elite athletes were provided extra lessons for high school subjects.

encourage the Regular HEIs which run school sports prominently. Amongst 8 universities who won the prize, 7 was from pilot Regular HEIs at the first time. Mass sports in the majority of Regular HEIs were increasingly prosperous and sports became one of the most concern amongst universities (Wang, 1988). Fundamentally, Chinese government conceived the plan to improve the formal education level of HPSA, therefore, some privileges were offered to help them enter HEIs. It is understandable and practicable because the elite athletes had less or no chance to accept formal schooling since they were selected to take athletic practice at their young age when they should study in regular schools. Notwithstanding, due to their limited basic academic work, it was extremely hard for them to finish the college courses as per standard (Yuanhe, Lincai, & Jinyu, 1991). To be frank, if HEIs do not take any active responses for this situation, then this kind of cultivation tended to be formalistic (Jing, Zhongyou, Wei, & Xuelin, 2009).

Fully Supported by Government (1995-2004)

As the China's economy entering a new era, China aimed a higher level on competitive sports. Thus, *the Outline of the Strategic Olympic Glory Plan 1994-2000* (hereinafter *Outline 1995*) was promulgated and implemented by SPCSC as a key step to heighten the salience of ambitions of Chinese administration on Olympics. *Outline 1995* stressed that competitive sports performance has increasingly relied on multi-disciplined theory and training methods. Given the critical deficiency in back-up athletes, Regular HEIs should undertake the mission for Olympic Glory with their advantages in training and scientific research. Moral education and academic qualities of athletes were directly related to their improvements in athletic performance which was essential to the sustainable and sound development of competitive sports.(GASC & MOE, 2003) Working as a programmatic document for the China's development of sport in the first decade of the 21st century, *the National Programme for Sport Reform and Development During 2001~ 2010* was adopted by GASC in 2000. With the aim of strengthening the construction of elite sports team, the initiative of institutionalisation of sports team was launched. In part, Chinese administration formulated and implemented another policy of HPSA, *Notice about Pilot Regular Higher Education Institution of High-Performance Sports Team* (hereinafter *Notice 1995*), lending a big hand to more

elite athletes.

In addition, the year 1995 witnessed the first Chinese sports-related law, *the Sports Law of the People's Republic of China* (hereinafter *Sports Law*[19]), which was enacted by the National People's Congress to guarantee the right of elite athletes of enrolment in HEIs. *Sport Law* (Article 28, Chapter 4) provided that 'The state shall provide top athletes with preferential treatment in employment and enrolment in schools.'(Nafziger & Wei, 1998) Thereby, elite athletes' immersion in school sports was fully guaranteed. And this action was also put forth in *Outline 1995*.

In *Notice 1995*, the prerequisite for applicant was changed into 'Level-I Athlete' from 'Level-II Athlete' and the cut-off mark was set by SEC. Obviously, those advantageous adjustments were much beneficial to elite athletes. The reason lied that, according to the *Technical Level of Athletes(1985)*, regular student-athletes from secondary school were considerably difficult to apply 'Level-I Athlete'. With the mission of building sports teams independently by MOE to partake in Universiade and other student-bound international games, the authority raised the HPSA admission criteria for athletic performance and lowered the bar for academic level. In part, HPSA admission policy became an exclusive pathway for elite athletes over this stage. Such visions were included in the original aspiration of HPSA recruitment in HEIs. On the one hand, it can present the good image of Chinese university student-athletes to the world; on the other hand, it can facilitate elite-athlete cultivation by means of the advantage of HEIs (Lijuan, 2001).

In 1999, *Notice on Exam-Free Admission of Retired Elite Athletes to Colleges of Culture and Sports under GASC* (hereinafter *Notice 1999*) was issued by GASC. To compare with *Notice 1987*, it offered more preferences for elite retired athletes in which more athletic achievement titles were included. Targeting to arouse the enthusiasm of athletes and dispel their worries about livelihoods after retirement, *Opinions on Further Aftercare of Retired Athletes*(2002), to a greater degree, paved more paths for retired athletes to be enrolled in HEIs, which regulated that Regular HEIs could organize exclusive examination for retired athletes and open Preparatory Classes independently.

[19] It was amended in 2022 and will go into effect in 2023.

With the broad support of authorities, more professional athletes joined HPSA so that remarkable achievements were scored both in NUG and Universiade. At the beginning of 2000s, China ranked to the top in two straight Universiade Games, which markedly elevate the China's status in the international realm of sports and greatly prompt the development of world sports (GASC, 2000).

Stage of Rapid Development (2005-2016)

As China entering a new era, the total amount of Regular HEIs reached up to 1792 in 2005, which increased by around 73% comparing with the amount in 2000. In order to clarify the enrolment policy, Notice 1987 and Notice 1995 were no more applicable since the Notice on the Work of High-performance Student Athletes Admission in 2005 (hereinafter Notice 2005) was implemented. In 2006, with the support of MOE and GASC, more Regular HEIs were encouraged to increase HPSA admission. As a consequence, the number of Regular HEIs accessible to HPAS skyrocketed to 235 which was more than double over the previous year. Furthermore, Higher Vocational Colleges (HVC) were also authorized to recruit HPSA from 2006 (MOE, 2006). Henceforth, the institutions accessible to HPSA were almost formed and fixed.

Not only were expanded the institutions in quantity, the academic performance of HPSA was also required higher. To ensure the quality education of HPSA, the Preparatory Classes were cancelled since 2005 which was stated in *Notice 2005*. The admission rate from 15 per cent to 30 per cent of talent athletes (According to *EU guideline 2012*: a talented athlete is an athlete recognised by a sport organisation as an athlete who has the potential to develop an elite sporting career)(Commission, 2012) proportion of each year indicated that Chinese government encourage more talent athletes to go further study to improve the athletes' quality in all aspects. Since 2007, the cancelation of the upper limit of applicant's age allowed the athletes in some special sports like Shootings, Fencing, could have the opportunities to be enrolled. In doing so, more elite athletes could enter into universities for further study.

Some new policies were put forward in *Opinions 2005*, such as the training and competition of HPSA could be taken into compulsory credits; certain credits should be awarded based on their achievements in national and international

sports events. In addition, the achievements obtained from national or international competitions could be taken into priority to be recommended postgraduate with test-free admission.

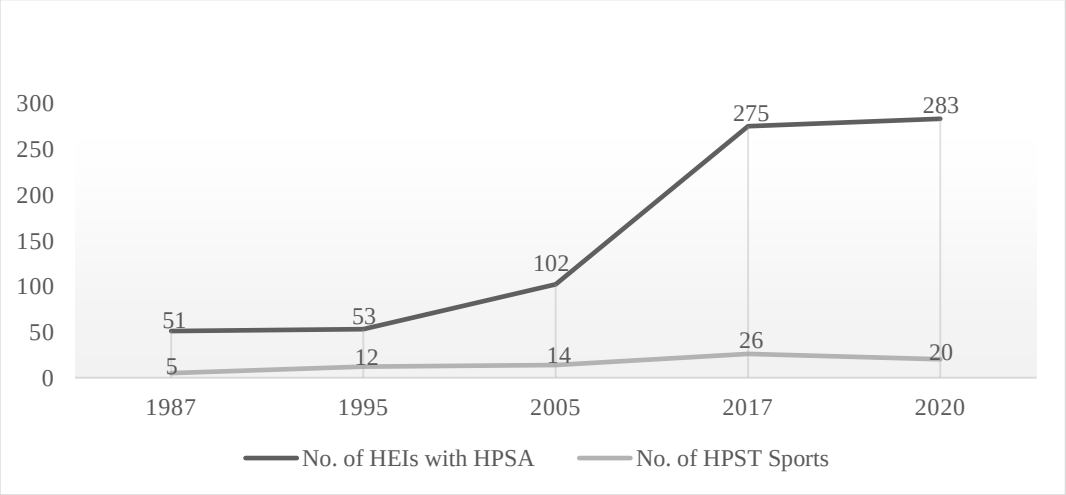
Development towards Normality (2017 to present)

Over the past three decades, remarkable progress has been made in HPSA construction which greatly advanced the all-round development of school sports in Regular HEIs. Yet there still exist some problems, such as ambiguous development target, imbalance layout of sports and non-standardized admission and management and so forth, which directly hit the quality of HPSA. In line with *Suggestions of Strengthening School Sports and Promoting All-round Development of Students' Physical and Mental Health(2016)*, MOE promulgated *Plan of Further Strengthening the Construction of the High-performance Sports Team in Regular Higher Education Institutions* (hereinafter *Plan 2017*), which acted as a paramount guidance for the HPSA policy-making henceforth. In the light of the requirements of State Council, MOE streamlined its administration and delegated more powers to all provincial government, therefore, no detailed policies on HPSA admission were issued to Regular HEIs. Henceforward, relative educational authorities in all provinces could promulgate their own specific enrolment policy under the guidance of *Plan 2017*. Nevertheless, in the year of 2021, MOE and GASC jointly issued *Guidance of Further Improving and Normalizing the Examination and Admission of High-Performance Sports Team in Higher Education Institutes* (hereinafter *Guidance 2021*), which clearly states that there are some gaps in the requirements of new era in HPSA enrolment and management. Therefore *Guidance 2021* offered macro but clear guidance in admission range, registration qualification, assessment, academic performance, enrolment system, management on campus and supervision.

Up to 2017, the amount of Regular HEIs with HPSA stood at 275 which accounted for more than 10 percent of total number of Regular HEIs. With the aim to enhance the quality of HPST, the scale of Regular HEIs with HPSA should confine to the current status in principle. And on principle of highlighting the key points, taking maximum advantage and dynamic adjustment, HPST sports should be set in accordance with the sports of Universiade and NUG and be optimized correspondingly. Each Regular HEIs with HPSA should set no more

than 5 sports to ensure the quality. From 2020, provided that any Regular HEIs with HPSA or any HPSA sports do not recruit any students or recruit students against the rules in two consecutive years, they would be ruled out. The evolution of the number of Regular HEIs with HPSA and HPST sports was shown in Figure 3.

Figure 3. *The Evolution of the Number of Regular HEIs with HPSA and HPST Sports up to 2020*



(Own draft based on the research literature analysed).

To ensure the sports adjustment properly, MOE launched another policy in the same year, *Notice on Adjustment of Sports of High-performance Sports Team in 2017* made further regulation that the sports without correspondent Athletic Technical Rank[20] or with inadequate student-athletes should be adjusted or stop recruitment. In 2019, sports like Judo, Chess, Wrestling and Rock climbing were cancelled in most HEIs except for the HEIs with the responsibility for national team construction,(MOE, 2018) and prior to 2022, sports like Chess, Dragonboat Racing, Orienteering would stop recruiting entirely.(MOE, 2019) Nonetheless, some state-proposed sports would be highly promoted, such as HEIs with the sports of football have increased to 188 till 2020; ice sports were also considerably encouraged for the 2022 Winter Olympics being held in China.

[20] It has taken effect since 1985. It includes six-level ranks which is awarded based on athletic achievement.

3.1.2 Conclusion

Through almost four-decade evolution, Chinese HPSA policies have been much developed with more explicit target, optimized layout and standardized enrolment & management. However, in light of development model (Wylleman & Lavallee, 2004), all these optimizations merely focus on HPSA mastery stage of athletic development transitions. As for the rest of stages, nothing involved in the polices. Although Chinese sports and educational authorities have promulgated some policies for the adolescences, they are all about extra-curricular activities (MOE, GASC, CCCYL, & NYWC, 2001; RUOHAN, 1987) and strengthening physique (MOE, GASC, & CCCYC, 2006). None of them are related to talent athlete cultivation. In other word, China sports authorities never rely the elite athletes fostering on school sports. Instead, China sports authorities have their own cultivation system including special schooling-spare-time sport schools. However, in this system, the academic work is marginalized. It could be identified as a waste of human capital (Yiping, 2012).

Moreover, according to Chickering (1969), HPSA should devote several developmental tasks during their university years. Unfortunately, however, the HPSA-related policies have never been concerning their psychosocial development needs except for providing privilege of admission. Therefore, the HEIs that HPSA enrolled in do not attach attention to their all-round development but only "helping" them pass the exam and winning the degree with little or no efforts of HPSA.

In this regard, all these HPSA policies in China are imperfect. Regretfully, the utilitarianism of Chinese government on sports achievement has been leading them to be anxious to solve the re-employment of HPSA, otherwise, less and less young people dedicate to elite sports (Hoberman, 1987; Mangan & Hong, 2013). With the help of series of policies, almost all HPSA win college degree of a kind. Seemingly, China sports and educational authorities made a success in the DC of HPSA, however, their job satisfaction is debatable. A nationwide survey conducted with retired gymnasts(n=100, various from non-athletic-title to Master Athletes all round China) in 2015, the athletes with college degree or above account for 97 per cent, but the only 46 per cent of them found the job associated with their college major (Sun, 2015).

All in all, China's sports and educational authorities should take joint efforts to improve HPSA from a practical and holistic perspective.

3.2 Evolution of NCAA and Its Influence upon HPSA

The controversy of simultaneous pursuits of rigorous academics and intercollegiate athletics in American higher education has long been existed (Covell & Barr, 2001). Diametrically opposed advocacy on the two aspects. Robert Hutchins, president of University of Chicago argued that a college, as an educational institution, should not be interested in fostering professional athletes (Lawson & Ingham, 1980). While the president of Harvard University pointed out that with enthusiastic support from students, alumni and even government officials, the colleges have developed sports programs that remarkably satisfied tons of athletes and massive spectators (Bok, 1985).

This debate is made more complicated when non-academic factors are also involved to assess the mission of higher education. But some supporters argue that popular appeal of non-academic activities are important complement to academics and in accordance with the initial philosophy of American higher education (Covell & Barr, 2001). In order to ensure the coordinated development of academics and athletics in higher education institutions. One of the NCAA bylaws prescribes:

> Intercollegiate athletic programs shall be maintained as a vital component of the educational program, and student-athletes shall be an integral part of the student body. The admission, academic standing and academic progress of the student-athletes shall be consistent with the policies and standards adopted by the institution for the student body in general. (1999-2000 NCAA Division I Operating Manual, p. 4)

Unlike the educational system of China, education in the US is highly decentralized, which has been left to the state and local school districts (Thattai, 2001). As the counterpart of Chinese MOE, Department of Education (DOE) was created in 1980, and its precursor was founded in 1953 (Hitchcock, Taylor, Johnson, & Kim, 2014). However, DOE does not establish schools and colleges so that it has much less function than MOE. Likewise, the sports system in American is totally different from sports system in China. The counterpart of GASC does

not exist at the US federal level. Notwithstanding, the US has always dominated the 1st place of Summer Olympic medal table since 1996 and ranked top two （3rd place in 1988 Seoul Olympics） over one century. At Tokyo 2020 Olympics, collegiate athletes of Team USA accounted for over 75 per cent. Notably, 11 teams were fully comprised of college SA ("TEAM USA'S 2020 COLLEGIATE OLYMPIC FOOTPRINT," 2020). In order to explore the success of college SA in the US, this research conducts an in-depth analysis of the governing body of college American athletics.

3.2.1 Overview of NCAA

The National Collegiate Athletic Association(NCAA) demonstrates a whole picture of SA in the US (Hodge & Tanlu, 2009). It defines itself as "a member-led organization dedicated to the well-being and lifelong success of college athletes" (Senne, 2016). It was founded in 1906 to supervise the college sport and protect young athletes. Each year, NCAA schools award abundant finance in sport-related scholarships and provide extensive support to help SA graduate smoothly (Huml, Bergman, Newell, & Hancock, 2019).

In 1995, NCAA took SA's welfare as a major priority (Association, 2005). To ensure that the priority was obtained, the NCAA required that Division I (DI) to provide services to SA in both academic skills and life skills besides the athletic skills (Ko, Durrant, & Mangiantini, 2008). Hence, the all-round development of SA in their college years was guaranteed at the national-system-level.

NCAA consists of three divisions, around 1,100 member schools positioned in all 50 states, the District of Columbia, Puerto Rico and even Canada. Member schools and conferences maintain the rights to adopt suitable rules for their divisions, including recruiting and compliance to academics and championships.

The NCAA's current three-division form was adopted in 1973. This structure enables similar schools to play in a fair level and provide SA more opportunities to partake national-level competitions while working toward a college degree that will lead to lifelong achievement. Each division member schools have their own specific goals. In general, DI schools have the biggest student bodies, handle the largest athletics budgets and provide the most athletics scholarships. Division II offers increasing chances by academic achievement,

learning in high-level sport competition and a focal point on service to the community. Division III offers more chances for SA to compete at intramural competitions.

In order to compare with Chinese HPSA policy, the study makes further analysis on DI .

3.2.2 Academic Eligibility Requirements

In order to compete in the first year in college, the applicants of DI schools are requested to provide some data of SA in their high schools, such as academic history, sports experiences, standardized test scores, high school transcripts and a request for final amateurism certification (web3.ncaa.org). Aiming to increase graduation rates, the NCAA enacted Proposition 16 in 1992, which raised the admission standards for freshmen SA at DI schools. In other words, the objective of Proposition 16 is to admit students who were academically prepared to make success at the higher education institution (Price, 2010). The key points of eligibility standard as follows (Michelle Brutlag Hosick & Sproull, 2012):

- Freshmen student-athletes must achieve at least 10 of the required 16 core courses before the start of the senior year of high school (including seven in English, math or science).

- A minimum high school core-course grade-point average(GPA) of 2.3 and an enhanced sliding-scale combination of GPA and test score are required to be immediately eligible for competition.

If the applicants do not meet all the academic requirements of admission to DI, then they are failed to compete in the first year. However, they can qualify as an academic redshirt, so that they are allowed to practice during the first term and receive athletics scholarship for the whole year. To qualify as an academic redshirt (allowed to practice in the initial term and receive athletics aid during the initial year of full-time collegiate enrolment, but may not compete in their first year of full-time collegiate enrolment), the applicants must graduate from high school and meet all the followings:

- Complete 16 core courses.
- Earn at least a 2.0 GPA in the core courses.

- Earn an SAT (Scholastic Assessment Test) combined score or ACT (American College Test) sum score matching your core-course GPA on the DI sliding scale.

Notably, non-traditional courses are also provided in the NCAA initial-eligibility certification process. They are taught online or through online and offline blended, independent study etc. These types of courses must be approved and could be found on the high school's list of NCAA approved core courses. In this way, some academic work of SA in high school would be in accordance with the system of NCAA. SA would attach more attention on their academics as soon as they intend to be a SA. After enrolling in colleges, they could adapt to the SA campus life in a short time. According to Bloom, the policy of NCAA is involved not only in the stage 3, their mastery stage but the stage 1 & 2, that is their initial stage and developmental stage.

Moreover, once SA are admitted to DI , they are still required to meet yearly standards to be able to compete. There is only about 2 per cent of high school athletes have the chance to compete in college. Of the SA participating in sports with professional leagues, less than 2 per cent become professionals. Therefore, a college education is the most beneficial experience for SA (*GUIDE FOR THE COLLEGE-BOUND STUDENT-ATHLETE 2012-22*, 2021).

In this regard, we can see that the NCAA highly value the academics of SA. Therefore, the students who want to be enrolled as SA must prepare both athletics and educational work well in their high school times. Either of them cannot meet the requirements, then student would fail to gain admission. By doing so, American SA could develop their formal schooling and sports in a parallel way based on the career trajectory model (Torregrossa, Chamorro, Ramis, Latinjak, & Jordana, 2017).

According to Price (2010), Proposition 16 doesn't fulfil its target to increase the graduation rates of SA at DI. On the contrary, the number of freshmen SA at DI decreased, but the total number of SA doesn't change because the athletic departments rely more on transfer SA from Division II to fill scholarships. The significance of the Proposition 16 is that it undoubtedly enhanced the academic success of SA. Additionally, starting with 2019-2020 academic year, Division I school's share of NCAA revenue is bonded to the academic of achievement. This means the amount of the money schools receive from NCAA is determined by their students' academic achievement. In this way, the academic success of SA is

much related to it. From this perspective, all NCAA member schools have to attach more attention on the academic works of SA.

3.2.3 Academic Assessment System

Assessment practices can promote academic development (Allen, 2003). To ensure SA benefit from quality college education and supervise their academics, NCAA implements some regulations.

The NCAA legislation asks member schools to report enrolment (of both student body and SA receiving athletics aid) and student body and SA graduation rates to the NCAA annually. According to the requirements of DOE, the NCAA then publishes reports on behalf of the member schools (www.ncaa.org)[21].

The NCAA dedicates to three on-track indicators of SA's academic works, including grades, annual minimum credit hours and progress toward earning a degree. Thus, the development of SA's academics has been well overseen and ensured. In addition, the NCAA created the Graduation Success Rate (GSR) for DI which tracks the number of first-year, full-time students who entered college with financial aid and graduated from that school within six years, including SA who transferred into that school. In doing so, the DI schools are also evaluated to improve their quality of education. As a result, the SA graduation rate is higher than ever (Price, 2010).

Moreover, according to Lewis' survey (1997), SA were quite satisfied with the academic services of DI. Tutorial services and career planning were the highest rated services (Lewis, 1997).

3.2.4 Current Structure and Operation of NCAA DI

In order to explore the reason why NCAA could organize American SA successfully over 100 years, the research analyses the operation of NCAA DI based on their governance structure and some vital programmes.

Governance Structure

[21] The official website of the National Collegiate Athletic Association.

The NCAA governance organization is composed of legislative bodies and some committees. DI is surely under their control. Meanwhile, they set association-wide policies. Besides, the affairs about sports rules, championships, the health and safety of SA , as well as the issues about female SA and minorities are in charged by different committees.

As the highest governing body of NCAA, the Board of Governors, consists mainly of presidents and chancellors from each division, as well as five independent members. The president of NCAA is the only national official who performs as an ex officio member. It means the US administration does not dominate NCAA that they have more autonomous authorities. Both the Association-wide committees and the Board of Governors have no rights to enact legislation directly, but they can provide guidance through recommending legislation to DI and the guidance can be reviewed through DI's legislative processes. By doing so, the fairness and validity are ensured.

In August 2014, the DI board restructured the governing system for its conferences and institutions (Michelle B Hosick, 2014). Few key shifts are highlighted. First, in the new system, a SA, an athletics director, a faculty athletics representative, and a senior woman athletics representative must be included (Michelle B Hosick, 2014). Additionally, the Board moves its focus on oversight, policy and strategic issues from legislative matters. Second, a forty-member Council was expanded and it must include "representatives from each of the thirty-two conferences, a minimum of 60 per cent athletics directors, conference commissioners, faculty athletics representatives, senior woman administrators and SAs."(Shannon, 2017). Further, a new Committee on Academics was built to manage academic policies. Before the redesign, the authority for academic policy was dominated by three institutions. In such wise, the academic matters could be solved effectively and smoothly through a single committee.

From the abovementioned changes in the new structure, obviously, the SA, as the principal beneficiaries of NCAA, are greatly involved in governance systems instead of passively acceptance. That is to say, the voice of SA plays a key role in the DI governance structure. At the same time, when managing itself on issues out of the range of autonomy, the processes of DI's proposal initiating and voting on it always work together to reach a positive result for SA.

Community Outreach

According to Psychosocial Development Model (Chickering, 1969), the SA in the college period should be well developed not only in the area of academics and athletics but their character and social responsibility (Andrassy & Bruening, 2011). By doing so, several developmental needs of HPSA are well prepared in accordance with Chickering' s psychosocial developmental model, including competence development, emotions management, mature interpersonal relationship and more.

Life Skills: With a goal to ensure the integration of college sports in campus educational work and improve the quality of SA experience, NCAA Foundation and DI Athletic Directors' Association initiated the Challenging Athletes' Minds for Personal Success (CHAMPS/Life Skills) for SA in 2000 (Andrassy & Bruening, 2011). By means of community outreach activities, and academic & athletic services, this programme develops SA's responsibility, leaderships and inclusiveness(Vito, 2008).

NCAA Life Skills is dedicated to the all-round development of SA, fostering them with life skills that are beneficial to their campus experience and the life after graduation. Dr. Homer Rice believes that excellence is an outcome of a balanced life including "academic achievement, athletic success and personal wellbeing"(ncaa.org) In order to guarantee the sound development of Life Skills, NCAA, together with N4A (the National Association of Academic Advisors for Athletics) oversee its daily operation of the programme.

Reading Programme: With the aim to encourage SA to read, programmes like "Readers Become Leaders (RBL)" and " Read to the Final Four(RFF)" are adopted by NCAA. Programme RBL encourages Junior SA to read for no less than 30 minutes a day so as to lay the root for achieving educational goals. Programme RFF is a yearly reading competition in the states hosting Senior SA to encourage reading growth in Junior SA. In this way, the overall goal of enhancing state reading scores is going to be achieved. Even during the coronavirus pandemic period, the programme RFF continued but became an online programme (Cianfrone & Kellison, 2020).

Additionally, with the goal to foster SA's sociability and responsibility, DI initiates the programme Habitat for Humanity, which strives to support building

or repairing decent liveable homes for families impacted by natural disasters with donation since the late 2018. The NCAA also announced a partnership with The Children's Museum of Indianapolis to create the NCAA Training Facility. The exhibit allows children and their families to interact with SA so that they have further understanding about the characteristics of SA and the history and values of NCAA. In this way, the athletic spirits could influence the children and their parents so as to lay a foundation for the development of SA.

Finances

About 1100 member schools and more than 500,000 SA are involved in NCAA. In order to keep NCAA operation smoothly, the finances should be properly planned. As the NCAA claims that, as a non-profit organization, it always puts its expenses on facilitating SA to succeed on athletics, academics and future life after retirement.

Most of annual revenue of the NCAA is composed of television broadcasting and marketing rights for the DI Men's Basketball Championship and ticket sales for all championships (Hodge & Tanlu, 2009). Data from NCAA official website reports that about US$600 million (account for 60 per cent of annual inflows) is annually allocated to DI members and conferences, while more than one fourth of which is distributed to DI championships. As for the detailed financial information of most institutions related to SA can be acquired via the US DOE website (https://ope.ed.gov/athletics/#/). In doing so, the financial operation is open to the society. Therefore, any researchers who are interested in this field can retrieve the related data. Moreover, all their inflows and outflows are transparent to the publics so that its publicity and impartiality are ensured. At the same time, the Board of Governors superintends the DI finances, including distributions.

Various of funds are used to support the development SA's athletics and academics. In DI, the Basketball Performance Fund[22] gives reward to long-time performance in the Men's Basketball Championship. The Academic Enhancement Fund[23] supports academic programs at DI member schools which are used to

[22] It is distributed to active Division I conferences based on their performance in the Division I Men's Basketball Championship over a six-year rolling period.

[23] It is distributed equally among active Division I institutions.

improve tutorial services, facilities, supplies and additional personnel. The Academic Performance Fund is applied to reward academic achievement of SA. For those SA who are in financial difficulties in schoolings, the Student Assistance Fund assists them in accomplishing their educational works.

By means of different financial support, DI could accomplish its healthy development of SA. With the increasing popularity of SA, DI could benefit more from its championships. In this way, a win-win situation is achieved (Meyer & Zimbalist, 2020).

Research

The NCAA is dedicated to making policy decision based on empirical research data. These research projects are conducted nationwide on a broad range, including academics, the well-being of SA, finances and more. As for the research conducted within DI, some studies have recently made national contribution. These studies (ncaa.org) include *Division I Men's Basketball Study on Youth Sport, Recruiting and College Choice (Dec. 2017); Division I SAAC Early Recruiting Survey (Oct. 2017); Division I Council Transfer Working Group Survey on Transfer Concepts (Oct. 2017); Division I Time Demands Survey (Apr. 2016); Division I SAAC Athletic Time Commitments Survey (Dec.2015); Academic Attainment of Division I Student-Athletes Who Compete as Postgraduates (Oct. 2015)* . From the lists we can see that DI engaged in wide topics, such as the pre-college preparation, transferring between divisions, time management and educational works of SA. With these commitments, the development of SA could be in an unbiased way.

This paper takes the development of academic research as an example to examine the NCAA policy making process. According to Petr (2012), the development of NCAA academic research falls into four stages (Petr & McArdle, 2012). From the inception of NCAA in 1906 to the year around 1980, it classified into the first stage during which exiguous research regarding SA academics at a national level. To this point, the NCAA did not conduct systematic research.

The second stage in NCAA academic research was in 1980s. During those ten years, there were major changes in the eligibility rules, such as Proposition 48 (designed to advance SA academic performance). But, according to Ursula Walsh (the then NCAA's Director of Research), the policy was issued without empirical research. In this period, two major factors affected the development and

implementation of Proposition 48. The first was a stream of academic scandals including some elite SAs were practically illiterate although with years of college study. The second was a nationwide campaign to develop higher education. Under the surge of nationwide reform of education, Proposition 48 was adopted. The questions about how the legislation affected low-income and minority students were put forward at the 1983 NCAA Convention (Oriard, 2012). However, at that time, there were no practical research data to answer these questions. Therefore, the NCAA membership set up a committee to study the issues, and that committee gave the suggestion to carry out longitudinal study of the influence of the new academic regulations. Thus, the NCAA Academic Performance Study was formed and started to conduct data-collecting from its member schools on these issues.

Around 1990, the NCAA had collected adequate data from its member schools to develop its analyses of the influences of academic policies on SA (Petr & McArdle, 2012). The third stage of academic research had started from then on. Many issues were focused in this period included SA academic performance in high school and college, eligibility and assessment of team-based academic success. In the inception, the data collected both from SA who enrolled in the college before and after Proposition 48 implementation. In 1994, given the concerns on compliance and equity of SA eligibility, the NCAA started to collect data from all the SA who intended to be enrolled in the college. By doing so, it provided abundant of material for subsequent academic research. The year of 2003 saw the implementation of the Academic Performance Program[24]. Since then, DI institutions were requested to provide academic data of all SA scholarships. Based on the results of academic data, the NCAA made elaborate research to keep the integrity and systematicity (Harrison, 2012). Additionally, another conclusion was made that the single use of cut-score on standardized test is not suitable. This led the NCAA policy makers to avoid to solely rely on the cut-off mark as the eligibility of SA admission. Because the evidence indicated that the use of cut-score cannot facilitate SA's academic performance (Petr & McArdle, 2012).

The fourth stage started from the early 2000s. Two major findings were highlighted. The first was that high school academic features are greatly

[24] It is designed to ensure Division I student-athletes receive exemplary educational and intercollegiate-athletics experiences.

determinants of newcomer of colleges, but not a good predictor for their graduation from college. This finding rendered the NCAA to rethink the primacy of freshman eligibility and try to focus more on their performance during their college years. Therefore, a series of incentive policies to shift the primary focus on SA's academic success was on negotiable. Another focus was on different academic performance of various subgroups, including race, sport, gender and more. Hence, it comprised another driving force of this stage of academic research (Petr & McArdle, 2012).

In short, after more than one century's development, NCAA has become a full-fledged organization which is from non-evidence-based policy making process to empirical research comprehensively applied into various topics. With unremitting effort, these goals are achieved (Harrison, 2012): 1) SA have the real opportunities to immerge themselves into academics; 2) DI member schools live up to their academic obligations to SA; 3) avail valuable data from member institutions to facilitate decision making; 4) constant data-tracking after policy implementation to maintain its sustainability.

3.2.5 Conclusion

Different systems yield dissimilar philosophy. "I'm so grateful that you (football) gave me a chance to get a quality education. The life lessons you taught me prepared me for life. You set me up for success. So, for that, football, I say thank you." says Darryll Stinson from Central Michigan University. "Thanks for sport providing me an opportunity to win a success. If I dedicate to academics, most probably I have no chance to win anything." says a Chinese Olympic champion. Obviously, sports lead the athletes of two countries contrary concepts to schoolings and sports.

In China, singlemindedness causes many SA to spend much of their time on athletics and much less time on schoolings and skills outside of sports (Haugen, 2021). I would dare to say that in China both academics and athletics are time-consuming. Because of the system of the National College Entrance Examination and large population, the great majority of Chinese high schools prefer excessive assignment for students' academics, therefore, less spare time was left to them; On the other hand, even nowadays Chinese sports still follow the training

principle of *SAN CONG YI DA* (Three proceed from and one big. It refers to proceeding from the difficulty, the rigour, the real competition and high-volume workload)(Lau, Ho, & Yeung, 1977). For this reason, the Chinese aspiring athletes solely commit to athletics instead of both.

While in the US, NCAA attached attention not only to the development of athletics of SA but to their formal education and life skills. The HPSA also endure high-volume workload both from sports and educational work. But the difference lies that, 1) starting from their young age, SA prepare themselves in academic work because DI institutions implement various activities to implant the spirit of SA into the publics including children; 2) when they have time conflict in school work and training or competitions, a counselling service is always ready. That is to say, it's worry-free for SA to coordinate the dilemma of time (López & Levy, 2013); 3) well organized structure provides opportunities to SA to voice themselves; 4) SA-related policies are made based on the empirical research so that both their rights and interests and the real demands of DI member schools are guaranteed.

To ensure the adequate development of SA, multi-channel is used to increase the revenue. In turn, the annual inflow is allocated to different aspects through different scholarships to assist the advancement of SA academic and athletic works and the life after sports retirement. Unlike Chinese HEIs, great majority of the expenses are from government, therefore, because of the financial shortage, the development of HPSA is constrained in most HEIs.

Since NCAA highly value SA as a "whole person", all the necessary competences are developed during their college years so that they could make good preparation for their future life even though they take professional pathway. In order to supervise the integrity of collegiate athletics and higher education, in 1989, a Commission was set by the Knight Foundation to ensure the integrity of both. According to the Commission, "One Plus Three" model was adopted, that is, president of college takes over the athletic departments and "Three" referred to the principles of "academic integrity, financial integrity and certification"(Knight Foundation, 1991). After 1993, academic integrity, equity and student-athlete well-being have been validated by the certification program at least every ten years (Ko et al., 2008).

3.3 DEVELOPMENT OF HPSA IN EUROPEAN UNION (EU) MEMBER STATES

In this part, we analyse the strategies of DC of HPSA adopted across EU Member States (MS) as well as the EAS, a leading organization with the aim to support EU efforts in promoting DC.

Since most major European countries have acted as one within the framework of EU, this research conducts analysis among MS as a whole. Similar to Chinese system, sport in Europe does not well coalesce with educational system (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015). European HPSA competing at club-level often devote themselves either in athletic development or in higher education instead of commitment to DC (Conzelmann & Nagel, 2003; Wylleman & Reints, 2010). On the contrary, the European Parliament and Commission dedicate to assist HPSA in a holistic way to achieve their full potentials as students, athletes and EU citizens (Commission, 2012). However, the barriers of building a dialogue between sports and educational organizations to integrate the commitment of athletes into academics remain (Arcas, Cristobal, Antonio, Cano, & Patiño, 2021; Guidotti, Cortis, & Capranica, 2015). Actually, sport authorities prioritise athletic performance so that HPSA could be misled to focus on sports only (Guidotti et al., 2013), nevertheless higher education institutes probably cannot provide flexible courses and services for them (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015).

In order to raise the awareness of MS about the concept of DC and spread good practices on HPSA as well as to create a sound environment for DC of athletes, EU Guidelines on DC of Athletes (EU Guidelines) were published by the EU Commission in 2012.

3.4 EU GUIDELINES ON DC OF ATHLETES

With the increasing demands for DC program at EU level, EU Guidelines was designed to support the introduction and implementation of DC programs to governments and non-governing bodies both in sports and education in the EU countries (Herold et al., 2022). Notably, the Guidelines is created to be practicable to all athletes without discrepancy in gender, age as well as with or without disabilities (Commison, 2012). Moreover, the European Erasmus Sport projects

financed under the topic of DC, from 2015 to 2021, highlighting the ESTPORT[25] and PARALIMITS[26] projects directed by the IP of Areté Antonio Sánchez Pato.

3.4.1 The significance of EU Guidelines

Benefits to multi-parties

The sound development of DC program not only assists elite athletes to compete well at a high competition level but also prevent the early drop out from sport or formal education of talented athletes.

Moreover, it can foster high quality employees for European labour market to ensure the worthwhile investment so that more positive outcomes yield from human capital of elite athletes. In addition, a well-conducted dual career can maximize the benefaction of athletes to society, for example, successful HPSA could be promoted as role models to the publics with the signification that one can achieve success with great endeavour even though both in athletics and academics (Lapchick, 1989).

Benefits of a dual career

Research showed that many young athletes drop out from sports at their early age because they consider that too much time is occupied by athletic life and less time left for pursuing others in life (Wall & Côté, 2007). Therefore, more efforts should be committed to promote DC to maintain their benefits in many aspects:

- Health-related benefits (e.g., relieving stress through another career);
- Developmental benefits (e.g., development of personal identity);
- Social benefits (e.g., interpersonal relationship);
- After-sport life benefits (e.g., clear career path);
- Better employment prospect.

Call for Intersectoral Collaboration

[25] The project is co-funded by the Erasmus+ Programme, European Union: Sport, Youth and EU Aid Volunteer.

[26] It is an Erasmus + Sport project to enhance the DC of athletes with a disability.

By definition, DC involves engagement in the sports domain, education or work sector. Besides, with the aim to ensure the HPSA's interests in health and finance, the health sector and Ministry of Finance are also implicated.

In addition to the governmental policy bodies, the commercial, public and non-governmental organisations are involved in the development of DC. Therefore, given the implementation and spread of good practice, athlete's DC is always embraced by "interconnected policy" across various sectors so that the needs outside of sports are guaranteed to HPSA. In consideration of the cross-national competitions or common training of HPSA, the transnational structures are needed for their study and wellbeing (Philip X Fuchs et al., 2021). European Community Action Scheme for Mobility of University Students (ERASMUS + Sport) programme is designed to develop and implement joint efforts to promote DC and enhance good governance (Capranica et al., 2021).

Different from Chinese system, EU is in charge of all these sectors. As a geopolitical entity, EU has been making efforts to formulate policies, correlate related treaties, and arrange the budget among MS to accomplish the healthy development of HPSA (Capranica et al., 2022). According to Article 165 of the Treaty on the Functioning of the European Union, EU is dedicated to promote the European sporting issue, while taking its social and educational function into account (Garcia & Weatherill, 2012). At the same time, European Commission, European Parliament and Council of Ministers are all wielding its power to facilitate sports and education from its specific areas (http://www.euoffice.eurolympic.org/eu-sport-policy)[27]. Notwithstanding, given the difference in administration of sport and education in MS, HPSA in many countries of EU face challenges to take advantage of both careers(Dawn Aquilina & Henry, 2010; Sánchez-Pato, Pascual, García, Estero, & García-Roca, 2018).

Sport Policies

National Governments in most MS of EU act as a key role in national sport policies by means of legal or/and financial frameworks. Since they are the political and key funding stakeholders, they can guide the implementation of DC policies by organising inter-ministerial arrangements and give funding support to athletic

[27] The official website of European Olympic Committees.

bodies and other organizations which approve the initiative of DC.

Besides the efforts made by the governmental sectors, stakeholders related to sports such as sports organizations, sports centres and coaches and parents play a leading role in the implementation of DC.

Sport organizations are suggested to define or review their policies to combine DC programs, meanwhile, national sport bodies should take every opportunity to promote the concept of DC. According to the lifespan perspective (Wylleman & Lavallee, 2004), some athletic career start at a very young age. Therefore, special attention is suggested to give the early specialisation sports (Mostafavifar, Best, & Myer, 2013). Meanwhile, as a whole person, the athletes' private life, the development and their welfare should be respected and balanced (Henry, 2013).

As the key stakeholder of sport policies, athletes' opinion should be in involved in the decision-making process (Thibault, Kihl, & Babiak, 2010). According to the EU Guideline, athletes should be voiced during the process of retirement, consultation and specific election so that their rights are fully considered. Additionally, the programs about DC should be described clearly in different stages of their career development to ensure the distinct pathways are anticipated. Especially, during the training and competition period, the academic schedule should be well-considered and integrated into it. HEIs and athletic authorities are called for international contacts and cooperation when the HPSA have long time training or competition abroad. If the athletic organizations are aware of the dilemma facing HPSA and reconcile the conflicts between the sports and academic, it could benefit both HPSA and sport bodies.

Sport academies and training centres In MS, sport academies are set in various forms. In general, sports academies and (inter)national sports centres are operated by sport federations, which are involved in the sport policy of national and regional sport administration. Some are specialized in talent player fostering and some focus on elite athletes training. No matter what modalities they are, all the sport academies are recommended to consider or solve the conflicts between school education and sports training. Although the integration of the concept of DC for international athletes remains challenges because of different requirements and backgrounds, the training programs such as international training centres and sport apprenticeships could be provided.

In line with national and European strategies about lifelong learning, athletic engagement with higher education and vocational training is necessary as a part of DC (Tuschling & Engemann, 2006). In addition, EU suggests legislation, guidelines and licensing systems promote continuous learning after compulsory education since it demands more attention in sport academies and sport centres (Duyff, 1999).

Coaches and team staff From the very beginning of potential athletic career, coaches play a magnificent role to scout, foster and develop athletes. Therefore, coaches are required to be qualified and considerate not only to the sports training but also different potential risks. In addition to athletic capabilities, coaches and team staff also should develop HPSA personal, social and lifestyle capabilities by means of educational and career pathways. Coaches acting as positive and supportive role towards DC facilitate HPSA development (Tekavc, Wylleman, & Erpič, 2015). According to EU Guideline, some MS sport organisations have adopted training system in order to update the knowledge of coaches and reapprove their licences. Meanwhile, the topic of DC is suggested to be included in their education systems.

Supporting services Most athletes could develop DC if they benefit from high quality supporting services (Stambulova, Ryba, & Henriksen, 2021). In order to adopt effective supporting services, they are demanded to be fully integrated in the sport, educational, vocational and lifestyle systems instead of staying outside the sport context. In another word, the services are required to be provided to the athletic stakeholders directly. Moreover, the priority for the DC implementation is the interest of the athletes and the conflicts of interest between athletes and governing bodies should be prevented. Similar to the system-making mechanism of NCAA, EU Guideline also suggests that the supporting services should be based on sound science.

In order to keep abreast of the development of DC, online services should be developed to assist the educational and vocational development. Gamified and online activities for learning(GOAL) is a good example to support athletes retired from sports in their professional development. The project aims to raise awareness on DC by providing an enabling environment for managing athletes' various needs on the development of DC as improving their skills and competencies. By doing so, the project can help their integration in education,

vocational training before employment (Tsiatsos et al., 2017).

Aiming to get more support and attention from the public, the services of DC should be propagated not only in the scope of sports but also outside of sports, especially specific education related to HPSA (Commission, 2012).

As for the people who are involved in the supporting structure, they are required to be competent and qualified to work with talented and elite athletes and should be free from any criminal records related to child, physical or sexual abuse and have expertise knowledge about the challenges facing HPSA (Commission, 2012).

Education Policies

In order to encourage elite athletes to maintain their education, personal supporting services are needed such as in the form of mentors, tutors and identified successfully. Meanwhile tailormade support is needed based on the variety of sports and different stages of development.

School education **:** Some good practices have been implemented in many MSs , such as scholarships based on athletic performance or academic work, flexible timetables and changeable dates of exam, allowable absence for competitions (Dawn Aquilina, 2013; Caput-Jogunica, Ćurković, & Bjelić, 2012; G. Condello, L. Capranica, M. Doupona, K. Varga, & V. Burk, 2019; Henry, 2013).

Most MSs have set sport classes including extra physical education and daily sport activities in schooling which have positive influence on the children. In MS with active local sports clubs, schools are suggested to conduct close cooperation with them for targeting potential elite athletes training. As for early specialisation sports, the intensive training starts from the primary school age. To this end, specific dual career program involving primary school should be developed. Special conditions including close contact with young athletes' families, well organized training and study schedule, DC support services and a supervising system focusing on the physical and mental development. From the perspective of the holistic development, DC program for young student athletes in MS is well considered (Guidotti et al., 2015).

Higher education **:** According to the developmental model of transitions (Wylleman & Lavallee, 2004), when most elite athletes are in the athletic stage of

mastery, they always intertwine with higher education. At this age, more transitions occur because HPSA move frequently for their study or training and competition. However, in most MS, opportunities for DC are not on scheduled. Some countries set up sport departments as a way for athletes to enrol in HEIs (Dawn Aquilina & Henry, 2010). Because of the differentiation of MS, some HEIs combine more sports in the curriculum so that HPSA may suffer overload training or injuries. While in some HEIs, such as Master's programme in Physical Education of the Vrije Universiteit Brussel, the HPSA are enabled to avoid the potential physical overload and injuries and apply the theoretical knowledge into their athletic work.

Similar to Chinese college admission policy, some HEIs across MS have their own policies to facilitate elite athletes' admission, typically towards the athletes who are top-three in the Olympics, World Championships or European Championships. While some others grant elite athletes with bonus point in light of their athletic performance as privilege to enrol at HEIs.

Vocational education **:** Unlike Chinese educational system towards elite athletes, vocational institutes also play an important role in the development of DC especially for talented athletes. Due to the time constraint in training and competition, SA should be allowed to prolong their vocational education. To this end, the educational institutes are suggested to have a flexible arrangement to reconcile the time conflict. While in China, it's difficult to find HPSA to study in any vocational institutes since most HPSA would like to get a degree from high-level comprehensive universities.

Notably, youth academies of professional sport clubs in some MS have already cooperated with vocational institutes where young athletes could prepare their dual career in their early age to be qualified as a sport instructor or coach. In this way, a good practice is demonstrated that dual career could include some programs leading to a profession in sport (Radojević, Grbović, & Jevtić, 2019).

Virtual learning environment **:** Distance learning as a flexible form is crucial to HPSA DC development with regard to the time and location. Given the heavy investment of resources for research and development, educational authorities and institutes are suggested to cooperate to reduce the costs. Even though online

courses like MOOCs[28] (Massive Open Online Courses) are popular, cheap and convenient, but customized courses would be more effective. In addition, the forms of flexible exam schedules and inter-institutional agreements to allow HPSA to have access to online exam under the supervision of local academic staff are recommended (Philip Xaver Fuchs et al., 2016).

Role of Scholarships **:** Scholarships are set to assist HPSA in their athletic or academic performance so that they can concentrate on their two key foci— sport and education. And it should be considered that scholarship cannot be granted with special status or treatment together. And the private contribution for scholarships is welcome and promoted by tax exemption. In this way, the DC of HPSA is encouraged and guaranteed if the source and size of the scholarships are ensured. In China, scholarship is normally granted in light of academic performance or academic and sports achievement instead of sport solely because HPSA could get bonus according to their athletic performance (Hong-sheng, 2011). Contrary to European SA, Chinese SA, especially active HPSA and those retired from sports, show little interests in scholarships. The potential reasons lie in that 1) they realize that their educational work is uncompetitive with non-athlete peers; 2) they despise the amount of the scholarship. Therefore, scholarship cannot work as an incentive award to Chinese HPSA.

Employment Policies

The study on the DC of vocation-sport combination is uncommon (Moreno, Chamorro, & Lopez de Subijana, 2021). However, employment is an integral part to elite athletes' development as a whole person (Stambulova et al., 2021).

In general, Chinese active elite athletes do not have the conflict between athletic career and work, because they are supported by government, in other words, they get salary from sports administration. However, in Europe, the challenge of combination of work and sport exists. In some MS, some positions within public sector are offered specifically to athletes. And work for government and public institution is provided to top athletes, or posts are available in some other governmental departments. However, once athletes are retired from sports, they have to quit from the public service.

[28] It's an online course aimed at unlimited participation and open access via the Web.

In order to encourage more elite athletes to commit full efforts to sports career, financial support in MS was introduced. Notwithstanding, a considerable number of elite athletes still relay on part-time or full-time employment to make a living. For these athletes, flexibility is needed to reconcile the conflict between their vocation and athletic career. In this regard, elite athletes in Europe experience more than Chinese athletes. To that end, when they retire from sports, the adaption to life transition is much easier (Ronkainen, Ryba, & Tod, 2020). In addition, EU Commission suggests that social resources should be applied to assist retirement transition, including advanced retirement planning, multiple personal identity and effective social support from family, coaches, peers and related organizations (Commission, 2012; Izzicupo et al., 2021; Park, Lavallee, & Tod, 2013).

3.4.2 EAS Network

The year 2004 saw the foundation of EAS network during the European Year of Education Through Sport [29] with the assistance of the European Commission (Capranica et al., 2021). With the aim to protect the right of HPSA to combine sport and education, EAS network has actively facilitated EU efforts in advancing DC by offering a platform for a better cooperation between educational organizations and sport stakeholders (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015). Moreover, EAS aims to promote the communication of DC best practices as well as research on DC (Mbo'o-Tchouawou & Colverson, 2014).

Orientation of EAS

Since its inception, EAS has been working as the only EU network providing a platform where sport and educational organizations could meet and cooperate. In view of the combination of athletic and academic bodies is an critical facilitator for the development of sport at European-level, EAS closely cooperates with the EU commission (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015). By doing so, the network has good

[29] It was launched by the European Union to promote a better use of sport as an educational and social inclusive tool.

opportunities to be involved in the policy implementation with regard to education, training and elite athlete employment. Particularly, programmes for coaches and sport authorities are needed to make them aware of long-term benefits of assisting HPSA with their higher education during their developmental period.

Operation of EAS

There are four vital means to achieve EAS goal, including annual conference, networking, scientific research and European projects (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015).

The annual conference program aims to make the EAS members aware of the underway practices; to promote communication and cooperation between institutions, coaches, teachers and students; to discuss and debate major issues related to DC at all around levels; and to share the valuable info generated from EU-funded projects.

Networking is taken as the substantial way to involve potential stakeholders; to raise their awareness of the possible benefits of HPSA emerging into market after retirement from athletic career; and to trace the progress and implementation of DC policies. In 2013, EAS initiated a scholarship entitled Bengt Nybelius [30], aiming to facilitate the integration of excellent graduates and young researchers and maintain the sound development of DC in Europe.

In addition, EAS is actively involved in sports or education-related projects. The project "Athletes2Business" was coordinated by the EU Office of the European Olympic Committee, which aimed at becoming a European reference point for specific issues related to dual careers; and the "Better Boards Stronger Sport Project" was coordinated by the Sport and Recreation Alliance, which aimed at 'promoting innovative approaches to strengthen the organisation of sport in Europe'. Moreover, members of EAS are involved in two financed projects on DC commencing in 2015.

Mutual cooperation is demanded to advance the development of DC of SA (Horton Jr, 2011). Besides the commitment of HPSA, support from coaches, teachers, parents and peers is also needed to plan and manage a DC process

[30] The founder of EAS who was born in 1942.

(Capranica, Foerster, Keldorf, Leseur, Vandewalle, Ābeļkalns, et al., 2015). With the help of EAS, members are able to share good practices and conceive new solutions for the DC development for young athletes at national and European levels. By doing so, talented young athletes can pursue both sport and education instead of prioritising any one of them.

3.4.3 Conclusion

DC is far more than a necessity for SA, which also is a crucial right for SA in their development as a whole person (Condello, L. Capranica, M. Doupona, K. Varga, & V. Burk, 2019; Sánchez-Pato, Isidori, Calderón, & Brunton, 2017).

Comparing with China, the practice of collegiate sports started earlier in Europe. In 1919, University College Sport was founded in the UK. After almost centurial experience, it merged with British Universities Sports Association and formed the British Universities & Colleges Sports (BUCS) which acts as the governing body (Mukhambet, Avsiyevich, & Sinkov, 2021). However, BUSC aims to make sports accessible to all students, that is intramural sports. It initiates to create a national level platform for sports, but not yet on a level with NCAA.

At this point, similar to China, European countries don't have any dominated intercollegiate sports organizations that could be comparable to those in the US. Nevertheless, they still maintain advantage over China in the following aspects:

1. DC concept is spread at the early stage of sportspersons. In order to ensure the reintegration of professional sportspersons into the labour market after transition from athletic retirement, the European Commission stresses the importance of taking into account of early preparation of DC training for young athletes. The Commission has launched a study on the training of young sportspersons in Europe, the results of which could feed into the above initiatives. While in China, normally the training of employment takes place at the end of their athletic career.

2. EAS network provides a research-based platform. In order to promote the combination of education and sports, EAS puts great efforts into scientific research and practice sharing. In this way, the policies of DC are tailormade at different levels and the progress of DC development is further advanced. In

China, the sport policy-making process is dominated by GASC. Although some research projects are carried out based on DC or HPSA, but the data or results are hardly to retrieve. The annual conference of EAS provides a good opportunity for all beneficiaries to share the experiences and good practices. However, there is no such kind of conference focus on DC or HPSA in China. Therefore, till now, the conflicts between schooling and sports within China remain.

3. EU Guidelines not only provides guidance in the area of sport and education which are abovementioned, but also concern the health and financial incentives of HPSA. With regard to their health, EU Guidelines suggests MS to take measures to protect HPSA to avoid undue risks and should respect the athletes' decision related to their mental and physical health, safety and welfare. However, the Chinese elite athletes, in a sense, were employed by sports authorities. Most of the time, their decisions are not being respected. Not to mention their mentality is well protected. Meanwhile, EU Guidelines points out that medical support, including full medical check-ups, regular follow-up and eating disorders, should be highly valued.

4. After decade practice, the weakness of EU Guideline is highlighted. According to the latest research(Herold et al., 2022), it is not sufficiently implemented in some MS. Most SA do not recognise its implementation. Moreover, the respondents claim for the need for "governmental support and the sport authorities taking clear responsibility for DC" and the SA's needs should be more focused so that they can pursue a DC successfully. Therefore, "a lot of implementation work, especially towards a more structured and organised conceptual form" is needed in the following steps (Herold et al., 2022).

3.5 SUMMARY

This review of the literature examined research related to the development of HPSA in China, the evolution of NCAA and its influence on HPSA, as well as the running status of HPSA in MS. The first section explored the literature about the policies of Chinese HPSA in different stages since its inception, the evolution of sport and educational authorities of China and their influence on HPSA development.

The second section mainly examined the current status of HPSA in the US,

the dominated organization NCAA, detailed prescriptive analysis of the constitutes and operation of DI of NCAA. The literature review revealed that NCAA has a well-organized system which focus on both the academics and athletic performance of HPSA. And the educational work is prioritized. Moreover, all the activities are designed based on the holistic development, including the normative transition and nonnormative transition (Wylleman & Lavallee, 2004).

The third section explored the development of HPSA in Europe through the analysis of the EU Guidelines and EAS network. EU Guidelines provides MS a practical and directive policy on the DC, including the area of sport, education, employment, health and financial incentives. In addition, EAS network facilitates the cooperation of education and sports organizations in Europe on the topic of DC.

Comparison was conducted between the HPSA policies in China and the rules in NCAA and EU Guidelines. As a result, both HPSA policies in the US and member states of EU were set on the basis of lifespan perspective(Wylleman & Lavallee, 2004) and developmental model (Chickering & Reisser, 1993). While in China, the sports authorities and educational organizations are not well collaborated so that the HPSA policies were formulated as a solution to facilitate reemployment after HPSA retirement. Surely, there are some disputes about NCAA, such as the racism, sex discrimination, finance problem(Ananiades, 2012; Gould IV, Wong, & Weitz, 2014; Greene, 1984). However, these issues will not occur in China because of cultural and political differences. Therefore, the research did not shed light on it. As for the Europe, researchers have called for governmental and national support on DC development. Meanwhile MS should take further implementation and popularization of EU Guidelines (Herold et al., 2022).

Nevertheless, there exist some good practices for China to take for reference on the way of HPSA development. The subsequent chapter addressed how we examined the stated research problem.

IV – OBJECTIVE AND HYPOTHESE

IV – OBJECTIVE AND HYPOTHESES

The purpose of this research is to explore the real situation of Chinese HPSA, including their athletic and academic context and their own perceptions. To do so, a survey related to HPSA surrounding is widely conducted from HPSA of national team to varsity, covering twenty-one different sports. The study examines how Chinese HEIs facilitate the dual career of HPSA and the performance of self-efficacy of HPSA. The term "Dual career" indicating the integration of athletic training and high quality education or employment interests for young sportspeople, officially appeared in the White Paper on Sports (Commission, 2007). Moreover, comparing with the implementation of HPSA policies in European countries and the US, we examine their advantages to draw on within China's context.

Therefore, the hypotheses explored in this research are as follows, 1) H_0: DC of HPSA has achieved sound development in mainland China; 2) H_1: Chinese HEIs and sports authorities made great efforts towards HPSA from their sports career, academic career and tutoring service to facilitate the DC of HPSA; 3) H_2: European and American HPSA policies have little practical value on the development of Chinese HPSA due to different social systems; 4) H_3: Chinese HPSA avail themselves of academic study in HEIs to prepare for their future after retirement from sports.

V – METHODS

V – METHODS

This study examined the development of DC of HPSA in China and its correspondent policies within Chinese educational organizations and sports authorities. Specifically, the research was designed to explore the advantage and disadvantage of Chinese HPSA policies through the lens of the perception of HPSA, in addition to comparing with the evolution of HPSA in the US and MS of EU. Through the critical analysis, meanwhile, we put forward a series of suggestions to the policy-makers of Chinese sports and educational authorities. The results of this research would have influence on the efforts to facilitate the sound development of DC of HPSA in China.

In this chapter, we introduced the quantitative design utilized. In addition, the procedures of data collection and analysis were offered.

5.1 RESEARCH DESIGN

Quantitative research(QR) came out about 1250 A.D., and was driven by researchers with the request to quantify data (Mohajan, 2020). This study utilized a quantitative approach to addressing the research problem. Cohen described that QR employs empirical methods and statements to conduct social research(Cohen & Manion, 1980). According to Creswell et al. defined the QR as "explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics)"(John Creswell & Creswell, 1994). In addition, Sukamolson argued that QR is the numeric representation and to describe and explain the phenomena by means of observation and analysis (Sukamolson, 2007). In other words, quantitative researcher aims to draw conclusions by means of measuring phenomena and certain statics with numerical data.

5.1.1 Advantages of Quantitative Research

QR is based on numeric data analysed statistically to uncover the existing reality, therefore, the QR results are more objective. During the process of analysis, we work as unbiased as possible, and use methods that maximise objectivity and minimise the involvement of the researcher per se into the research (Muijs, 2004).

Moreover, QR can be administered and assessed quickly (Choy, 2014), that is saving time and resources (Eyisi, 2016). To conduct large scale survey, QR is the most efficient method because there is no necessary to spend much time at the organization before administering a survey, and the responses from respondents can be gathered within a short timeframe especially by means of email or online survey. Data, including numbers, percentages and measurable figures etc., can be analysed by a computer through the use of statistical package for social science (SPSS) so that it can save lot of energy and resources (Gorard, 2001, p. 3).

Further, numerical data are utilized conveniently to compare between organizations or groups, meanwhile allowing determination of the extent of uniformity or diversity between respondents (Yauch & Steudel, 2003).

Furthermore, conducting data collection and analysis through scientific methods makes generalization possible with QR. Interaction made with one group or conclusions from samples can be generalized. Likewise, research findings cannot be interpreted as a mere coincidence (Malcolm & May, 2002, pp. 1-21).

Finally, replicability is also deemed as a strength of the use of QR. Because of its clear objective and guidelines, the research study using QR is conducted in a generally popular way, and therefore, can be replicated at any time and any place and obtain the same results (Shank & Brown, 2013, p. 27).

5.1.2 Types of Quantitative Research

According to Muijs (2004), there exist two main types of QR design, experimental designs and non-experimental designs. Experimental designs are originated from natural scientific research, therefore they are sometimes known as “the scientific method” because of their popularity being used in scientific research. Non-experimental research is common applied in the social sciences. Moreover, Sukamolson classified QR into four types, which are survey research, correlational research, causal-comparative research and experimental research

(Sukamolson, 2007). We kept the pace with Muijs since non-experimental research is more inclusive.

The application of experimental research in social sciences still follows the basic procedure as natural science experiments. Experiment as the basis of experimental method is defined as "a test under controlled conditions that is made to demonstrate a known truth or examine the validity of a hypothesis"(Muijs, 2004). The key difference between experimental and non-experimental research lies in "control". When conducting an experiment, the researchers want to control the condition as much as possible and only focus on those variables that they want to study. Generally, experiments take place in labs or environments where all unrelated conditions can be screened. While in non-experimental research, the researchers have to use the variable as it appears in practice rather than screen out extraneous conditions (Muijs, 2004).

In this study, we adopted non-experimental research through an online questionnaire [31].

5.1.3 Philosophical Assumptions

Research has been deemed as a systematic investigation (Burns, 1998) or an inquiry whereby data is collected with goal-oriented survey, analysed through statistical instruments, and interpreted by scientific and correlate theory to "understand, describe, predict or control an educational or psychological phenomenon or to empower individuals in such contexts"(JW Creswell & Mertens, 2005, p. 2; Mackenzie & Knipe, 2006).

Generally, to set a knowledge claim indicates a project starting with some assumptions about how we will acquire and what we will obtain during the process of inquiry (John Creswell & Creswell, 1994). Some researchers called these claims paradigms (Lincoln & Guba, 2000) or research methodologies (Neuman & Wiegand, 2000). Philosophically, this study stayed aligned with post-positivism paradigm (Panhwar, Ansari, & Shah, 2017).

Post-positivism is a combined paradigm which incorporates positivism and interpretivism (Petter & Gallivan, 2004). Post-positivism is a kind of pluralism

[31] It is approved by UCAM ETHICS COMMITTEE with code CE092022.

which pursues a balance between positivist and interpretivist approaches. This pluralistic approach involves the experiences of the majority and expounding the results of what the majority says is reasonable (Fischer, 1998; Wildemuth, 1993), however, post-positivism, being with quantitative analysis, encompasses "the perspectives of historical, comparative, philosophical, and phenomenological analysis"(Fischer, 1998; Panhwar et al., 2017). Post-positivism stresses an appropriate understanding of the views and perspectives of any research study multidimensionally (Guba, 1990).

From the perspective of postpositivist, the knowledge claim is based on meticulous observation and measurement of the objective existence in the world. Therefore, postpositivist should dedicate to develop numerical measures of observations and study the behaviour of individuals. Finally, the rules and laws that govern the world need to be tested and justified so that we could be aware of the reality of the world. Being objective is a crucial aspect of competent inquiry, and therefore, researchers must examine methods and conclusions for bias (Phillips & Burbules, 2000).

5.1.4 Methodology

The proper choice of an appropriate research methodology can contribute an effective and meaningful research (Mohajan, 2020). Several research methods apply to conduct QR (Williams, 2007). To explore the essence of the research problem and purpose statements, and to answer the research question, descriptive design of quantitative research method was adopted in this study. Descriptive design could be utilized to "identify problems with current practice, justify current practice, make judgments, or determine what others in similar situations are doing"(Grove, Burns, & Gray, 2012, p. 215). Although some scholars refute descriptive research as "pure description" (Gerring, 2012; Megill, 1989), good description is the basal to the research enterprise and it has developed our knowledge to the nature of our society (De Vaus, 2001).

According to Baker(2017), descriptive designs span from cross-sectional survey to comparative designs (comparing control group and experimental group) to correlations (between variables) (Baker, 2017). Dulock classified descriptive research into descriptive survey, descriptive longitudinal study, descriptive

correlational study and case studies (Dulock, 1993). The primary purpose of descriptive design is to describe variables and/or determine if there is a relationship between variables instead of manipulating or controlling variables. Therefore, it cannot determine the causal effect. Usually, descriptive studies observe and describe current status of the phenomenon in a naturalistic setting, whereas, the data from literature reviews might also become the variables. In addition, participants possess the characteristics or information what the study concerned and should be willing to impart that information to us.

The outcomes of descriptive designs are usually utilized as the base for further investigation; therefore, the descriptive study should be well designed and implemented. In other words, it is extremely crucial to collect "right" data from "right" participants in the "right" setting (Dulock, 1993). To do so, when we conduct descriptive study, data, participants and settings as the external validity should be evaluated. In order to collect valid and reliable data, the instruments used should be standardized instruments, that is previously tested, otherwise, it should be pilot tested before implementation. Meanwhile, the target population is required to be clearly described and specified and the participants should well represent the target population. In addition, the setting or sites where the data collection happens will affect the data collected. In this study, since we collect the data via online questionnaire, therefore, the participants could give response at their convenience. Thus, the results of this research were not be influenced by the setting.

5.1.5 Rationale For Descriptive Correlation Design

Correlation is a statistical method used to describe and assess the relationship or association between two or more entities, instead of the agreement between them (Bland & Altman, 1986). Correlation was defined by Creswell as a statistical test to form patterns for two variables (John Creswell, 2002). It is used when little is known about a particular phenomenon (Wendy, 2005). In this study, the measures of different HEIs for HPSA and the perception of HPSA to the DC policies are rarely retrieved from literatures, therefore, descriptive design was used to explore the special phenomenon among Chinese sports and education realm. There are three main types of correlational research: positive correlation,

negative correlation, and no correlation research (Garry & Arsenault, 2005).

Correlational research describes what exists currently. Within quantitative research, it exerts the function of explaining phenomena by collecting numeric data that are analysed mathematically based on statistical methods (Asamoah, 2014). In this study, we utilized correlational research to analyse the data collected from an online questionnaire to depict the relationship between different variables. These data may reflect measurement of the characteristics of research questions (Williams, 2007). This research design acts as an key role in the development and testing of theoretical models (Mohajan, 2020).

The following characteristics ensured the utilization of descriptive correlational design in this study (Baker, 2017): 1) No intervention was going on before, during and after data collection so that the objectivity and authenticity of the date were guaranteed; 2) the data was collected at one general point in time so that the uniformity was ensured; 3) the correlation coefficient was provided to summarizes the strength and direction of a linear relationship.

5.2 PARTICIPANTS

Once deciding on what information involved in the study, we need to confirm exactly what the population is going to be (Muijs, 2004). It is crucial to identify what the population is, as it will regulate the samples in most cases. Additionally, we need to sample unbiasedly from the population, in other words, the sample should be the representative of the population. Because in turn we would generalise the findings in the sample to the population that the study focused. To ensure the unbiased sample, the best solution is to use probability sampling methods (Adwok, 2015; Guo, 2013).

In this study, we confined Chinese HPSA as the population, however, it accounts for large base since there are 275 regular HEIs with HPSA within China until the year 2017. Therefore, stratified random sampling and convenience sampling, as well as snowball sampling were applied in this research. To conduct stratified random sampling, the priority was to divide the population into three groups in this research because of the composition of Chinese HPSA which was explained in the section of Literature Review, and then randomly sampling from each group separately. Nevertheless, it is still difficult for us to sample because

these HEIs are located all over the country and without close contact with leaders or faculties of any one of HEIs, it's impossible to carry forward the survey although it is an online questionnaire.

Luckily, one of the researchers has been working as a translator in China Women's National Water Polo Team. Thus, the convenience sampling and snowball sampling were adopted. In this team, there are totally 25 athletes (including 23 HPSA) and 5 Chinese coaches[32]. The athletes are from five different provinces (Shanghai, Tianjin, Hunan, Guangxi, and Fujian) and in their own provinces, there exist some athletes from other national sports teams, therefore, HPSA from national level and diverse sports were guaranteed with the water polo players' assistance. Moreover, the coaches come from different provinces as well. With their help, HPSA from provincial level and diverse sports were surveyed. As for the HPSA from high school students, we made full use of the college students' resources of his own university and his colleagues so that wide-ranged HEIs and large-scaled sports were involved in this research.

Finally, the analysis was conducted based on the feedback of 675 HPSA participants from 25 disciplines. Ideally, we would have preferred to be able to control the sample to be strategical. but, since we have no known frame of the population to sample, the study simply included the cases it was able to confine (Muijs, 2004). Speak of the population of this study, NCAA has a leading advantage than those operation in China because all the data are available to the public so that we can utilize the data in light of their researches.

In this study, an online questionnaire was used to collect data so that the research site and survey time for participants were not restricted. By doing so, the participants could finish the survey at their convenience. Hence, the quality of the investigation was guaranteed.

5.3 PROCEDURES

To some extent, research design plays a dominant role in the selection of the method in a study (Onwuegbuzie & Leech, 2006). In this study, the descriptive research was selected due to the influences of the research design (Smith, 2004),

[32] Those athletes and coach staffs worked during 2020 Tokyo Olympics.

and an online questionnaire used to collect data was subsidiary to the matter of "what type of evidence is needed to answer the question in a convincing way?" (De Vaus, 2001). The data collection and analysis procedures of this research follow the descriptive research recommendations and are elaborated in the ensuing sub-sections.

5.3.1 Instrument and Data Collection Process

With the approval of the tutor and directors, data were collected by means of a web-based questionnaire containing 79 items for this quantitative study.

This study actually was inspired by ESTPORT(Sánchez-Pato et al., 2016), a project of 'Developing an innovative European Sports Tutorship model for the Dual Career of athletes', which was conducted and developed by Professor Antonio Sánchez Pato and his partners from UCAM (Catholic University of Murcia) and some other European universities. ESTPORT initiative, which was outlined and launched by Areté Research Group, leadership by Professor Sánchez-Pato, commenced at 2015, through the European Project ESTPORT (ref. number:557204-EPP-1-2014-1-ES-SPO-SCP (Sánchez-Pato, Isidori, et al., 2017). In order to explore the practicability of ESTPORT, Professor Antonio leading his member staff designed a questionnaire (see annexes) to conduct the survey through random stratified sampling with proportional allocation. This questionnaire underwent a process of "back translation" (the original content is in Spanish) and the content was judged by eight experts, who came from five participating European universities and possess decades' experience in physical and sports education. Moreover, 30 elite student athletes participated the comprehension validity and 73 high-performance student athletes were involved in the construct validity. After three-round rigorous and complex validation, a fifth-modified version was presented. This questionnaire was composed of 84 questions (presented in Spanish and English version) from three dimensions of HPSA, including academic life, athletic life and sports tutor. Finally, the instrument had been proved external validity because the outcomes consisted with the major findings of that project.

To define the required data itself is prior to the determining a data collection methodology (Albers, 2017). Follow the indications of ESTPORT, in this

study, we need to know the perceptions of Chinese HPSA to their dual career whilst at university. Therefore, we took the questionnaire of ESTPORT for reference and made correspondent modification based on Chinese sports and education context. Notwithstanding, the mainframe and the most majority of questionnaire items were remained. The updated questionnaire in this study was also designed from three dimensions, that is sports career, academic career and sports tutors. Because of the language difference, the English version questionnaire (see annex 2) was translated into Chinese mandarin (see annex 1) by one of the researchers who is an accredited translator by the Ministry of Human Resources and Social Security of China and back translation was conducted by one of the researchers to evaluate the accuracy of the translation. Finally, a web-based questionnaire titled "A Survey About The Dual Career (Academic Study and Sports & Competition) of Chinese HPSA" was conducted towards 675 participants. The questionnaire was composed of 79 close-ended items and it required around 20-25 minutes for each participant to submit after careful reading and response although there was no real time limitation for submission.

In order to conduct online survey, one of the researchers signed up as a member of Wenjuanxing (https://www.wjx.cn/)[33]. It is a non-traditional online survey tool which was founded in China in 2006 (Zhou, 2022). When we uploaded a finished questionnaire in WORD form (*.doc OR *.docx), the platform generated an available link to copy and forward to any participants. After that, the researcher forwarded the link to Wechat (https://weixin.qq.com/)[34], a popular Chinese instant social media platform which was released in 2011 with over 1 billion monthly active users (F. Ryan, Fritz, & Impiombato, 2020). As abovementioned, we validated the questionnaire through the athletes of China Women's National Water Polo Team by means of WeChat Group. In this way, the athletes clicked the link in their exclusive WeChat Group and carried on the items. After the validity of the questionnaire was approved, it was carried forward through WeChat with the help of snowball sampling (Goodman, 1961).

[33] The official website of Wenjuanxing which is a Chinese commercial online survey service provider.

[34] The official website of WeChat which is a Chinese instant messaging, social media, and mobile payment APP.

At the very beginning of the questionnaire, all the participants were informed that they were invited to conduct a survey related to the dual career of Chinese HPSA anonymously and the target of the questionnaire was to facilitate the one of the researchers' Ph.D. study on that topic. By doing so, we expected to put forward suggestions to solve the real conflict of academic study and athletic life of Chinese HPSA.

Since the survey was conducted online, some random and preposterous responses were unavoidable due to the respondents' careless and fruitless effort (DeSimone, Harms, & DeSimone, 2015). In order to build a survey that elicits honest and thoughtful response, we adopted inter-item correlation method (Credé, 2010) and response time and special items designed to eliminate careless answers (Meade & Craig, 2012). Therefore, 675 respondents were all valid.

In addition, when we designed the questionnaire, a reward was provided in the online survey which presents after the respondents' completion (Muijs, 2004). It was explained at the preface to the questionnaire items. In this way, the participants were encouraged to response after careful consideration. Meanwhile, it also conveyed the researchers' gratitude to all respondents.

5.3.2 Data Analysis

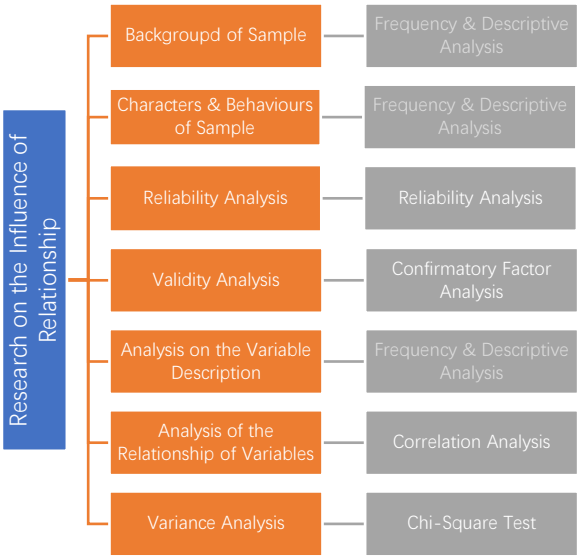
Quantitative analysis processes data in the form of numbers and uses mathematical operations to probe the nature of the study (Walliman, 2010). Any type of data collected in quantitative research study must then be analysed to facilitate drawing the study's conclusions (Albers, 2017). According to Albers, the aim of data analysis is to disclose "the underneath patterns, trends, and relationships of a study's contextual situation".

Charney (2015) indicated that when a researcher tended to work out what data to collect and from who or what on the basis of a primary research questions, the data analysis commences back at the very beginning of research (Charney, 2015). In other words, the practical value of data analysis is expected to clearly connect back to the research question. Conversely, if the results provided by the data analysis cannot be applied to address the research question, then it was verified in vain.

In this study, the research question involves the development of the DC of

HPSA in China and it encompasses three aspects, HEIs, HPSA per se and DC policies. In order to tease out the interrelation between them, an on-line statistical tool SPSSAU (Version 22.0) [35] (Statistical Product and Service Software Automatically) was employed in this research (Hou, 2020). First of all, demographic analysis was used to analyse the sample background, including the age, gender, degree, sports stage, marriage status, etc. (Chi & Zhu, 2008). For further understanding the characters of participants, frequency analysis method and descriptive analysis method were used (Laskar, 1993; Zadeh, 1950). Plenty of scales items were included in this questionnaire, therefore, the validity and reliability of those items were evaluated again after collection (Heale & Twycross, 2015). After that, descriptive analysis was conducted to identify the attitude of participants (Dulock, 1993). Further, correlation research was used to verify the relationship between independent variable and dependent variable (Gogtay & Thatte, 2017; Hardoon, Szedmak, & Shawe-Taylor, 2004). Finally, linear regression was implemented to predict the trends of the attitude of HPSA towards DC policies and the prediction of HEIs towards the implementation of DC policies (Seber & Lee, 2012; Weisberg, 2005). The following framework demonstrates a distinct process of data analysis in this study (See Figure 4.).

Figure 4. *Framework of the process of data analysis of the questionnaire*



[35] It's an online application software which is from webpage link.

"Data do not arise naturally, nor do data ever speak for themselves, nor does there exist an obvious interpretation for a datum. Instead, data are manufactured and interpreted to fit a particular research purpose or line of argumentation" (Alasuutari, Bickman, & Brannen, 2008). A forerunner of analysis is the coding, classifying or grouping of data (Burgess, 2001). However, a questionnaire allows quantitative data to be collected in an easily workable way because we designed it in a certain logical order so that the data are internally consistent and coherent for analysis (Malhotra, 2006). In this study, we classify the questionnaire items into three aspects, hence, it is easy to deal with the data.

5.3.3 Ethical Issues

Ethical issues play a key role in the modern research, related to the participants and researchers (Yip, Han, & Sng, 2016). To ensure this study conform to ethical procedures, we followed the guidelines of Declaration of Helsinki (1964) to avoid to take precedence over any rights and interests of the subjects.

In the part of introduction to this study, we identified a problem that will benefit individual participants. By doing so, the individuals being studied are informed that the intention of this research will not marginalize or disempower the participants. To do so, the researcher conducted a pilot survey to part of participants to exclude any marginalization before further study (John Creswell & Creswell, 1994; Vázquez-Montilla, Wilder, & Triscari, 2012).

Throughout data collection, we developed an informed statement before the participants engaging in the questionnaire. In this way, the individuals' rights are protected. Moreover, the prototype of questionnaire of this study was approved by the Institutional Review Board (Sánchez-Pato et al., 2016). Thus, no participants were put at risk during the participation in this study.

Sieber argued that the data collected for research need to be kept for a reasonable period of time (normally 5-10 years) after analysis (Sieber, 1998). The inquirer should discard data to avoid falling into the hands of other researchers who might expropriate it for other purposes (John Creswell & Creswell, 1994).

5.3.4 Limitations

There exist limitations to this research. First, although we tried our utmost effort to involve as more HPSA as possible in this study, the considerable amount of HPSA in China were hardly to be investigated completely. And 275 HEIs which are qualified to enrol HPSA are distributed all over the country and their levels are quite different. The participants were not guaranteed to be the exact representative of each level.

Second, given the DC policies of China were not presented or issued by one fixed channel, therefore, we only retrieved the documents from two official website of the GASC https://www.sport.gov.cn/ and the website of MOE https://www.moe.gov.cn/. By doing so, probably some literature about DC policies would be missed.

Finally, the great majority of the questionnaire items were composed of close-ended questions except for three items which were relate to the age, the years of study in HEI and the sports the participants engaged in. Open-ended questions may elicit more and further perception of participants towards DC policies (Esses & Maio, 2002). Therefore, some open-ended items should be included in this study.

5.4 SUMMARY

"A good research design can provide a step-wise procedure, offer systematic validation checks, keep the code system slim and many analytic options open" (Kimmel, 2012). In this research design, we elucidated the advantage and types of QR approach. In order to address the research question, a questionnaire with high levels of validity and reliability was utilized in this study. Well-organized data analysis procedure allowed us to carry out the data analysis smoothly in the subsequent section. Meanwhile, the limitations of this research indicated that the other researchers who are interested in this field could explore further.

VI– RESULTS AND DISCUSSION

VI - RESULTS AND DISCUSSION

The purpose of the descriptive research study was to examine the context of dual career of Chinese HPSA and the perception of Chinese HPSA towards dual career. The analysis of the results of the questionnaire was conducted based on three categories, sports career, academic career and tutoring service. The questionnaire was carried out over 675 population sampled, however, with critical and scientific screening, finally 675 valid feedback was collected. From the map of participants distribution (Figure 5.), we can see that the respondents covered the majority of mainland China except for Qinghai province, Tibet Autonomous Region, Gansu province, Ningxia Autonomous Region and Jilin province. Comparatively speaking, the economy of these five regions lags farther behind than other parts of China. And the commitments principle of Chinese HPSA prioritizes the areas with advanced economy (SEC, 1986). Therefore, the popularity and representativity of the questionnaire were guaranteed from this aspect (Dörnyei & Taguchi, 2009).

Figure 5. *The map of participants distribution*

In order to understand the composition and basic information , firstly, we described the demographic information of the sample with frequency, and descriptive analysis.

6.1 BACKGROUND OF SAMPLE

To better know the background of the respondents facilitates the understanding of current status of Chinese HPSA and their potential advantages and disadvantages**.** (see Table 1.)

Based on the questionnaire, the item 1,2,3,4,5,6,7,8,9,10 and 18 are well presented the demographic data of all participants. Notably, Item2 (What is your age?) is an open-ended question. Therefore, SPSSAU is not available to obtain the average age of participants. We calculated the age through Microsoft Excel (.xlsx). As a result, the M_{age} =21.3. It fits the Chinese present situation, because in China the great majority of high-performance athletes are very young and maintain single status before retire from playing sports.

From the Table 1., it is obvious to be found that female participants are more than males, accounting for 52.15 percent and the percentage of male is 47.85 percent. As for the marital status, 86.67 percent of HPSA in this study was single. Provided the participants were non-single, then they were directed to Item4 (Do you have child or not? If yes, how many?) otherwise, the participants would skip this item. From Item3, we can identify that 13.33 percent of respondents was no single and the number complied to the number of participants who finished Item4. Oddly enough, the percentage of divorce was out of our expectation which is suggested for further study.

The analysis of the Item7 indicates that only 28 percent of HPSA claimed themselves as professional athletes, that is to say, at least 189 HPSA came from provincial team or above. The reason lies in the fact that in China, the athletes who are in provincial team or national team are paid by government as long as they maintain the active status. Therefore, only those athletes who were employed by the provincial teams or above are called professional athletes. In China, the athletes who play for sports clubs are amateurs except for men's soccer players(Lim, 2014) .

Table 1. *Demographic of sample Chinese HPSA*

		Frequency		
Items	Categories	N	Percent (%)	Cumulative Percent (%)
1.	M	323	47.85	47.85
	F	352	52.15	100.00
3.	Single	585	86.67	86.67
	Married	24	3.56	90.22
	Separated	1	0.15	90.37
	Divorced	65	9.63	100.00
7.	Amateur	218	32.30	32.30
	Semi-professional	268	39.70	72.00
	Professional	189	28.00	100.00
8.	Beginning of competition (less than five years in top level competition)	395	58.52	58.52
	High-performance competition (more than five years in top-level competition)	280	41.48	100.00
9.	Vocational Education	133	19.70	19.70
	University Degree	514	76.15	95.85
	Mater Degree	22	3.26	99.11
	Doctor Degree	6	0.89	100.00
	Total	675	100.0	100.0

Table 2. revealed that 64.15 percent HPSA in this study has partaken provincial games (it is held every four years) and 32.59 per cent had the experience of National Games of China, which is the premier sports event in China at national level (it is held once every four years). As for the top-level international competitions, ten of them had taken part in Olympics and thirty-three of HPSA competed at World Championships. In this Item, the open question "Others" indicated that more than 68 percent of 233 HPSA had the experience at national-level competitions. In conclusion, the respondents of this questionnaire were qualified to stand for elite athletes in this research.

Table 2. *Frequency analysis of Item6 What games did you participate in? (multiple choice)*

	Frequency			
Items	Categories	N	Percent (%)	Cumulative Percent (%)
A. Provincial Games	Y	433	64.15	100.00
B. National Games	Y	220	32.59	100.00
C. Universidad	Y	38	5.63	100.00
D. Asian Games	Y	26	3.85	100.00
E. World Championship	Y	33	4.89	100.00
F. Olympic Games	Y	10	1.48	100.00
G. Others	Y	233	34.52	100.00

Item5 was designed to explore the sports that participants engaged in. The result shows that 24 summer Olympic sports including 33 disciplines that HPSA competed in this study, consisting of water polo, gymnastics (artistic gymnastics, trampoline), swimming, synchronized swimming, rugby, table tennis, judo, basketball, track & field (long distance running, long jump, triple jump, short distance running, javelin), taekwondo, boxing, sailing, triathlon, football, beach volleyball, fencing, volleyball, tennis, golf, archery, cycling(BMX), canoeing, and 5 non-Olympics sports, such as Chinese wrestling, Chinese traditional sports (martial arts, regimen), bodybuilding, rope skipping, aerobics. See Table 3. From the span of the sports, the respondents in this research are also representative (Campbell, 1955).

Table 3. *Sports played by respondents (n=675)*

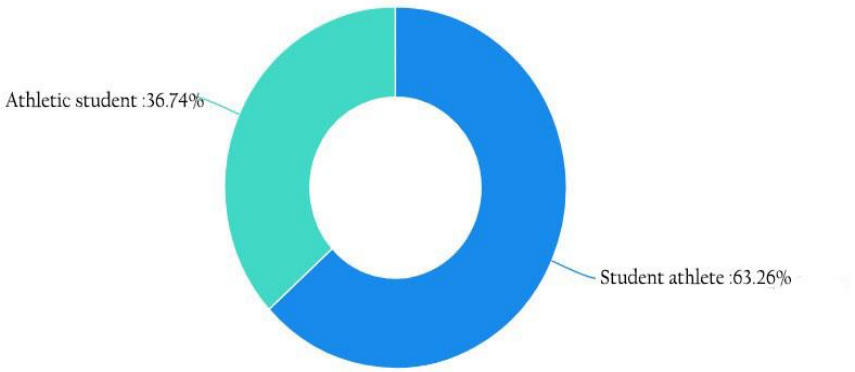
Sport	No.	%
water polo	59	8.74
gymnastics	14	2.07
swimming	44	6.51
synchronized swimming	10	1.48
rugby	19	2.81
table tennis	42	6.22
judo	7	1.03
basketball	42	6.22
track & field	53	7.85
taekwondo	47	6.96
boxing	5	0.07
sailing	1	0.01
triathlon	1	0.01
football	130	19.26
beach volleyball	1	0.01
volleyball	5	0.07
fencing	1	0.01
tennis	4	0.06
golf	1	0.01
archery	2	0.03
canoeing	2	0.03
cycling	1	0.01
non-Olympics sports	184	27.26

The analysis of Item9 presents that 76.15 percent of HPSA was pursuing a university degree or already earned a university degree and 19.7 per cent of HPSA was pursuing a vocational college degree. The rest were studying in higher degree. With this percentage, it is workable to analyse the implementation of DC in their HEIs context. Item10 was an open question to investigate how many years the respondents have already studied at university. The answers

varied from 1 to 4 years. With exceptions, there were only two participants with 6 years university experiences. It proved that delayed graduation was allowed for HPSA but less common. From this point, we could figure out that the significant majority of HPSA do not have too many obstacles to graduation.

Item18 (What's your identification? Student-athlete or Athlete-student) was designed as a combination of closed-end question and open-end question to examine the perception of HPSA per se towards their identification. The result revealed that 63.26 per cent of participants identified themselves as SA, while 36.74 hold the opposite opinions. (See Figure 6.) The following reasons were given to being SA as: first, study is more important than sport since I am a university student; second, if I failed the exam, I cannot graduate on time; third, sports is only a channel for me to be enrolled in university. As an athlete-student, the main reasons as follow: first, I started practice at my young age and student is my subordinate identification; second, as a professional athlete, my focus is training so that I have no chance to go to classes like other non-athlete students; third, as a professional athlete, competition is my priority and study only acts as my advantage for employment after retirement.

Figure 6. *Item 18 What's your identification?*



To explore the relationship between Item18 (What's your identification?) and Item7 (What type of athletes do you claim yourself?), this study employed Chi-square analysis. (See Table 4.)

Table 4. *Chi-square Analysis of Item7 and Item18*

Chi-Square Analysis (N, %)

Items	Categories	Item7 (%)			Total	χ^2	p
		Amateur	Semi-professional	Professional			
Item18	Student-athlete	180(82.57)	203(75.75)	44(23.28)	427(63.26)		
	Athletic-student	38(17.43)	65(24.25)	145(76.72)	248(36.74)	182.924	0.000**
	Total	218	268	189	675		

* $p<0.05$ ** $p<0.01$

After Chi-square test, the result (χ^2=182.924, p=0.000<0.01) showed that Item7 has significant difference to Item18. More specifically, 82.57 percent of HPSA who claimed themselves amateur identified themselves as student-athletes, which is notably higher than the average 63.26 percent. While 76.72 percent of HPSA who claimed themselves as professional athletes identified themselves as athlete-students, which is significantly higher than the average 36.74 percent. In other words, the professional athletes prefer the identification of athlete-students. For this reason, elite SA would prioritize sports career when they meet any conflicts between academics and athletics.

6.2 SPORTS CAREER

Elite sport, currently, has reached a top level of professionalism (Morgan, Fletcher, & Sarkar, 2013), which demands increasing time investment to win success. Athletes' practice time engagement has increased, resulting in more than 40 hours per week including the training time, travel time for competition and study requirements (López de Subijana et al., 2015).

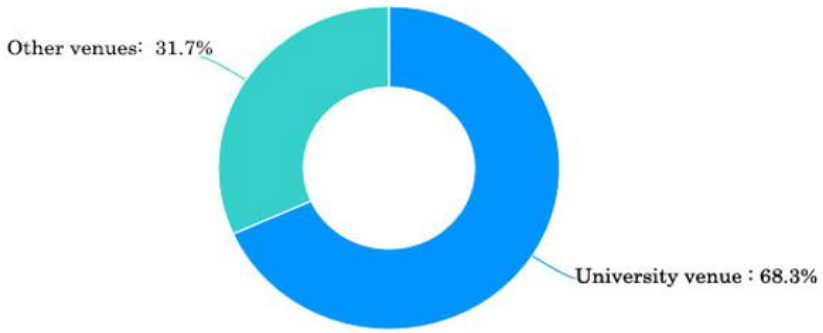
As abovementioned in Chapter III, HPSA consists of three different parts. The first parts are the sports talented students from high school. The second parts are the active professional elite athletes and the last parts are retired professional athletes. From the background of respondents, we can see that 28 percent claimed themselves professional athletes and 39.7 percent is semi-professional athletes.

Those who claimed themselves amateurs were supposed to be the sports talented students enrolled from high school. Moreover, if the feedback of Item7 were semi-professionals or professionals, then the correspondent participants could answer Item68 (What's your expectation after retirement?), otherwise it is skipped. Therefore, the real picture of sports career of different HPSA were fully demonstrated.

In the US, intercollegiate sports plays an important role in competitive sports (Snipes & Ingram, 2007). More than 75 percent of American athletes who participated in Tokyo 2020 Olympic games competed collegiately (www.teamusa.org)[36], in other words, at least 75 percent of athletes of Team USA have trained at university venues. Across Europe, many student-athletes also were well-represented in Tokyo 2020, for example, there were 18.7 percent of French athletes from universities and more than 21 percent and 41 percent athletes were SA from Italy and Hungary respectively (www.eusa.eu/news)[37]. From these figures, the conclusion was easily to be drawn that the elite athletes in America and most European countries have practiced at university venues. Thus, the HPSA in the US and Europe have more experience of student on campus (Christopher Jolly, 2008; Rubin & Moses, 2017). While in China, the situation is opposite.

Item13 explored where the respondents conduct their daily training. According to Figure 7., it seems that most Chinese HPSA also utilize university venues.

Figure 7. *Item 13 The distribution of different venues utilization of HPSA*



After checking the correlation of Item7 and the utilization of different

[36] The official website of the US Olympic and Paralympic Committee.

[37] The official website of European University Sports Association.

venues, the conclusion presented differently. (see Table 5.)

Table 5. *Pearson Correlation of athletes' identification and utilization of venues*

Pearson Correlation (Detail)

		Item 13
Item 7	Coefficient	0.465**
	p value	0.000

* $p<0.05$ ** $p<0.01$

The above Table revealed that the coefficient between Item7 and Item13 was 0.465, and the *p*-value (0.000) is less than 0.01 which indicated that the identification of HPSA and their utilization of different venues have significant positive correlation.

Further, we introduced linear regression to analyse the correlation relationship, the direction and degree of the effect of the two variables (Independent Variable: the identification of HPSA; Dependent Variable: the utilization of different venues). (See Table 6.)

Table 6. *Linear regression analysis of Item7 and Item13*

Parameter Estimates (n=675)

	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	VIF	R^2	Adj R^2	*F*
	B	Std. Error	*Beta*						
Constant	0.771	0.043	-	17.883	0.000**	-	0.216	0.215	$F(1,673)=185.484, p=0.000$
Item7.	0.279	0.020	0.465	13.619	0.000**	1.000			

Dependent Variable: Item13

D-W: 1.228

* $p<0.05$ ** $p<0.01$

The above Table indicates that Item7 (X: What type of athletes do you claim yourself?), was deemed as a dependent variable and Item13 (Y: Where do you

conduct daily training?) was taken as an independent variable. The model equation can be expressed as Y=0.771+0.279*X, and the R^2 value was 0.216, which means that X could explain the 21.6 percent variable reasons. The result of F-test (F=185.484, p=0.000<0.05) also suggested that independent variable is related to Y and also the model was meaningful. More specifically, the regression coefficient value=0.279 (t=13.619, p=0.000<0.01) represented that all the X variables have significant positive correlation to Y. (see Table 7.)

Table 7. *The summary of linear regression analysis of Item7 and Item13*

Parameter Estimates (Summary)

	Coefficients	95% CI	VIF
Constant	0.771** (17.883)	0.687 ~ 0.856	-
Item7	0.279** (13.619)	0.239 ~ 0.319	1.000
n	675		
R^2	0.216		
Adj. R^2	0.215		
F Value	F (1,673)=185.484,p=0.000		

Dependent Variable: Item13

D-W: 1.228

* p<0.05 ** p<0.01 t statistics in parentheses

From the above analysis, we can see that Chinese elite SA (professional athletes) generally trained at non-university venues which were different from the elite athletes from America and most European countries. From this perspective, Chinese HPSA have less experience of college students on campus.

Furthermore, we conducted Chi-square test to analyse Item7 and Item13 and got the same conclusion. (see Table 8.)

Table 8. *Chi-square test of Item7 and Item13*

Chi-Square Analysis (N %)

Items	Categories	Item7			Total	χ^2	p
		Amateur	Semi-professional	Professional			
Item13	Uni. venue	188(86.24)	218(81.34)	55(29.10)	461(68.30)		
	Other venue	30(13.76)	50(18.66)	134(70.90)	214(31.70)	187.582	0.000**
	Total	218	268	189	675		

* p<0.05 ** p<0.01

The data showed that χ^2=187.582, p=0.000<0.01. 29.1 percent professional athletes would practise at university venues and 70.9 percent of them train at other venues which is much higher than the average 31.7 percent. Therefore, there was a statistically significant relationship between the two variables.

A sound dual career denotes a successful combination of schooling and elite sports. Discrepancies in DC policies determine different paths in SA (Capranica, Foerster, Keldorf, Leseur, Vandewalle, Abelkalns, et al., 2015). Once the major factors (study and sports) were well managed, then SA could pursue and enjoy their DC. The perception of HPSA to these two factors could reflect their status on the way of DC.

Item16 and Item17 were designed to examine the correlation relationships between academic and athletic commitments with open-ended question and close-ended questions. Through frequency analysis, this study found that the great majority of Chinese HPSA do not hold the idea that these two aspects interfere each other. (See Table 9.) 89.33 percent of HPSA thought their academic work does not influence their training and 78.81 percent of HPSA considered their athletic training does not affect their school work. However, when we explored the keywords which were answered by the respondents, some expected phenomena were found.

Table 9. *Frequency analysis of Item16 and Item17*

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
16. Study affects your training?	YES	72	10.67	10.67
	NO	603	89.33	100.00
17. Your training affects your study?	YES	143	21.19	21.19
	NO	532	78.81	100.00
Total		675	100.0	100.0

The top two keywords were “Time” and “Training”. It means the time limitation is the premier reason of conflict between academic work and sports. And the following major reasons entailed training, class, curriculum and competition and more. See Figure 8. & Figure 9.

Figure 8. *Frequency of keywords of the reasons to "study affects your training"*

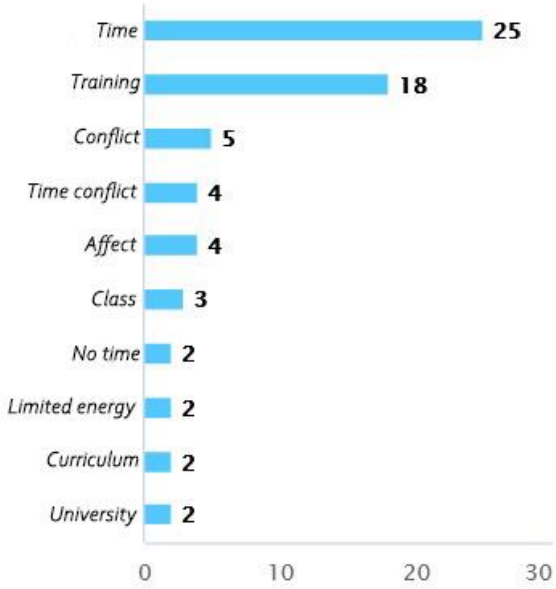
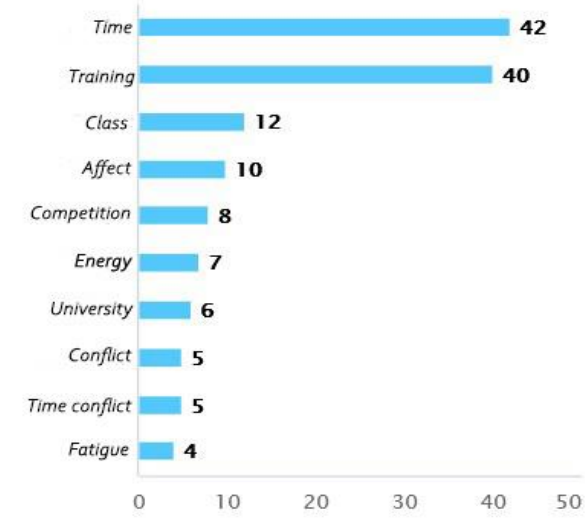


Figure 9. *Frequency of keywords of reasons to "training affects your study"*



Since time plays a dominant role in the relationship between schooling and sports, we took further step to analyse Item57(How many times do you practice each week?) and Item58 (What's the time duration of training per week?) to check the time commitment in training by HPSA. (See Table 10.)

Table 10. *Frequency analysis of Item57 and Item58*

	Frequency			
Items	Categories	N	Percent (%)	Cumulative Percent (%)
57. training times per week	1	6	0.89	0.89
	2	14	2.07	2.96
	3	84	12.44	15.41
	4	55	8.15	23.56
	5	86	12.74	36.30
	6	130	19.26	55.56
	7	66	9.78	65.33
	8	29	4.30	69.63
	9	37	5.48	75.11
	10	93	13.78	88.89
	others	75	11.11	100.00
58. training duration per week	less than 5	87	12.89	12.89
	5~10	137	20.30	33.19
	11~15	126	18.67	51.85
	16~20	141	20.89	72.74
	20 above	184	27.26	100.00
Total		675	100.0	100.0

From the above Table, we can see that the respondents who have six-time practice each week accounted for 19.26 percent. Meanwhile, 27.26 percent HPSA have more than 20 hours training duration each week. As for the "others" option of Item57, based on the analysis of frequency of key words, the top three was 12,11 and 13. That is to say, some HPSA not only have practise on weekdays but also occupied one day of weekends.

Furthermore, we conducted Chi-square analysis to explore the relationship between Item7 and Item57 and Item58. (See Table 11.)

Table 11. *Chi-square analysis of Item7 and Item57 & Item58*

Chi-Square Analysis (N %)

Items	Categories	Item7 %			Total	χ^2	p
		Amateur	Semi-professional	Professional			
58. training duration (h)per week	Less than 5	41(18.81)	35(13.06)	11(5.82)	87(12.89)	164.928	0.000**
	5~10	68(31.19)	40(14.93)	29(15.34)	137(20.30)		
	11~15	56(25.69)	46(17.16)	24(12.70)	126(18.67)		
	16~20	24(11.01)	96(35.82)	21(11.11)	141(20.89)		
	20 above	29(13.30)	51(19.03)	104(55.03)	184(27.26)		
Total		218	268	189	675		
57. training times per week	1	2(0.92)	3(1.12)	1(0.53)	6(0.89)	246.226	0.000**
	2	10(4.59)	3(1.12)	1(0.53)	14(2.07)		
	3	53(24.31)	21(7.84)	10(5.29)	84(12.44)		
	4	32(14.68)	17(6.34)	6(3.17)	55(8.15)		
	5	40(18.35)	35(13.06)	11(5.82)	86(12.74)		
	6	20(9.17)	90(33.58)	20(10.58)	130(19.26)		
	7	25(11.47)	32(11.94)	9(4.76)	66(9.78)		
	8	7(3.21)	13(4.85)	9(4.76)	29(4.30)		
	9	12(5.50)	9(3.36)	16(8.47)	37(5.48)		
	10	12(5.50)	25(9.33)	56(29.63)	93(13.78)		
	others	5(2.29)	20(7.46)	50(26.46)	75(11.11)		
Total		218	268	189	675		

* p<0.05 ** p<0.01

From the Table 11., we can see that the HPSA who claimed themselves professionals invested more time in training, accounting for 55.03 percent which is significantly higher than the average 27.26 percent. Likewise, they also claimed 10 or more training times each week.

Obviously, the conclusion was drawn that Chinese elite SA committed an immense amount of time on their training so that the time become a crucial factor

in the conflict between sports career and academic career(Henriksen, Hansen, & Larsen, 2019; Su, Si, & Zhang, 2019). In this situation, can elite SA handle their DC successfully?

We took further analysis by means of Chi-square test to analyse their perception of difficulty towards study and sports (Item20). (See Table 12.)

Table 12. *Chi-square analysis of the relationship of Item7 and Item20*

Chi-Square Analysis (n=675, %)

Items	Categories	Item7 (%)			Total	χ^2	p
		Amateur	Semi-professional	Professional			
Item20	Very easy	15(6.88)	16(5.97)	9(4.76)	40(5.93)	63.655	0.000**
	Easy	82(37.61)	84(31.34)	51(26.98)	217(32.15)		
	Uncertain	56(25.69)	117(43.66)	36(19.05)	209(30.96)		
	Difficult	56(25.69)	38(14.18)	76(40.21)	170(25.19)		
	Very difficult	9(4.13)	13(4.85)	17(8.99)	39(5.78)		
	Total	218	268	189	675		

* $p<0.05$ ** $p<0.01$

From this Table 12., we can see that the relationship between independent variable and dependent variable indicated highly statistically significant (χ^2=63.655, p=0.000<0.01). Specifically, HPSA who claimed themselves professional athletes realized more difficult to deal with the relationship between their academic work and their sports life, accounting for 49.2 per cent (40.21%+8.99 %). The percentage of "Difficult" and "Very difficult" were both higher than the percentage of amateur and semi-professional. From this, we can see that Item7 and Item20 had significant difference.

The analysis of Item13 revealed that most elite SA do not train at university venues. In general, Chinese elite athletes live collectively and train together in a training centre (Zhang, Si, Chung, & Bu, 2017), and training centres are always alternative and far from the athletes' home. We conducted Chi-square analysis to examine the relationship between Item8 (At what point in your career are you?) and Item27 ('The training centre is far from my home' is a barrier towards

achieving a good balance between my sporting life and my studies.) (See Table 13.)

Table 13. *Chi-square analysis between Item8 and Item27*

Chi-Square Analysis (N %)

Items	Categories	Item8		Total	χ^2	p
		Initial stage (≤5 years)	Advance stage (>5 years)			
Item27	Strongly disagree	84(21.27)	104(37.14)	188(27.85)	23.164	0.000**
	Disagree	158(40.00)	82(29.29)	240(35.56)		
	Neither disagree nor agree	88(22.28)	46(16.43)	134(19.85)		
	Agree	56(14.18)	40(14.29)	96(14.22)		
	Strongly agree	9(2.28)	8(2.86)	17(2.52)		
Total		395	280	675		

* p<0.05 ** p<0.01

From the Table 13., we can unveil that Item8 shows that 0.01 significance level (χ^2=23.164, p=0.000<0.01) to Item27. Specifically, the athletes who are in advanced stage considered "Strongly disagree" the statement, accounting for 37.14 percent, which is much higher than the percentage (21.27%) of athletes who are in initial stage. The athletes who are in initial stage chose "Disagree", accounting for 40.00 percent, which is higher than the percentage (29.29%) of athletes who are in advanced stage. The results also indicated that more athletes who maintain initial stage than those who are in advanced stage chose the option "Neither disagree nor agree". In summary, different samples of Item8 showed significant difference to Item27. Nevertheless, a conclusion was drawn that there is no necessary to take the distance between training centre and their home as a barrier to balance their study and sports.

Physical training consumes HPSA tremendous time (Haugen, 2021), and it has become a major factor of the conflict between their academic work and sports career. If the coaches adopt flexible training schedule, is it effective to remove or reduce the barrier on the way to balance athletes' study and athletics? This study analysed the relationship between Item36 ('Training's schedules are not flexible' is a barrier towards achieving good balance between my sporting life and study) and Item8 (At what point in your career are you?) by means of Chi-square test to

examine whether there exist significant correlations. (See Table 14.)

From the data, we found that Item8 revealed 0.01 significance level (χ^2=24.603, p=0.000<0.01) to Item36. From the percent difference comparison, the research indicated that 29.64 percent of HPSA who were in advanced stage Strongly Disagreed with the statement of Item36, which was higher than the percentage (15.95%) of HPSA in initial stage. While the amount of HPSA who were in initial stage Disagreed with the statement of Item36, accounting for 35.95 percent which was higher than the percentage (23.93 %) of HPSA who were in advanced stage. In short, whether the respondents in initial stage or advanced stage both had significantly difference to Item36. Specifically, 53.57 percent of HPSA who were in advanced stage did not take flexible training schedule as a solution to achieve the balance of study and sport life, and 51.9 percent of HPSA who were in initial stage kept the same opinion. Therefore, we could infer that flexible training schedule does not facilitate the balance of elite athletes' academic career and sport career.

Table 14. *Chi-square analysis between Item8 and Item36*

Chi-Square Analysis (N %)

Items	Categories	Item8 (%)		Total	χ^2	p
		Initial stage (≤5 years)	Advance stage(>5 years)			
Item36	Strongly disagree	63(15.95)	83(29.64)	146(21.63)	24.603	0.000**
	Disagree	142(35.95)	67(23.93)	209(30.96)		
	Neither disagree nor agree	87(22.03)	48(17.14)	135(20.00)		
	Agree	83(21.01)	64(22.86)	147(21.78)		
	Strongly agree	20(5.06)	18(6.43)	38(5.63)		
	Total	395	280	675		

* p<0.05 ** p<0.01

From the above analysis, we can see that the HPSA especially, the active athletes committed abundant time to physical training and time limitation has become the dominant reason to obtain a good balance between the HPSA's academic career and sport career. In addition, the distance between the training centre and home was not a barrier on their way of DC for most HPSA. Likewise, flexible training schedule also does not work too much for assisting their

academic work and sports for most HPSA. In the following section, we explore how HEIs implement policies to facilitate the DC of HPSA.

6.3 ACADEMIC CAREER

No matter what identification the HPSA claim themselves for, student-athletes or athlete-students, academic performance always acts a crucial role before and after their graduation (van Rens, Ashley, & Steele, 2019). Good conducts of academic management in HEIs aid HPSA in their DC commitments (Howard-Hamilton & Sina, 2001). In order to explore the implementation of DC policies in HEIs, the study devised some questions to obtain the feedback from the participants.

Macro Policy Item40 (Do you know the national or regional legislation regarding HPSA?) and Item41 (Do you know the academic regulations of your university regarding HPSA?) were designed to examine whether the HPSA know the policies about DC. On the one hand, we may find whether such kind of policies were promoted; on the other hand, whether Chinese HPSA concern about these policies was also detected. (See Table 15.)

Table 15. *Frequency analysis of Item40 and Item41*

		Frequency		
Items	Categories	N	Percent (%)	Cumulative Percent (%)
Item40	Yes	316	46.81	46.81
	No	93	13.78	60.59
	I am not aware there are any	266	39.41	100.00
Item41	Yes	339	50.22	50.22
	No	76	11.26	61.48
	I am not aware there are any	260	38.52	100.00
	Total	675	100.0	100.0

From the above data, we can find that only 46.81 percent respondents know the national or regional legislation of HPSA and the rest didn't know or were not clear about it. As for the academic regulations of university, just 50.22 percent

were aware of them. Inferring from the results, we asserted that the propaganda of legislation and regulations were not enough so that almost half of HPSA cannot make full use of the preferential policies.

Scholarship, especially full-ride athletic scholarship was set as the goal of many SA in America, because they usually cover tuition and fees, room and board. However, according to statics from NCAA, 1.3 percent of student athletes receive a full or partial scholarship (https://whattobecome.com/blog/scholarship-stats/)[38]. This study explored the percentage of Chinese HPSA who receiving scholarship through Item11 (Do you receive a scholarship?) and the institutions which award scholarships based on Item12 (Which body/institution award you scholarship?). (See Table 16.)

Table 16. *Frequency analysis of Item11 and Item12*

		Frequency		
Items	Categories	N	Percent (%)	Cumulative Percent (%)
11	Yes, full-pride scholarship	51	7.56	7.56
	Yes, partial scholarship	98	14.52	22.07
	No, the university provides funding	32	4.74	26.81
	No, I never get scholarship	415	61.48	88.30
	I am not aware of scholarship	79	11.70	100.00
12.	-3.0	466	69.04	69.04
	My University	113	16.74	85.78
	Sport governing body	17	2.52	88.30
	National government	74	10.96	99.26
	Olympic committee	1	0.15	99.41
	Others	4	0.59	100.00
	Total	675	100.0	100.0

Above data showed that 7.56 percent achieved full-pride scholarship and 14.52 percent obtained partial scholarship. Comparing with American SA, the percentage of Chinese HPSA who won scholarship was much higher. Nevertheless, the result of open-ended question showed that maximal scholarship

[38] It is a website that offers educational information and career advice.

was valued at 15,000 CNY (approximately US$2,232) and the 5,000CNY (about US$746) ranks first. (See Figure 10. & Figure 11.)

Figure 10. *Frequency of keywords of the amount of full scholarship*

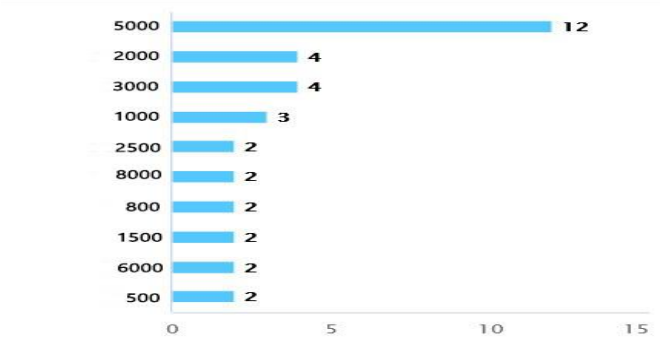
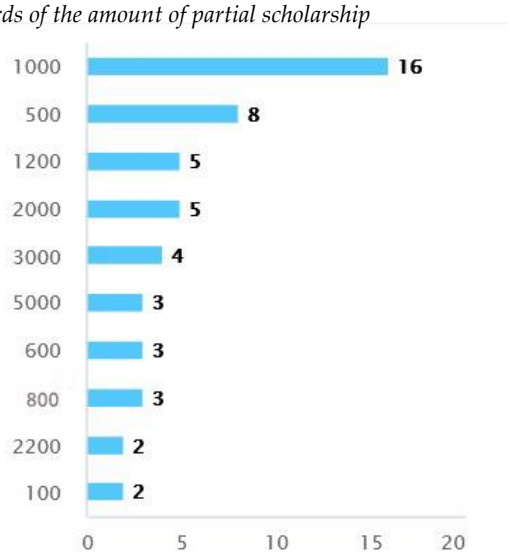


Figure 11. *Frequency of keywords of the amount of partial scholarship*



Item12 indicated that 16.74 percent got the scholarship from universities and 10.96 percent from national government. 2.52 percent obtained it from sporting authorities. From the conversation with CWWP athletes, we understood that elite athletes would get rewards from federation or provincial sports bureau (sporting governing body) after achieving prescribed athletic results.

Academic flexibility is a major facilitator to SA to win success of their DC (D. Aquilina, 2009). This study identified whether flexible courses and distance learning are helpful to Chinese HPSA. (See Table 17.)

Table 17. *Frequency analysis of Item21 , Item22 and Item35*

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
21	Not highly at all	29	4.30	4.30
	Somewhat highly	73	10.81	15.11
	Neutral	204	30.22	45.33
	Highly	241	35.70	81.04
	Very highly	128	18.96	100.00
22	Not highly at all	96	14.22	14.22
	Somewhat highly	137	20.30	34.52
	Neutral	194	28.74	63.26
	Highly	187	27.70	90.96
	Very highly	61	9.04	100.00
35	Strongly disagree	83	12.30	12.30
	Disagree	173	25.63	37.93
	Neither disagree or agree	157	23.26	61.19
	Agree	160	23.70	84.89
	Strongly agree	102	15.11	100.00
	Total	675	100.0	100.0

The analysis of Item21 (How much do you value having a 'Flexible curriculum' as part of the services and features of your dual career at your university?) revealed that 35.7 percent of respondents thought the flexible curriculum are helpful and 18.96 percent considered it extremely highly useful. Therefore, flexible courses were viewed as a benefit to their DC commitments.

The result of Item22 (How much do you value having access to 'Distance learning' as part of the services and features of your dual career at your university?) showed that totally 34.52 percent of participants did not think it is useful and 34.74 percent of respondents deemed it helpful. Literature indicated that remote learning may be an approach to release the pressure of heavy practice and benefit for managing time conflicts(Li & Sum, 2017). However, in this study, the consequence was not as expected.

The feedback of Item35 ('Students' schedules are not flexible' is a barrier towards achieving a good balance between my sporting life and my studies.) revealed that only 38.81 percent of participants considered that flexible students'

schedules could facilitate achieving balance of study and sport.

Graduation expectation is an indicator to evaluate the perception of HPSA towards DC. We conducted Chi-square analysis between Item7 and Item23. By doing so, whether there was a significant difference between the identification of HPSA and their graduation expectation was examined. (See Table 18.) Results indicated that Item7 shows 0.01 significance level (χ^2=100.365, p=0.000<0.01) to Item23. From the percentage, we can see that 45.41 percent of HPSA who claimed themselves amateurs prefer further study after graduation, which was significantly higher than the average 31.11 percent. As explained above, these HPSA were most from sports-talented high school and the majority of their time was on campus, that is to say, their committed more time on study instead of athletic training so that they maintained more advantages on further studies than other active athletes; while 32.28 percent of those who claimed themselves professionals prefer athletic career, which was also higher than the average 17.04 percent; as for the semi-professionals, 27.99 percent of the prefer 'other' option, which is much higher than the average15.70 percent. Therefore, there existed a significant difference between the identification of HPSA and their graduate expectation.

Table 18. *Chi-square analysis of Item7 and Item23*

Chi-Square Analysis (%)

Items	Categories	Item7			Total	χ^2	p
		Amateur	Semi-professional	Professional			
Item23	Further studies	45.41%	25.37%	22.75%	31.11%	100.365	0.000**
	Employment in my area of study	36.70%	35.82%	35.98%	36.15%		
	Athletic career	11.47%	10.82%	32.28%	17.04%		
	Other	6.42%	27.99%	8.99%	15.70%		
	Total	218	268	189	675		

* p<0.05 ** p<0.01

Item(26-34) were designed to identify the perception of barriers on the DC commitments to achieve balance of academic career and athletic career of HPSA. These questions were explored from three aspects, the sports factors, the academic factors and HPSA self-perceptions. (See Table 19.)

Table 19. *Frequency analysis of Item26 and Item28-34.*

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
	Strongly disagree	191	28.30	28.30
	Disagree	244	36.15	64.44
26	Neither disagree nor agree	139	20.59	85.04
	Agree	81	12.00	97.04
	Strongly agree	20	2.96	100.00
	Strongly disagree	96	14.22	14.22
	Disagree	190	28.15	42.37
28	Neither disagree nor agree	132	19.56	61.93
	Agree	170	25.19	87.11
	Strongly agree	87	12.89	100.00
	Strongly disagree	116	17.19	17.19
	Disagree	222	32.89	50.07
29	Neither disagree nor agree	229	33.93	84.00
	Agree	91	13.48	97.48
	Strongly agree	17	2.52	100.00
	Strongly disagree	95	14.07	14.07
	Disagree	182	26.96	41.04
30	Neither disagree nor agree	105	15.56	56.59
	Agree	183	27.11	83.70
	Strongly agree	110	16.30	100.00
	Strongly disagree	97	14.37	14.37
	Disagree	205	30.37	44.74
31	Neither disagree nor agree	195	28.89	73.63
	Agree	146	21.63	95.26
	Strongly agree	32	4.74	100.00

Table 19. *Frequency analysis of Item26 and Item28-34.*

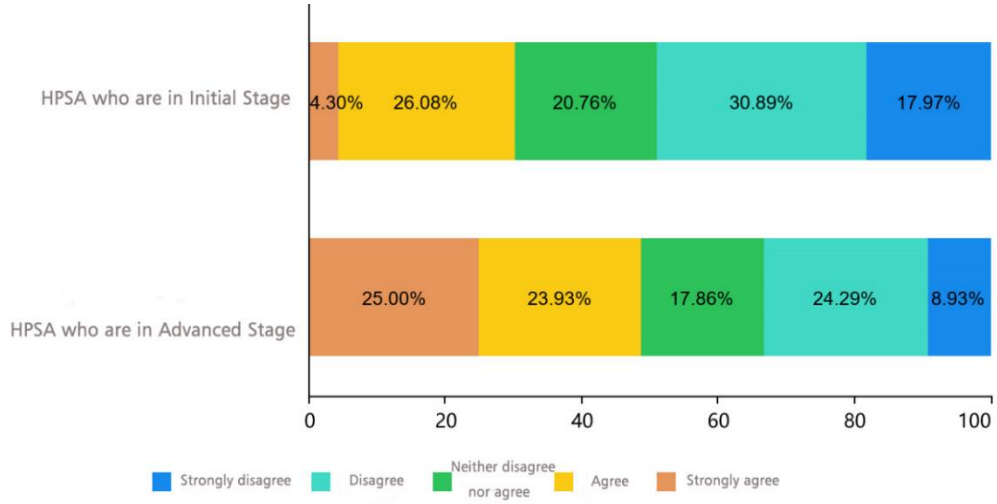
Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
	Strongly disagree	139	20.59	20.59
	Disagree	267	39.56	60.15
	Neither disagree nor agree	116	17.19	77.33
	Agree	75	11.11	88.44
32	Strongly agree	78	11.56	100.00
	Strongly disagree	167	24.74	24.74
	Disagree	240	35.56	60.30
33	Neither disagree nor agree	146	21.63	81.93
	Agree	100	14.81	96.74
	Strongly agree	22	3.26	100.00
	Strongly disagree	89	13.19	13.19
	Disagree	175	25.93	39.11
34	Neither disagree nor agree	132	19.56	58.67
	Agree	223	33.04	91.70
	Strongly agree	56	8.30	100.00
Total		675	100.0	100.0

From the above data, the results showed that most HPSA (64.45 %) did not take the distance between university to their home (Item26) as a barrier.

Item28 ('I find myself unable to balance study and training time' is a barrier towards achieving a good balance between my sporting life and my studies.) was to examine their self-perception about their own capability to manage the conflict between study and training. As a result, 42.37 percent of participants did not consider it as a barrier, meanwhile, 38.08 percent of respondents accepted it as a truth. As these two amounts were similar, we conducted further analysis to examine the relationship between different stages of HPSA and their self-perception about the capability. (See Figure 12.)

Figure 12. *Stacked Bar of Chi-square analysis of Item8 and Item28*



Above analysis indicated that 48.93 percent of respondents who are in advanced stage admitted that 'they cannot handle the balance of study and training time' was a barrier on their way of DC. The percentage was much higher than the respondents who are in initial stage. From the result, we inferred that elite athletes committed considerable time on athletic training so that balancing the time of study and practice became a hinderance.

Item29 ('I have to take care of my family' is a barrier towards achieving a good balance between my sporting life and my studies) demonstrated that more than half (50.08%) of participants did not agree with this statement and 16 percent accepted it. As described before, typically Chinese HPSA compete at young age who have no such duty to take care of his/her family except for some special families, such as single-parent family or some family members got serious disease.

Item30 ('I am usually tired' is a barrier towards achieving a good balance between my sporting life and my studies) exhibited that 41.03 percent of respondents did not deem frequent tiredness as a barrier on their way of DC. However, 43.41 percent hold the opposite opinions. After analysis through Chi-square, we found the significant difference between Item8 and Item30 (χ^2=84.908, p=0.000<0.01). Comparing the percentage, the study revealed that 16.71 percent of HPSA who are in initial stage strongly disagreed that frequent tiredness was a barrier to their DC. The percentage is notably higher than the amount of HPSA who maintain advanced stage, accounting for 10.36 percent. However, 30.71

percent of HPSA who are in advanced stage greatly agree that frequent tiredness was a barrier to achieve balance of academic work and training. The amount was remarkably higher than HPSA who are in initial stage, accounting for 6.08 percent only. In total, 59.28 percent of HPSA who are in advanced stage took frequent tiredness as a barrier. It once again proved that Chinese elite athletes committed much energy and time on athletic training. Therefore, fatigue issue was suggested to take further research.

Item31 ('I lose the rhythm of the course' is a barrier towards achieving a good balance between my sporting life and my studies.) was designed to check whether HPSA could follow the academic courses. The result specified that 44.74 percent of respondents could follow the schedule of university courses. Of note, here the HPSA who chose the option 'Neither disagree nor agree' accounted for 28.89 percent. It was unreasonable or out of surprise that HPSA did not know whether they can follow the rhythm of course and whether it was a barrier to achieve balance of study and sport. With the aim to explore which category of HPSA were unaware of this issue, the study further conducted Chi-square analysis between Item8 and Item31. (See Table 20.)

Table 20. *Chi-square analysis of Item8 and Item31*

Items	Categories	Item8		Total	χ^2	p
		Initial stage	Advanced stage			
31	Strongly disagree	17.47%	10.00%	14.37%	34.891	0.000**
	Disagree	36.46%	21.79%	30.37%		
	Neither disagree nor agree	22.28%	38.21%	28.89%		
	Agree	19.75%	24.29%	21.63%		
	Strongly agree	4.05%	5.71%	4.74%		
Total		395	280	675		

* p<0.05 ** p<0.01

The data examined that Item8 showed significant difference to Item31 (χ^2=34.891, p=0.000<0.01). Specifically, HPSA who are in initial stage accounted for more ratio on both 'Strongly disagree'(17.47 %) and 'Disagree' (36.46 %) options. Both higher than the percentage of the HPSA who pertain in advanced stage

(10.00% and 21.79% respectively). Remarkably, both types of HPSA had considerable amount were unclear about whether they can follow the rhythm of academic course and unaware of whether it is a barrier on their DC commitments. Especially, there existed 38.21 percent of HPSA who are in advanced stage uncertain about their rhythm of academic work. From this point, we can see that there are some potential risks or pitfalls in the academic career of Chinese HPSA especially for active athletes.

Item32 ('I lose touch with my classmates' is a barrier towards achieving a good balance between my sporting life and my studies.) was created to examine the relationship between HPSA and their classmates. The result showed that 60.15 percent of respondents did not realize that they lost touch with their classmates or did not take it as a barrier to achieve DC balance. That is to say, the relationship between classmates were relatively intimate. As an external factor, classmate's relationship did not matter too much on the DC commitments of HPSA.

Item33 (The cost of education is high' is a barrier towards achieving a good balance between my sporting life and my studies.) was designed to check whether education expenditure is a barrier for HPSA to achieve DC balance. The result exhibited that only 18.07 percent agreed that high-expenditure of education was a barrier. Thus, this external factor was not a major consideration on the commitments of DC of HPSA.

Item34 ('I do not have enough university support' is a barrier towards achieving a good balance between my sporting life and my studies.) was developed to examine the importance of support from university. The outcome presented that 41.34 percent of respondents recognized that this external factor plays an importance role on their way of DC. (see Table 21.)The data examined that Item8 showed significant difference to Item34 (χ^2=52.616, p=0.000<0.01). Specifically, 57.5 percent of participants who are in advanced stage recognized the fact, while those who are in initial stage held different opinions, accounting for 47.85 percent. Accordingly, HEIs should provide more support to HPSA who are still active athletes to facilitate their DC.

Table 21. *Chi-square analysis of Item8 and Item34*

Items	Categories	Item8		Total	χ^2	p
		Initial stage	Advanced stage			
34	Strongly disagree	16.20%	8.93%	13.19%	52.616	0.000**
	Disagree	31.65%	17.86%	25.93%		
	Neither disagree nor agree	22.28%	15.71%	19.56%		
	Agree	23.54%	46.43%	33.04%		
	Strongly agree	6.33%	11.07%	8.30%		
Total		395	280	675		

* p<0.05 ** p<0.01

University support act an crucial role on the DC of HPSA (Howard-Hamilton & Sina, 2001; Miller & Kissinger, 2009). This study conducted analysis towards the academic service that HEIs provided and the perception of HPSA. (See Table 22.)

Table 22. *Frequency analysis of Item38,42 and Item63-66*

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
38	YES	271	40.15	40.15
	NO	404	59.85	100.00
42	Strongly disagree	94	13.93	13.93
	Disagree	38	5.63	19.56
	Neither disagree nor agree	166	24.59	44.15
	Agree	309	45.78	89.93
	Strongly agree	68	10.07	100.00
63	Never	55	8.15	8.15
	Almost never	57	8.44	16.59
	Sometimes	350	51.85	68.44

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
	Almost always	117	17.33	85.78
	Always	96	14.22	100.00
	Never	59	8.74	8.74
	Almost never	71	10.52	19.26
64	Sometimes	293	43.41	62.67
	Almost always	196	29.04	91.70
	Always	56	8.30	100.00
	Never	75	11.11	11.11
	Almost never	160	23.70	34.81
65	Sometimes	293	43.41	78.22
	Almost always	115	17.04	95.26
	Always	32	4.74	100.00
	Never	91	13.48	13.48
	Almost never	142	21.04	34.52
66	Sometimes	281	41.63	76.15
	Almost always	78	11.56	87.70
	Always	83	12.30	100.00
Total		675	100.0	100.0

Item38 (Do your Lecturers implement learning and teaching strategies that promote having a dual career?) was planned to investigate whether the teaching stuff utilize any teaching methods to aid HPSA. Disappointingly, the result demonstrated that 59.85 percent respondents did not think their lecturers implement advanced strategies to develop their DC.

Item42 (The university has virtual tools to promote dual career) was set to check whether HEIs employ modern facilities to assist HPSA. The result denoted that the majority of respondents admitted that their universities have virtual tools

to aid their DC. Nevertheless, 19.56 per cent held different opinions. Although, the ratio was not so high, it reflected that some HEIs should make full use of modern facilities.

Item63-66(Does your teacher normally use Tencent Meeting, Zoom, Ding ding App, WeChat, Tencent QQ App and E-mail as teaching tools?) were invented to examine specifically how often the HEIs use these popular virtual tools in China. After analysis, all those tools were used by their HEIs "sometimes", accounting for 41.63 percent to 51.85 percent, among which Tencent Meeting was employed more often. Among those tools, 29.04 percent of respondents mentioned that their HEIs "almost always" use WeChat as a teaching tool.

Support from family and coaches worked as the main system of social support (Howard-Hamilton & Sina, 2001; H. Ryan, Gayles, & Bell, 2018). In this study, we came up with Item24 (Do you have any support from your coach to study?) and Item25 (Do you have any support from your family to study?) to investigate the social support of Chinese HPSA. The results conveyed that great majority of Chinese HPSA got support both from their family and coaches. (See Table 23.)

***Table* 23.** *Frequency analysis of Item24 and Item25*

Frequency

Items	Categories	N	Percent (%)	Cumulative Percent (%)
24	YES	642	95.11	95.11
	NO	33	4.89	100.00
25	YES	665	98.52	98.52
	NO	10	1.48	100.00
Total		675	100.0	100.0

Self-perception is the level of competency at which individuals assess themselves in certain fields or domains (Marsh & Shavelson, 1985). An individual's self-perceptions promote their overall self-worth, and even predict future performance (Cuellar, 2014). For SA, their self-perception have significant relationship with their academic and athletic performance (Cross, 2011). This research performed Chi-square test to check whether different scales of Item18

have significant difference to Item43, Item44 and Item46-54. (See Table 24.)

Table 24. *Chi-square analysis of self-perception of HPSA*

Items	Categories	Item18		Total	χ^2	*p*
		Student-athlete:	Athlete-student			
39	Classroom learning	308(72.13)	119(47.98)	427(63.26)	39.359	0.000**
	Self-learning	119(27.87)	129(52.02)	248(36.74)		
Total		427	248	675		
43	Strongly disagree	9(2.11)	3(1.21)	12(1.78)	2.963	0.564
	Disagree	10(2.34)	7(2.82)	17(2.52)		
	Neither disagree nor agree	89(20.84)	41(16.53)	130(19.26)		
	Agree	240(56.21)	151(60.89)	391(57.93)		
	Strongly agree	79(18.50)	46(18.55)	125(18.52)		
Total		427	248	675		
44	Strongly disagree	7(1.64)	3(1.21)	10(1.48)	7.833	0.098
	Disagree	6(1.41)	5(2.02)	11(1.63)		
	Neither disagree nor agree	29(6.79)	28(11.29)	57(8.44)		
	Agree	237(55.50)	146(58.87)	383(56.74)		
	Strongly agree	148(34.66)	66(26.61)	214(31.70)		
Total		427	248	675		
46	Strongly disagree	26(6.09)	23(9.27)	49(7.26)	2.597	0.627
	Disagree	198(46.37)	109(43.95)	307(45.48)		
	Neither disagree nor agree	64(14.99)	38(15.32)	102(15.11)		
	Agree	102(23.89)	59(23.79)	161(23.85)		
	Strongly agree	37(8.67)	19(7.66)	56(8.30)		
Total		427	248	675		
47	Strongly disagree	51(11.94)	19(7.66)	70(10.37)	34.545	0.000**
	Disagree	232(54.33)	89(35.89)	321(47.56)		

Items	Categories	Item18		Total	χ^2	*p*
		Student-athlete:	Athlete-student			
	Neither disagree nor agree	43(10.07)	50(20.16)	93(13.78)		
	Agree	89(20.84)	78(31.45)	167(24.74)		
	Strongly agree	12(2.81)	12(4.84)	24(3.56)		
Total		427	248	675		
	Strongly disagree	9(2.11)	2(0.81)	11(1.63)		
	Disagree	10(2.34)	21(8.47)	31(4.59)		
	Neither disagree nor agree	17(3.98)	17(6.85)	34(5.04)		
48	Agree	144(33.72)	117(47.18)	261(38.67)	38.382	0.000**
	Strongly agree	247(57.85)	91(36.69)	338(50.07)		
Total		427	248	675		
	Strongly disagree	59(13.82)	30(12.10)	89(13.19)		
	Disagree	145(33.96)	112(45.16)	257(38.07)		
49	Neither disagree nor agree	82(19.20)	62(25.00)	144(21.33)		
	Agree	66(15.46)	34(13.71)	100(14.81)	31.132	0.000**
	Strongly agree	75(17.56)	10(4.03)	85(12.59)		
Total		427	248	675		
	Strongly disagree	15(3.51)	5(2.02)	20(2.96)		
	Disagree	42(9.84)	25(10.08)	67(9.93)		
50	Neither disagree nor agree	119(27.87)	69(27.82)	188(27.85)		
	Agree	205(48.01)	124(50.00)	329(48.74)	1.395	0.845
	Strongly agree	46(10.77)	25(10.08)	71(10.52)		
Total		427	248	675		
	Strongly disagree	26(6.09)	8(3.23)	34(5.04)		
51	Disagree	90(21.08)	56(22.58)	146(21.63)	27.296	0.000**
	Neither disagree nor agree	90(21.08)	22(8.87)	112(16.59)		

Items	Categories	Item18		Total	χ^2	*p*
		Student-athlete:	Athlete-student			
	Agree	168(39.34)	106(42.74)	274(40.59)		
	Strongly agree	53(12.41)	56(22.58)	109(16.15)		
Total		427	248	675		
	Strongly disagree	123(28.81)	68(27.42)	191(28.30)		
	Disagree	215(50.35)	119(47.98)	334(49.48)		
	Neither disagree nor agree	37(8.67)	29(11.69)	66(9.78)		
52	Agree	36(8.43)	25(10.08)	61(9.04)	2.622	0.623
	Strongly agree	16(3.75)	7(2.82)	23(3.41)		
Total		427	248	675		
	Strongly disagree	29(6.79)	21(8.47)	50(7.41)		
	Disagree	103(24.12)	75(30.24)	178(26.37)		
53	Neither disagree nor agree	50(11.71)	42(16.94)	92(13.63)	21.921	0.000**
	Agree	148(34.66)	87(35.08)	235(34.81)		
	Strongly agree	97(22.72)	23(9.27)	120(17.78)		
Total		427	248	675		
	Strongly disagree	8(1.87)	2(0.81)	10(1.48)		
	Disagree	66(15.46)	6(2.42)	72(10.67)		
54	Neither disagree nor agree	29(6.79)	28(11.29)	57(8.44)	32.175	0.000**
	Agree	204(47.78)	139(56.05)	343(50.81)		
	Strongly agree	120(28.10)	73(29.44)	193(28.59)		
Total		427	248	675		
	Strongly disagree	7(1.64)	2(0.81)	9(1.33)		
	Disagree	65(15.22)	7(2.82)	72(10.67)		
55	Neither disagree nor agree	34(7.96)	28(11.29)	62(9.19)	27.331	0.000**
	Agree	201(47.07)	130(52.42)	331(49.04)		

Items	Categories	Item18		Total	χ^2	p
		Student-athlete:	Athlete-student			
	Strongly agree	120(28.10)	81(32.66)	201(29.78)		
Total		427	248	675		
	Strongly disagree	7(1.64)	1(0.40)	8(1.19)		
	Disagree	66(15.46)	11(4.44)	77(11.41)		
56	Neither disagree nor agree	30(7.03)	23(9.27)	53(7.85)		
	Agree	199(46.60)	135(54.44)	334(49.48)	21.929	0.000**
	Strongly agree	125(29.27)	78(31.45)	203(30.07)		
Total		427	248	675		

* $p<0.05$ ** $p<0.01$

The result presented that Item18 had significant difference to Item39 (What type of study do you usually use, classroom learning or self-learning?) (χ^2=39.539, p=0.000<0.01). 72.13 percent of participants who claim themselves student-athlete conducted classroom learning, which was much more than 47.98 percent of respondents who claim themselves athlete-student. In addition, more than half of athlete-student committed self-learning because of their training schedule and time engagement.

The analysis of the scales of Item18 to Item43 (It is important for me to learn what is taught in my studies.), Item44 (I am willing to invest time to get excellent grades in my studies.) and Item46 (I get more satisfaction from getting high marks in a subject than winning a game in my sport.) showed no difference but consistency ($p>0.05$). Nonetheless, we still reveal some useful information. Specifically, 79.44 percent of respondents of athlete-students and 74.71 percent of student-athletes acknowledged that what they have been taught was useful to them. Meanwhile, 85.48 percent of athlete-students and 90.16 percent student-athletes would like to commit time to excel in academic work. Thus, whatever stakeholder, educational body or sports authority should highly value their motivation towards academic study and try to provide practical and effective

support to aid their DC commitments. However, when compare the sense of achievement of winning a game or getting a high score in study, 52.74 percent of participants prefer the former. To further analyse what type of HPSA prefer winning a game to achieving higher score, the study performed another test between Item7 and Item46. (See Table 25.)

***Table* 25.** *Chi-square analysis of Item7 and Item46*

Items	Categories	Item7			Total	χ^2	*p*
		Amateur	Semi-professional	Professional			
Item46	Strong disagree	5.05%	5.60%	12.17%	7.26%	27.389	0.001**
	Disagree	35.32%	52.24%	47.62%	45.48%		
	Neither disagree nor agree	19.72%	13.06%	12.70%	15.11%		
	Agree	29.36%	22.01%	20.11%	23.85%		
	Strongly agree	10.55%	7.09%	7.41%	8.30%		
Total		218	268	189	675		

* $p<0.05$ ** $p<0.01$ Chi-Square Analysis (%)

The above data showed that there existed significant relationship between Item7 and Item46 ($\chi^2=27.389$, $p=0.001<0.01$). To be specific, descending tendency of prefer winning a game was 59.79 percent (professional) >57.84 percent (semi-professional) >40.37 percent (amateur). Interestingly, the percentage (39.91 %) of amateur found more achievement in academics, which held the similar number of holders with opposite opinion.

The results manifested that Item7 had significant difference ($p=0.000<0.01$) to Item47 (I have some doubts about my ability to get high grades in my studies.), Item48 (I am sure I can get a degree) and Item49 (It is not important for me to have better results than other students in my studies.). Specifically, 66.27 percent of student-athletes did not doubt about their ability to achieve high score in academic work, which was higher than the percentage (43.55 %) of athlete-students. As for the certainty to obtain a degree, 91.57 percent of student-athletes agreed with the statement of surely getting a degree, however, only 83.87 percent of athlete-student assured that they can earn a degree and 9.28 percent of them

disagreed about it which was higher than the percentage (4.45%) of student-athletes.

As for Item49, the data showed that 57.26 percent of athlete-students thought it was important to compete on studies with other students, which was higher than the percentage (47.78 %) of student-athletes. However, 17.56 percent of student-athletes "strongly agree" that it was not important to be superior to other students on studies, which is much higher than the percentage (4.03%) of athlete-student.

Item50 (The content of most of my subjects is interesting to me.) was designed to check whether the HEIs provided curriculums HPSA interested in. The result manifested that 58.78 percent of student-athletes were interested in the most subjects and so were 60.08 percent of athlete-students. This analysis examined there was not significant difference between Item7 and Item50 ($p=0.845>0.05$). Notably, no matter student-athletes or athlete student, all have more than 27 percent participants did not care about the subjects they have learned. For this reason, the higher education should take further consideration about subject setting or teaching methods (Bidabadi, Isfahani, Rouhollahi, & Khalili, 2016; Kulics, Kornspan, & Kretovics, 2015).

Item51 (Getting a degree is the most important reason for which I am studying at the University) was set to check the perception of HPSA towards the university degree. The result indicated there was significant difference between Item7 and Item51 ($\chi^2=27.296$, $p=0.000<0.01$). To be specific, 22.58 percent of athlete-student 'strongly agree' with the statement, which was much higher than 12.41 percent of student-athlete. In total, 65.32 percent of athlete-students prioritized the earning a degree.

Item52 (It is not worth the effort to get an excellent grade in my studies.) was designed to test whether HPSA would like to pay effort on excellent academic work. The result proved that all the scales of Item7 have consistency to Item52. Specifically, 75.4 percent of athlete-students and 79.16 percent of student-athletes would like to endeavour to excel in their studies.

When this study tries to explore the relationship between Item7 and Item53 (In an academic environment, I find it more difficult to cope with difficult tasks.), the result demonstrated that there exists a significant relationship ($\chi^2=21.921$,

p=0.000<0.01). To be exact, 22.72 percent of student-athletes considered overcoming difficulties in their studies was more difficult than the difficulty resolving in their athletic career, which was much more than 9.27 percent of athlete-students. Likewise, the number of respondents of athlete-students disagreed the statement was more than student-athletes. To explore further, this research conducted Chi-square test between Item8 and Item53 to examine their relationship. (See Table 26.)

Table 26. *Chi-square analysis of Item8 and Item53*

Items	Categories	Item8		Total	χ^2	p
		Initial stage	Advanced stage			
53	Strong disagree	8.10%	6.43%	7.41%	49.026	0.000**
	Disagree	29.11%	22.50%	26.37%		
	Neither disagree nor agree	15.44%	11.07%	13.63%		
	Agree	38.23%	30.00%	34.81%		
	Strongly agree	9.11%	30.00%	17.78%		
Total		395	280	675		

* p<0.05 ** p<0.01 Chi-Square Analysis (%)

The result revealed that 60 percent of respondents who were in advanced stage admitted the it was trickier to manage the difficult tasks in academic work than in athletics. However, only 47.34 percent of participants who were in initial stage considered the difficulties in academic work were harder to deal with than those in sports.

Item54 (Studies are important to acquire knowledge and skills.), Item55 (Achieving a degree is important to enrich my knowledge.) and Item56 (It is important for me to get a degree and that will help me to find a job.) were devised to check the perception of university experience for HPSA. Although the result presented that Item7 had significant difference (p=0.000<0.01) to these three items, both student-athletes and athlete-students accounting for more than 75 percentage had positive perception towards university experience.

6.4 TUTORING SERVICE

Tutoring service was a good facilitator to complement SA hectic schedules (Banbel & Chen, 2014). Tutoring and counselling support was listed as the most effective support, especially when obtained from the academic field (Philip X Fuchs et al., 2021). In order to examine the tutoring and counselling service of HEIs and sports authorities, this research conducted survey through Item(69-74). (See Table 27.)

Table 27. *Frequency analysis of Item69-74*

Items	Categories	N	Percent (%)	Cumulative Percent (%)
69	YES	251	37.19	37.19
	NO	424	62.81	100.00
70 (*n*=457)	YES	238	52.08	52.08
	NO	219	47.92	100.00
71 (*n*=311)	Strong disagree	10	3.22	3.22
	Disagree	19	6.11	9.32
	Neither disagree nor agree	59	18.97	28.30
	Agree	140	45.02	73.31
	Strongly agree	83	26.69	100.00
72 (*n*=238)	Strong disagree	5	2.10	2.10
	Disagree	68	28.57	30.67
	Neither disagree nor agree	40	16.81	47.48
	Agree	106	44.54	92.02
	Strongly agree	19	7.98	100.00
Total		675	100.0	100.0

Item69 (Are there any facilitators in your HEI to deal with the conflicts between your study and training or competition?) and Item71 (The university facilitator kept in communication with me.) were created to check the tutoring service in HEIs. Data indicated that 62.81 percent of respondents reported that

there were no facilitators in their HEIs to help them with their time conflicts between study and training or competition. Among the 311 participants who claimed they have tutoring and counselling service, only 71.71 percent of which acknowledged that the facilitators kept in communication with them. The absence of institutional consideration and support stood for a negative key issue, especially when the academic environment provides limited flexibility to assist SA in combining their dual career commitments (Philip Xaver Fuchs et al., 2016).

Meanwhile, 52.08 percent of participants who claim themselves non-amateurs (n=457) admitted that they have facilitators in their sports centre or federations. And only 52.52 percent of those who stated having tutoring service (n=238) declared that facilitators kept in communication with them. In general, tutoring and counselling service were also not enough to assist the DC of HPSA.

Item73 (The facilitator of university would contact me and provide service) and Item74 (The facilitator of sports centre or federation would contact me and provide service) were planned to explore whether and how the facilitators provide and tutoring counselling service. (See Table 28. and Table 29.)

Table 28. *Goodness of fit test for Item73*

Response and popularity rate

Categories	Response		Popularity rate（*n*=675）
	n	Response rate	
A. Yes	138	23.63%	20.44%
B. in the classroom	54	9.25%	8.00%
C. Telephone	121	20.72%	17.93%
D. MSG/WeChat	156	26.71%	23.11%
E. E-mail	90	15.41%	13.33%
F. No	25	4.28%	3.70%
Total	584	100%	86.52%

Goodness of fit: χ^2=131.705 p=0.000

The result indicated that there was significant goodness of it (χ^2=131.705, p=0.000<0.05). That is to say, all the options had significant differences. To be specific, both response rate and popularity rate of Choice A (Yes) and D

(MSG/WeChat) are notably higher than others. It means most university facilitators kept in communication with HPSA and provide MSG or WeChat service.

Table 29. *Goodness of fit test for Item74*

Categories	Response		Popularity rate（*n*=675）
	n	Response rate	
A. Yes	114	29.08%	16.89%
B. Telephone	72	18.37%	10.67%
C. MSG/WeChat	100	25.51%	14.81%
D. E-mail	32	8.16%	4.74%
E. No	74	18.88%	10.96%
Total	392	100%	58.07%

Goodness of fit: χ^2=50.347 p=0.000

From the above data, we can see that there also existed significant goodness of fit (χ^2=50.347, p=0.000<0.05). And the response rate and popularity rate of Choice A (Yes) and C (MSG/WeChat) were also significantly higher than others.

Nevertheless, we found that the percentage of respondents who deemed to be provided tutoring and counselling service was no more than 50 percent. To some extent, although there were facilitators in some HEIs and sports centres, they did not exert themselves to assist HPSA.

Perception of tutoring service was examined through Item 75(Do you think that the tutoring and counselling service are good to facilitate your dual career?), Item76 (I need a sports tutor 'For academic support'), Item77 (I need a sports tutor 'For personal support') and Item78 (I need a sports tutor 'For time management'). (See Table 30.)

Table 30. Frequency analysis of Item75-78

Items	Categories	N	Percent (%)	Cumulative Percent (%)
75 (*n*=340)	YES	249	73.24	73.24
	NO	91	26.76	100.00
76	Strong disagree	12	1.78	1.78
	Disagree	83	12.30	14.07
	Neither disagree nor agree	121	17.93	32.00
	Agree	345	51.11	83.11
	Strongly agree	114	16.89	100.00
77	Strong disagree	12	1.78	1.78
	Disagree	45	6.67	8.44
	Neither disagree nor agree	187	27.70	36.15
	Agree	343	50.81	86.96
	Strongly agree	88	13.04	100.00
78	Strong disagree	7	1.04	1.04
	Disagree	28	4.15	5.19
	Neither disagree nor agree	190	28.15	33.33
	Agree	346	51.26	84.59
	Strongly agree	104	15.41	100.00
Total		675	100.0	100.0

The result showed that 73.24 percent of respondents (n=340) deemed that the tutoring and counselling service from university and sports centre/federation were good to aid their DC (Conde, Meroño, et al., 2021). However, there was still 26.76 percent of participants did not consider it was helpful to their DC. We suggested to further explore the reason lies in inconsiderate service or some other aspects.

As for Item76-78, more than 63 percent of participants needed the facilitators to help them with their academic work, personal life and time conflicts.

Of note, 27.7 percent of respondents maintained neutral attitude to whether the tutoring service is helpful to their personal life and 28.15 percent of them kept neutral attitude to whether their time conflicts was included in tutoring service or not.

Expectation of tutoring and counselling service was inspected through Item79 （You would like to get service from facilitator with… ）. (See Table 31.) The result revealed that there also existed significant goodness of fit (χ^2=180.191, p=0.000<0.05). Specifically, 60 percent of respondents would like to get the support from facilitators to guide them how to communicate with instructors. 53.93 percent of participants would like to get help in their subject choosing, and the next demand was about the flexible exam date, accounting for 43.11 percent. Therefore, the future work of tutoring and counselling service should focus on the abovementioned strong requests.

Table 31. *Goodness of fit test for Item79*

Categories	Response		Popularity rate（n=675）
	n	Response rate	
A. choose subjects	364	25.44%	53.93%
B. change exam date	291	20.34%	43.11%
C. how to communicate with instructors	405	28.30%	60.00%
D. make up missed work	260	18.17%	38.52%
E. others	111	7.76%	16.44%
Total	1431	100%	212.00%

Goodness of fit: χ^2=180.191 p=0.000

6.5 INTERPRETATION OF THE RESULTS

The analysis of the quantitative research data was conducted on the basis of three base themes, sports career, study career and tutoring services. After that, six sub-themes were yielded. The sub-themes were: a) time constraint taking up major barrier, b) impact of training environment, c) debatable university academic context, d) further enhancing self-resilience beliefs. Certain elements

related particularly to sports authorities while some others referring to educational sovereignty, in addition to self-factors of HPSA. All of these factors contributed to the development of DC of Chinese HPSA.

Under the guidance of research questions, this study analysed the data collected from Chinese HPSA sample. The sub-themes were concluded based on their experience within Chinese DC context. These themes represented some aspects of the current situation of DC of mainland Chinese HPSA. The ensuing sections interpreted the topics in detail.

6.5.1 Time Constraint Taking up Major Barrier

This study's conclusion that time constraint was the principal barrier to the DC commitment of HPSA is consistent with historical literature that revealed time constraints served as a crucial challenge involving with balancing academic performance and athletic achievement (Apaak & Sarpong, 2015; López & Levy, 2013).

This study found that more than 55 percent of Chinese professional athletes invested 20 hours above in athletic training and practices over 10 times per week (see Table 10.). In this way, athletic overload fatigue or burnout was inevitable so that much less time or energy was engaged in academics. Typically, it happened in off-seasons not to mention in-seasons. However, Chinese sports authorities highly praised this training philosophy (Lau et al., 1977). Therefore, as an elite SA in China, no matter what sports you are engaged in, high intensity and time-consuming training must undergo.

Nevertheless, a SA's involvement in sports activities in the US has been limited to a maximum of four hours each day and 20 hours per week for NCAA DI member institutions, which was defined by NCAA DI Bylaw 2.14 (Dambra, 2019; F. G. Price et al., 2020). By doing so, a SA's opportunity to obtain a quality academic education was ensured. SA were meant to prioritize educational work (Ayers, Pazmino-Cevallos, & Dobose, 2012). Literature has revealed "a direct correlation between time spent on a task and success for both athletic and academic endeavours"(Adler & Adler, 1991; Ayers et al., 2012; Yopyk & Prentice, 2005).

The prototype questionnaire (ESTPORT-Survey) was conducted among 108

participants in UCAM. The result showed that SA of UCAM had a high-volume athletic training, with almost half of them practicing 4 or 5 days per week and investing 11-20 hours per week. As a result, most SA claimed that their training programme did not interfere with their academic performance (Sánchez-Pato, García-Roca, Isidori, & Leiva-Arcas, 2021).

Since literature showed that maximum 20-hour athletic training are tried-and-true to the student athletes from America and Europe, Chinese sports authorities should take it for reference so as to release some time to HPSA to devote to their academics. In a sense, Chinese sports authorities view elite athletes as sort of glory-winning tools (Finn, 2004, p. 148). Thus, normative transition into athletic mastery stage was highlighted (Wylleman & Lavallee, 2004). However, HPSA as a whole person, their holistic development should be concerned. Especially, the transition out of sports, both normative transition and non-normative transition because high-performance athletes experience retirement much earlier than any other career (Caroline Heaney, Nichola Kentzer, & Oakley, 2021, p. 54). Once they face re-employment, the academic degree would play an critical role (Dennis, Phinney, & Chuateco, 2005). While in the process of working, the academic acquirement from university would become a touchstone (Liu Zheng & Ying, 2016). Therefore, the academic performance of HPSA must be attached more attention by Chinese sports and educational organizations.

Previous studies have shown that time challenge was a tricky problem on the development of DC of HPSA (Hathaway, 2005; Lijuan, 2001; Ling, 2019). The present study confirmed that time conflict was the dominant barrier to balance their athletics and academics. This indicates that the findings are in consonance with what we already know through the literature. The time constraint issue was particularly prominent among Chinese HPSA experiences. Therefore, the current research contributed to the literature on the development of DC of Chinese HPSA.

6.5.2 Impact of Training Environment

In this study, training environment indicates not only training facilities but also training services.

Previous research indicated that American SA consumed 39.9±43.7 min. each way per day transfer time from home to training venue and the counterpart

in Europe spent 27.6 ±22.7 min. each day (Condello et al., 2019). The extra time demanded to transfer from and to the training venue makes the time committed to DC another consideration for SA trying to manage their daily schedule. Therefore, the academic institutions and sport authorities should raise their awareness of providing a supportive environment to aid SA in overcoming the related barrier (Condello et al., 2019).

However, this study found that more than 70 percent of participants who identified as professionals practiced at non-universities venues. As mentioned in Chapter Literature Review, Chinese professional athletes live and train at a semi-closed environment, where sports authorities provide training and living necessities with the aim to minimize distractions and protect athletes and facilitate their training (Ge et al., 2019). Nevertheless, the result of this study showed that only 16.74 percent of respondents considered that far distance between training centre and home as a barrier to achieve balance of their academics and athletics. Obviously, intensive train centre system benefits professional athletes, which can be a success for Chinese sport authorities to win athletic achievement. In addition, this finding also contributes to literature research about Chinese HPSA.

Despite semi-closed training centre provides a good environment for athletic training, as a whole person, HPSA's other competence, such as interpersonal competence, managing emotions, interdependence and more, are underdeveloped. According to Chickering (1969), a psychosocial developmental model was put forward, of which seven vectors were mentioned and recommended to develop during university years and campus context (Chickering & Reisser, 1993). However, the semi-close environment does not allow HPSA to present too much time on campus. Hence, the psychosocial competence for HPSA would be deficient. Broughton suggested that "it is more important to provide an environment that encourages college student athletes to compete well and that promotes student learning first." (Broughton & Neyer, 2001).

In addition, both Chinese educational organizations and sports authorities provided privilege for elite athletes to enter universities. Because Chinese government has realized the importance of academics to athletes and also has expected benefits from their college degree. In other words, Chinese authorities

would like to invest human capital in elite athletes and expected returns (Hongwu Qiu & Wang, 2011). As Becker advocated, schooling as an intangible form was deemed as capital and yield benefits. However, if the higher education of HPSA remains nominal position, then finally the returns would be a titular degree for the perspective of academics. In a sense, the human capital is waste of educational resources. Additionally, family influence to human capital is notable (Becker & Tomes, 1986). While in semi-closed environment, family contact is limited to online communication, which led to misinterpretation, frustration and mistrust, in addition to decreasing the self-awareness (Balvin & Conley Tyler, 2006). By doing so, the human capital cannot maximize profit potential (Galor & Tsiddon, 1997; Zabojnik, 1998).

Coaching environment as the foremost training service always bring about vital impact on HPSA athletic performance as well as their well-being. According to Simons' research, "coach-athlete relationship and social support were both positively correlated with well-being." (Simons & Bird, 2022). In this study, the result indicated that more than 95 percent of participants acknowledged that their coaches hold positive attitude to their academic study, which indicated significant difference to previous literature (QianLi, 2014; Longxia Zheng, 2017). It is beneficial to their DC commitment. However, more than 27 percent of respondents considered that nonflexible training schedule was a barrier to balancing their academics and athletics. Nonetheless, previous research showed that obedience is highly valued in China's sports context (Ge et al., 2019). The relationship between coaches and athletes was defined as authoritative and intimate in China (Si, Duan, Li, & Jiang, 2011). For this reason, the competence described in psychosocial developmental model were hard to obtain and develop for Chinese HPSA.

Further, the results showed that sport bodies generally provided insufficient service on nutrition instruction (19.85%) and sport psychology (20.74%). However, these three aspects were much related to DC of SA. HPSA who were lack of nutrition knowledge are prone to put themselves at risk for improper dietary options that could increase the risk of injury and undermine competitive performance (Werner, Guadagni, & Pivarnik, 2022). Meanwhile, sport psychology service provided HPSA mental health and well-being (Stambulova & Wylleman, 2019).

Thus, the findings of this study contribute to literature of the relationship between coaches and HPSA.

6.5.3 Debatable University Academic Context

Education is a right for every single person (Isidori, 2015) and SA as human being should be aided to enjoy this right in all stages of his/her life (Nam, Hong, Marshall, & Hong, 2018). Likewise, the Fourteenth Amendment of the constitution and interpretations from the 1954 Supreme Court Decision prescribed that all students are guaranteed equal opportunity in education (Hollis, 2001).

Chinese HEIs provide limited majors for HPSA to choose. In most HEIs, HPSA who are from sport-talented high school students are exclusive to pick Business Management or Public Administration, which contain courses related less to previous knowledge, so that HPSA are easier to earn a degree. For HPSA who are active or retired athletes, only Athletic Training major is available to them. From this aspect, it is quite different from SA in the US or Europe. The research by Kulics et al, revealed that most American SA choose majors based on their interests or athletic eligibility purposes (Kulics et al., 2015). Therefore, "how much do the Chinese HPSA like their university courses" is quite important for Chinese educational organizations. The results of this study indicated that more than 59 percent of respondents were interested in most of the courses, as around 13 percent was not satisfied with the courses, but they have to learn. Previous research about this were rarely found.

In this study, HEIs have employed web-based teaching facilities to assist HPSA in their academic pursuing. The finding showed that 55.85 percent of participants agreed that their universities have utilized virtual tools, however, there still existed 19.56 percent held opposite opinion. Literature indicated that SA have claimed the relevance of virtual tools that favour their academics (Sánchez-Pato et al., 2021). In addition, the results of this study were consistent with the literature regarding flexible courses, of which 59.11 percent of respondents perceived that flexible disciplines were beneficial to their DC (Brustio, Rainoldi, Mosso, de Subijana, & Lupo, 2020; Isidori, 2015; Kulics et al., 2015; Sánchez-Pato, Isıdori, Calderón, & Brunton, 2017; Sato, Hodge, & Eckert,

2017).

Despite most HEIs provided flexible academic schedule and instruments for HPSA, the perception of teaching staff and tutoring services were inadequate. The results of this research suggested that more than half of participants questioned flexible teaching methods were unavailable to them. Prior research indicated that academic staff act an active role in forming the development of SA (D. J. Brown et al., 2015). Therefore, university teaching staff were encouraged to adopt effective and practical teaching methods to facilitate HPSA's coping strategy to DC commitment (Conde, Martínez-Aranda, Leiva-Arcas, García-Roca, & Sánchez-Pato, 2021). This finding of this study align with the analysis conducted among European SA, which suggested that low perceptions appeared for DC consideration at academic environments, support from faculty staff, (Philip Xaver Fuchs et al., 2016).

The results of this study denoted that less than 50 percent of the participants were aware of the national or regional legislations about DC. Moreover, only 50.22 percent of respondents declared that they knew the academic regulations of their universities. The findings were consistent with the research by Antonio Sánchez Pato (2021). In his research, the results showed that there is a critical lack of perception regarding the national and regional regulations that affect them as high-performance athletes, since more than half did not have that information. About half of the students at UCAM also did not know the academic regulations of the University regarding elite athletes (Sánchez-Pato et al., 2021). This is a vital finding to help related authorities to raise awareness about the regulations and its publicity.

6.5.4 Further Enhancing Self-Resilience Beliefs

When a person is continually exposed to the elevated severity of stressful events, the individual increases the possibility for surging mental health problem (Hjemdal, Vogel, Solem, Hagen, & Stiles, 2011). However, self-resilience facilitates overcoming the psychological distresses despite the person is being exposed to stressful events (Izzicupo et al., 2021; Luthar, Cicchetti, & Becker, 2000; Sánchez Pato, 2015).

The results of this study revealed that the large proportion of respondents

(88.44%) would like to achieve a better academic score. Moreover, around 74.37 percent of participants could apply what they acquired from textbook to their training and competition and more than 60 percent of sample were confident to excel them in educational work. From the analysis, the conclusion was made that most HPSA showed positive personality traits such as optimism and hardiness which align with previous research (Bryan, O'Shea, & MacIntyre, 2019; Maddi, 2006).

Notwithstanding, when they were questioned if it is worth working hard to achieve excellent academics, there were still 22.22 percent holding negative opinion. In other words, some HPSA would flinch when they were in facing of hardship, especially in academic engagement. The responses of these respondents in this study were consistent with previous researches that some SA suffered from athletic and academic burnout and viewed academic commitment as the most struggling challenge (Christopher Jolly, 2008; Sorkkila, Tolvanen, Aunola, & Ryba, 2019; Valentine & Taub, 1999). It has been indicated that psychological resilience was one crucial factor that differentiated SA who would like to overcome the barrier from those who would like to hold back (Sarkar & Fletcher, 2014). Those SA who maintain high level of resilience always take a stressful situation as an opportunity to develop themselves (Sorkkila et al., 2019). That is why some SA can endure or even blossom on adversities among their sports and educational works (Sarkar & Fletcher, 2014).

Resilience has been generally recognized as a relatively stable personality trait (Windle, 2011), however, some evidence showed that resilience is rather a dynamic process, which can be taught and learned (Galli & Vealey, 2008; Luthar et al., 2000). Therefore, HPSA who would like to improve himself/herself should enhance self-resilience belief.

6.6 SUMMARY

The purpose of this study was to answer the research question: How is the development of the dual career of HPSA in China? An in-depth analysis of the questionnaire data yielded several insights into how Chinese HEIs and sport authorities implemented the DC strategies and the perceptions of HPSA towards the support service and self-perception of their own capability to deal with DC

development.

In order to promote the DC development of HPSA, some Chinese sport authorities arranged facilitators to help professional athletes to finish their academic study although there is still some service space to improve. Meanwhile, according to the analysis, we found that most sports centres or federations could provide sufficient facilities and sports-related experts to guarantee the HPSA athletic training. The training venues for HPSA were typically located in non-university campus and far from their home, however, it was not a barrier on their DC commitment. Nevertheless, the time investment in athletic training, especially for active athletes was deemed as the primary barrier because they often require more help than the average student since they have less time to complete the work and assignments.

Likewise, Chinese HEIs also have adopted measures to assist HPSA on their DC commitment. Most HEIs provided web-based teaching methods to adapt hectic HPSA sports life. In addition, This study showed HPSA benefit from increased academic support and highly effective academic and social interventions. However, although most participants were satisfied with the tutoring services of HEIs, there still exist some inconsiderate aspects, such as the service content, service frequency and so forth.

As for the self-perception of HPSA, both student-athletes and athlete-students showed their willingness to commit themselves to academic study and would like to excel themselves in their school work. What's more, they recognized the significance of academics to their current career and future life. The ensuing chapter about result discussion and implications addressed these findings. We also make recommendations for practice and further research.

VII – CONCLUSION

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The development of the DC of HPSA in mainland China has undergone such a period from its infancy to the way of maturity. The evolution of HPSA policies has experienced the stage of exploration, stage of fully supported by government, stage of rapid development and stage of being normality. Although many successful experiences were obtained, there is still a long way to go.

Specifically, Chinese HEIs, at the initial stage, provided some privileges to assist HPSA to access their high level education, such as, lowering the bar for admission and easier exam for graduation. Later on, HEIs provided flexible programmes to meet the special schedule of HPSA, such as, online courses, taking athletic results as part of credits and tutor services. In this case, more and more HPSA have entered universities or even obtain master degrees, meanwhile, they also participated Universidad with impressive achievements. Therefore, to some extent, China educational authorities have achieved their goals. However, there still exist some deficiencies in major selection, academic evaluation and sound environment. For these reasons, HPSAs in mainland China cannot improve academic knowledge in essence. That is to say, their way of pursuit of academic career was not laudable.

As for Chinese sports authorities, they seemingly have fulfilled their goals to aid HPSA to enter into HEIs and facilitate their employment after retirement from sports career. In this way, elite athletes could focus on athletic training to win more glories. Nevertheless, when HPSA face the time conflicts before and during major sports events, the coaches prefer they stick to practise all the time. As a result, HPSA do not pay much efforts on academic study due to the time limitation and burnout after training. In consequence, they would achieve a nominal diploma.

To sum up, Chinese HEIs and sports bodies made some efforts towards HPSA from their sports career, academic career and tutoring service to facilitate the DC of HPSA. However, to some extent, DC of HPSA doesn't achieve a sound

development through decades of efforts.

Based on the literature review, EU Guidelines was formulated and enact at international level to facilitate the introduction and implementation of DC programs to governments and non-governing bodies. The following advantages are reference-worthy for mainland China. 1) Actively promote DC among HPSA ,in the field of sports and outside of sports context. In this way, all the related people realized that HPSA could benefit from DC in many aspects, such health-related benefit, developmental benefits, better employment prospect and more; 2) Call for intersectoral collaboration. In order to achieve sound development in DC programme. Different sectors are required to cooperate with each other, including sports bodies, educational bodies, work sector as well as health sector and financial sector; 3) Ensure the voice of HPSA in policy-making. HPSAs have the rights to voice their opinion concerning their rights in the process of retirement, consultation and specific election; 4) DC programmes are clearly stated in different developing stages of HPSA. Thus, HPSA are aware of the requirements in different periods so that they can set specific goals; 5) Different parties are required to pull together. Sport academies and training centres are recommended to consider or solve the conflicts between school education and sports training. Coaches and team staff are required not only to develop HPSA athletic capabilities but their personal, social and lifestyle capabilities; 6) Supporting service are developed to provide all-round service including sport, education, vocation and lifestyle. 7) Flexible and athletes-friendly educational policies are encouraged in school education, higher education and vocational education.

Notably, EAS network provide a cooperation platform between educational authorities and sport stakeholders aiming to facilitate EU efforts in advancing DC. Meanwhile, it also focus on DC research so that it can facilitate the development of DC of HPSA.

In the US, NCAA, as a member-led organization dedicated to the well-being and lifelong success of HPSA. The following advantages lies in NCAA are worthy of reference for Chinese sports and educational authorities. 1) Actively promote DC of HPSA and implant the spirit of HPSA into the publics. As a result, SA start to prepare themselves in academics at early ages and they could get social support from their parents and other related stakeholders; 2) Well developed

supporting service. A counselling service is always ready for any time conflict between sports and academic work; 3) HPSA are allowed to voice themselves; 4) Empirical research provide scientific data to advance the development of DC of HPSA; 5) Multi-channel financial support to ensure the adequate development of DC of HPSA; 6) Well developed DC programme, such as rigorous academic assessment system, Life Skills, Reading programme and more, provide a good preparation for HPSA's future life; 7) Stringent admission criteria of higher education and academic eligibility requirements for competition.

On the whole, different social systems are adopted in China , MS of EU and the US, however, the advantages of DC policies of HPSA in the US and MS of EU are considerably valuable to the development of DC of HPSA in mainland China. They provide some practical and viable reference for Chinese DC of HPSA.

According to the results of the questionnaire, the majority of HPSA maintain the positive attitude to strive to balance sports and education. And they would like to achieve a better score in their academic studies since they are aware of the importance for their future life. Meanwhile, many participants acknowledge that they could apply the knowledge from higher education into athletic practice and competition. Nevertheless, there are still around 1/5 percent HPSA would like not to commit themselves to excel their academics. Research indicates that those who keep high level of resilience always take adversities as a chance to develop themselves. And resilience, as a dynamic process, can be taught and learned. Therefore, sports and education stakeholders should focus on the psychology of HPSA and help them to develop their resilience belief.

The purpose of this study was to examine the development of dual career of Chinese high-performance student athletes (mainland). This research employed three broad theoretical frameworks to ground the study: Developmental Model (Chickering, 1969; Wylleman & Lavallee, 2004), Human Capital (Becker, 1993), and Resilience Theory (Benard, 1993). Resilience theory is used in this study to investigate how Chinese HPSA perform in the face of adversities and how the social work function to help HPSA out of difficulties (Gupta & McCarthy, 2021).

This study adopted a quantitative approach to understand the research problem. The quantitative methodology was attentive to the implementation of DC strategies of educational and sports authorities and the self-perception of HPSA. This research carried out in-depth analysis based on the respondents'

experience and expectation rather than any causal relationships.

Therefore, this study introduced literature of DC implementation of Europe and the US so as to compare with Chinese HPSA DC context. By doing so, this research found the advantage and deficiency of DC practice in China. Meanwhile, this study conducted a quantitative analysis by means of administering a web-based questionnaire to 675 participants and then analysed the collected data so that this study obtained the perception of HPSA towards DC implementation by Chinese educational and sports authorities.

This study was conducted based on the core research question of the development of the dual career of HPSA in mainland China. Meanwhile, the performance of Chinese HEIs and sports authorities towards HPSA college degree accomplishment was explored, as well as the advantages of European and American HPSA policies were identified. Notably, the performance of HPSA in HEIs context was also examined.

Multiple analysis methods were used to analyse the data collected from participants who are from 26 provinces and autonomous regions, accounting for the great majority of Chinese mainland provinces and regions.

The results of the study were analysed through the theoretical frameworks guided by a core research question. Although the practice of DC strategies of Chinese educational and sports authorities were revealed to some extent and also the self-perception of HPSA towards their DC commitment was examined, further research must be carried out around the specific policies or measures towards DC of Chinese HPSA based on the results of this study.

VIII – LIMITATIONS AND RECOMMENDATIONS

VIII - LIMITATIONS AND RECOMMENDATIONS

This section highlighted the study's contributions to the existent literature in terms of theory and practice. Then it was followed by a discussion of the study's limitations and a description of future research.

8.1 Recommendations for Theoretical Application

This research provided an exploration of how Chinese educational organizations and athletic authorities implement strategies to facilitate HPSA's DC commitment through the lens of generally explored frameworks with this population- Psychosocial Developmental Model and Holistic Athletic Career Model. These two models have been generally introduced and employed in the western academic domain, however, to the best of our knowledge, they were for the first time to be employed to justify Chinese HPSA practice. This study also explored the self-perception of HPSA from the standpoint of Resilience Theory. Moreover, Human Capital, as a transdisciplinary theory, was also utilized to analyse Chinese high-level stakeholders' investment and returns. Prior studies either utilized the holistic developmental model to analyse the transition of student-athletes from high school to first-year university (D. J. Brown et al., 2015), the experience at postsecondary institutions (Cooper, 2016), or support from a DC development environment (Linnér, Stambulova, & Henriksen, 2021), as well as transition out of sports (Wylleman, Reints, & De Knop, 2013a); Human Capital related to national-level education system in EU (Gillies, 2015), institutional level of four-year college student migration in the US (Mixon Jr & Hsing, 1994); Resilience Theory was employed at first-year student transition from high school (Pierce, Martin, Rossetto, & O'Neil, 2021), athletes who experienced adversity of Covid-19 (Gupta & McCarthy, 2021), in addition to elite athletes with childhood adversity (Sarkar & Fletcher, 2013). The ensuing researches can use these theoretical frameworks to facilitate policy-making related to HPSA, in addition to HPSA per se.

Additionally, a theoretical basis for examining HPSA's perception about their DC pathway was established. In order to carry out in-depth analysis about Chinese SA context, this set of frameworks also could be used to explore the academic and athletic environment of SA in secondary school or even primary school. By doing so, a complete picture of Chinese student-athletes development will be established. Moreover, social support including parents, non-athletes peer and other stakeholders could also be investigated so as to fill in the gap of Chinese literature about SA.

8.2 Implications for Applied Practice

Findings from this study provide educational institutions and sport bodies a broader view to formulate policies of leading the development of Chinese HPSA on DC pathway. In addition, the analysis of advantages of the strategies applied in the US and member states of EU will also serve as reference on their implementation of HPSA policies.

Findings about the perception of HPSA towards their HEIs and athletic authorities provide a real and practical feedback about the existing context about DC in China. Therefore, athletic support staff, coaches, academic teaching staff, as well as tutoring staff alike may be able to use the participants' viewpoint to their advantage (Nichols, 2017).

In addition, by means of analysis of self-resilience of HPSA, a guide was provided to develop themselves self-efficacy belief to manage adversities occurring on their both academic and athletic commitment.

8.3 Study Limitations

There were several methodological limitations of the present study that should be acknowledged. The primary limitation to the study was related to recruiting methodology. A quantitative survey was employed in this study. The advantages of questionnaire survey research include access to HPSA from multiple channels, the flexibility to be involved at their convenience, and low costs (Nichols, 2017). However, there exist some defects, resulting in study limitations. Firstly, given the large population of HPSA in China, 675 participants

were relatively not enough despite they were at a wide range participation. Secondly, from the analysis of open-ended items, we found that some feedback was edited randomly which cause the analysis bias. Finally, given the time limitation, some in-depth exploration cannot be conducted within limited item-setting in this questionnaire.

In addition, Chinese official documents about HPSA were not easy to retrieved since they were not completely open online. Therefore, when we conducted the comparison with the counterpart of the US and some member states of EU, it could not be carried out in total.

Moreover, HEIs in China are classified into different levels. According to ownership-based categories of HEIs, the higher education can be divided into two categories---state-owned or government-owned HEIs, including Regular HEIs, Independent Institutions, Higher Vocational Colleges, Adult HEIs, and non-government or private universities. Due to the long-time influence by Soviet Union and late development of private universities, it has deeply rooted in Chinese mind that government-owned universities are much better than private ones. In general, government-owned HEIs are likely to receive more policy and finance support from official level. As a result, the sport facilities, academic teaching staff and other resources were much different from each other. For this reason, HPSAs would like to avail themselves of the privilege to go to a better-positioned university. In doing so, the more famous the university is, the better HPSA they can attract. However, in this study, we conducted stratified random sampling, that is to say, we cannot select the participants evenly from each university, but rather a sampling of the total population. Consequently, it was impossible to ascertain the findings of this study can be generalized to all Chinese HPSA.

8.4 FUTURE STUDIES

A combination of quantitative research and qualitative approach is strongly recommended for the future studies with regard to the development of DC from the perspective of Chinese HPSA. Because it can provide further precision and depth beyond student-athletes' perception of themselves. In addition to the general investigation of HPSA, the future studies could conduct detailed and

segmental exploration about HPSA transitions in different stages so that a systematic researches of DC pathway of HPSA will be formed. By doing so, educational organizations and sports bodies could fully understand the situation of Chinese HPSA and what they demand to achieve success on their DC pathway.

The findings of this study showed that parents and family as well as social dynamics were much less than expectation. However, interpersonal relationships in the family are vital to individuals, especially student athletes (Thompson, 2010). Familial influences were viewed as one of the most crucial factors affecting the development of athletes from their young age to adulthood (Bloom, 1985; Côté & Fraser-Thomas, 2011; Lundy, Allan, Cowburn, & Cote, 2019). In addition, the influence of other family members (e.g. siblings) living in close proximity to developing young athletes have yet to be explored beyond a rudimentary level (Taylor, Carson, & Collins, 2018). Therefore, future researches are recommended to conduct related social capital so as to enrich and expand the DC context of Chinese HPSA.

8.5 SUMMARY

The research employed psychosocial, developmental, economical frameworks to examine the development of DC of Chinese HPSA and their self-perception of the implementation of DC strategies of Chinese educational organization and athletic authorities. Holistic athletic career model was adopted to evaluate DC policies upon the different development stages of elite athletes, among which both normative and nonnormative transition of them were concerned. Meanwhile, the transitions arising at athletic level, psychological level, psychosocial level and academic/vocational level were also involved. Human capital theory as an interdisciplinary approach was applied in this research to reveal the practise conducted in Chinese HEIs and sports bodies. Resilience theory was introduced to appraise SA's performance in front of adversity. In order to further explore the DC policies prevailed in different countries, this research also expounded the relationship between sports model and social system. The radical differences between socialism and capitalism lead to different pursue to their sports model. Nevertheless, no matter what sport model, it is much related to politics.

In view of its objectivity and replicability, the quantitative research method was adopted in this study to find out the nature of research problem. With the aim of collecting data, a non-experimental research was conducted through a validated online questionnaire. In this research, a descriptive research design was utilized to answer the research question by means of describing variables and determine if there is a relationship between variables.

We analysed the quantitative research data in terms of three domains of Chinese HPSA, including sports career, study career and tutoring services. Under the guidance of research questions, results were concluded that time constraint was the major barrier to DC of HPSA which is in agreement with previous research (Sánchez-Pato et al., 2018). In addition, training facilities and training services were considered as major facilitators to the DC of HPSA. In China, semi-closed training camps were provided to ensure their training and living necessities. Nevertheless, according to holistic development model, this kind of training environment runs against the HPSA's development in terms of interpersonal competence, emotion management and interdependence. As for training service, nutrition instruction and athletic psychology were underdeveloped within Chinese HPSA context. Another major finding substantiated that although Chinese educational authorities offer privilege in HEIs admission for elite SA, there were still some debatable practices, such as limited major option and insufficient attitude from teaching staff (Capranica et al., 2022). The last but never the least, HPSA should enhance self-resilience belief. This research indicated that most HPSA maintain positive attitude and mettle in face of adversities (Abenza-Cano et al., 2020; Capranica et al., 2022; Conde, Martínez-Aranda, Sanz, et al., 2021).

Within this study, a large number of participants involving 24 Olympic sports including 33 disciplines were surveyed, which was documented firstly in Chinese HPSA literature. This study made a contribution to the policy-maker of high-level stakeholders, in addition to providing necessities to DC pathway of HPSA.

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X – ANNEX

X- ANNEX

ANNEX 1. Questionnaire (Chinese Version)

中国高水平运动员学习与训练比赛相关问题调查

各位同学、运动员:

首先感谢大家能抽出宝贵的时间参与此次问卷调查。问卷人目前正在攻读博士学位，研究方向为“高水平运动员的学习与运动生涯”，主要是通过科学的研究方法分析、试图解决目前优秀学生运动员在学习与训练比赛时间冲突以及相关问题。希望能通过此次调查问卷，获取真实有效的信息，为科研助力，更重要的是能为解决大多数学生运动员的学习与训练的困扰提供建设性意见。（本问卷匿名作答，不会泄露您的任何个人信息，敬请放心！完成本问卷大约需要 10-15 分钟，请您仔细阅读，并认真作答。为感谢您的支持，交卷后有微信红包抽取，祝您好运！）

此致!

1. 性别: [单选题] *

○A.男

○B.女

2. 年龄:_____ [填空题] *

3. 婚姻状况: [单选题] *

○A.单身

○B.已婚

○C.分居

○D.离异

4. 是否有孩子: [单选题] *

○A.是（几个?） _____ *

○B.无

5. 你目前从事哪项体育项目?_____ [填空题] *

6. 参加过哪些赛事？ [多选题] *

☐A.省运会

☐B.全运会

☐C.世界大学生运动会

☐D.亚运会

☐E.世界锦标赛

☐F.奥运会

☐G.其他 _____*

7. 你认为自己是何种运动员身份? [单选题] *

○A.业余

○B.半职业

○C.职业

8. 你目前处于哪个阶段? [单选题] *

○A.比赛初期（参加国内/外顶级赛事不足五年）

○B.高水平（参加国内/外顶级赛事五年以上）

9.你现在接受哪种学历教育? [单选题] *

○A.职业教育（专业）_____ *

○B.大学（专业）_____ *

○C.硕士（专业）_____ *

○D.博士(专业）_____ *

10. 你在大学已经就读几年?_____ [填空题] *

11. 是否获得过奖学金? [单选题] *

○A.是。全额奖学金_ 元。_____ *

一次性金额

○B.是。部分奖学金__元。_____ *

一次性金额

○C.否。学校只提供基金。

○D.否。没有获得任何奖金。

○E.不清楚是否设置奖学金。

12. 如果拿过奖学金，哪个部门奖励的? [单选题] *

○A.就读大学

○B.体育部门

○C.政府部门

○D.奥委会

○E.其他机构 _____ *

13. 平时在哪里进行训练? [单选题] *

○A.大学场馆

○B.其他场馆

14. 你是否有工作? [单选题] *

○A.是

○B.否

15. 为什么选择接受大学教育? [多选题] *

☐A.增加就业机会

☐B.因为喜欢学习并且想提升自己

☐C.为了社交

☐D.体验大学生活

☐E.其他 _____*

16. 你的学习是否影响你的训练比赛? [单选题] *

○A.是。原因: _____ *

○B.否

17. 你的训练比赛是否影响你的学习? [单选题] *

○A.是。原因: _____ *

○B.否

18. 你的身份定位是? [单选题] *

○A.学生身份的运动员.理由: _____ *

○B.运动员身份的学生.理由: _____ *

19. 总的来说，以下哪项对你更重要? [单选题] *

○A.学习

○B.训练

○C.其他 _____ *

20. 对你来说兼顾学习和运动的难易程度是? [单选题] *

○A.非常容易

○B.容易

○C.不清楚

○D.困难

○E.非常难

21. 你认为大学中设置的“灵活性课程”对于兼顾你学习和训练比赛有多大帮助? [单选题] *

“灵活性课程”是指不需要在课堂或者校内完成，而且完成时间也比较宽松。

○A.根本没有

○B.帮助不大

○C.不清楚

○D.帮助很大

○E.非常有用

22. 你认为“远程学习”对于兼顾你学习和训练比赛有多大帮助? [单选题] *

“远程学习”是指非面对面授课的学习形式。

○A.根本没有

○B.帮助不大

○C.不清楚

○D.帮助很大

○E.非常有用

23. 大学学习结束后你的期望是? [单选题] *

○A.继续进修

○B.根据所学专业就业

○C.继续运动生涯

○D.其他 _____ *

24. 你的学业是否得到教练的支持? [单选题] *

○A.是

○B.否

25. 你的学业是否得到家人的支持? [单选题] *

○A.是

○B.否

26. “大学离家比较远”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

27. “训练基地离家比较远”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

28. “自己不能平衡好学习和运动的时间”是兼顾学习和训练比赛的一个障碍? [单选题]

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

29. “我需要照顾我的家庭”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

30. “我经常会感觉疲惫”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

31. “我跟不上大学课程的进度”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

32. “我与同学没有密切联系”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

33. “学习费用比较高”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

34. “学校不给予足够的支持”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

35. “学校的课时安排不够灵活”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

36. “训练安排不够灵活”是兼顾学习和训练比赛的一个障碍? [单选题] *

○A.完全不同意

○B.不同意

○C.不知道

○D.同意

○E.完全同意

37. 在兼顾学习和训练比赛方面，你认为谁给予你最大的支持? [多选题] *

☐A.家人

☐B.教练

☐C.朋友

☐D.老师

☐E.队友

☐F.大学

☐G.以上都不是

☐H.其他 _____*

38. 你的老师是否在教学方面采取措施帮助你兼顾学习和训练比赛? [单选题] *

○A.是（何种） _____ *

○B.否

39. 你一周有花费多长时间用于学习? [单选题] *

○A.听课_____小时/每周

○B.自学_____小时/每周

40. 你是否知道国家或地方关于高水平运动员的法律法规? [单选题] *

○A.是

○B.否

○C.不清楚

41. 你是否知道你就读的大学关于学生运动员学习的规定? [单选题] *

○A.是

○B.否

○C.不清楚

42. 大学设置了网络工具促进学生运动员的学习和训练 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

43. 大学里所学的内容对我来说很重要 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

44. 我愿意花费时间去争取好的学习成绩 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

45. 我能够把学校里学到的知识运用到训练比赛中 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

46. 与赢得一场比赛相比较，我更倾向于学习取得高分 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

47. 我对我能够取得高分的学习能力表示怀疑 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

48. 我确信我能够取得大学毕业证 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

49. 对我来说，取得比其他同学更好的学习成绩不重要 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

50. 我对学校设置的大部分学习课程感兴趣 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

51. 获得毕业证是我读大学最重要的原因 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

52. 为了获得优异的学习成绩而努力不值当 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

53. 与运动中的困难相比，我认为克服学习中的困难更难 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

54. 通过大学学习获取知识和技能很重要 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

55. 获得大学学历对丰富我的知识很重要 [单选题] *

〇A.完全不同意

〇B.不同意

〇C.无所谓

〇D.同意

〇E.完全同意

56. 获得大学学历对我来说很重要，有助于我找工作 [单选题] *

〇A.完全不同意

〇B.不同意

〇C.无所谓

〇D.同意

〇E.完全同意

57. 一周几次训练? [单选题] *

〇A.1

〇B.2

〇C.3

〇D.4

〇E.5

〇F.6

〇G.7

〇H.8

○I.9

○J.10

○K.其他 _____ *

58.每周训练多少小时? [单选题] *

○A.少于 5

○B.5~10

○C.11~15

○D.16~20

○E.20 以上

59.你的运动生涯有助于你的学习 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

60.你的学习干扰了你的训练 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

61.你所在的大学有以下服务 [多选题] *

☐A.营养师

☐B.运动生理学导师

☐C.运动医生

☐D.康复师

☐E.运动表现分析师

☐F.运动心理学导师

☐G.运动设施

☐H.其他 _____*

62.你所在的协会/中心有以下服务 [多选题] *

☐A.营养师

☐B.运动生理学导师

☐C.运动医生

☐D.康复师

☐E.运动表现分析师

☐F.运动心理学导师

☐G.运动设施

☐H.其他 _____*

63.大学通常会用到“腾讯会议”、ZOOM 或者“钉钉”等软件作为教学辅助手段吗? [单选题] *

○A.从不

○B.几乎不

○C.有时

○D.经常

○E.总是

64. 大学通常会用到“微信”作为教学辅助手段吗? [单选题] *

○A.从不

○B.几乎不

○C.有时

○D.经常

○E.总是

65. 大学通常会用到“腾讯 QQ”作为教学辅助手段吗? [单选题] *

○A.从不

○B.几乎不

○C.有时

○D.经常

○E.总是

66. 大学通常会用到电子邮箱作为教学辅助手段吗? [单选题] *

○A.从不

○B.几乎不

○C.有时

○D.经常

○E.总是

67. 下列哪一 项最难与学习进行协调? [单选题] *

○A.日常训练

○B.集训

○C.比赛

○D.其他 _____ *

68. 退役后你的期望是什么? [单选题] *

○A.继续做跟体育相关工作

○B.从事自己喜欢的工作（非体育）

○C.靠积蓄生活

69. 你就读的大学是否有专门人员协调你的学习和训练比赛的时间冲突? [单选题] *

○A.是

○B.否

70. 你所在的协会/中心是否有专门人员协调你的学习和训练比赛的时间冲突? [单选题] *

○A.是

○B.否

71. 学校协调员会与我保持联系 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

72. 协会/中心协调员会与我保持联系 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

73. 学校协调人员联系我会提供建议或帮助 [多选题] *

□A.是

□B.教室里

☐C.电话沟通

☐D.发短信/微信

☐E.发邮件

☐F.否

74. 协会/中心协调人员联系我会提供建议或帮助 [多选题] *

☐A.是

☐B.电话沟通

☐C.发短信/微信

☐D.发邮件

☐E.否

75. 你认为协调人员和大学提供的服务有助于你的学习和运动生涯? [单选题] *

○A.是

○B.否

76. 我希望协调人员在我学业上有所帮助。 [单选题] *

○A.完全不同意

○B.不同意

○C.无所谓

○D.同意

○E.完全同意

77. 我希望协调人员在我个人生活问题上有所帮助。 [单选题] *

〇A.完全不同意

〇B.不同意

〇C.无所谓

〇D.同意

〇E.完全同意

78. 我希望协调人员在我时间协调问题上有所帮助。 [单选题] *

〇A.完全不同意

〇B.不同意

〇C.无所谓

〇D.同意

〇E.完全同意

79. 你希望从协调人员那里取得以下帮助（可多选） [多选题] *

☐A.挑选课程

☐B.调换考试日期

☐C.如何与老师沟通

☐D.补课

☐E.其他 _____*

ANNEX 1. Questionnaire (English Version)

A Questionnaire of "Dual Career of High-Performance Student Athletes in China (mainland)"

Dear students, athletes,

First of all, thanks for your time to participate in this questionnaire survey. Currently, the researcher is studying for a Ph.D. at UCAM, Spain. And the topic is " Dual Career of High-Performance Student Athletes", aiming to solve the conflict between the study and sports and relative issues. True and valid data is expected to facilitate scientific research. The most important is to assist the researcher providing constructive suggestions on dual career of high-performance student athletes.(This is an anonymous survey without any risk to disclose your private information. It takes you around 20-25 minutes. Please read carefully and answer it seriously. When you submit the survey, a small bonus will be rewarded randomly online. Good luck!

Sincerely!

1. Gender:

A. Male

B. Female

2. Age _____

3. Civil status

A. Single

B. Married

C. Separated

D. Divorced

4. Have you got children?

A. Yes (how many?)_____

B. No

5. Which sport do you practise?_____

6. Which level in sport do you participate? (tick all applicable)

A. Provincial Games

B. National Games

C. Universidad

D. Asian Games

E. World Championship

F. Olympic Games

G. Others_____

7. What type of athlete do you consider yourself to be?

A. Amateur

B. Semi-professional

C. Professional

8. At what point in your career are you?

A. Initial stage (≤ 5 years in top-level competition)

B. Advance stage (> 5 years in top-level competition)

9. What do you study?

A. Vocational Education

B. College Degree

C. Master Degree

D. Doctorate Degree

10. How long are you studying at the university (in years)? _____

11. Do you receive a scholarship?

A. Yes, it is a full scholarship of_____ yuan.

B. Yes, it is a partial scholarship of_____ yuan.

C. No, the university provides funding instead.

D. No, I do not receive any money.

12. If yes, which body/institution gives you the scholarship?

A. My university

B. Sport governing body

C. National Government

D. Olympic Committee

E. Other situation

13. Where do you train?

A. University facilities

B. Other facilities

14. Do you work?

A. Yes

B. No

15. Why did you choose to study at University?

A. To increase my job prospects

B. Because I enjoy studying and want to educate myself

C. For social interaction

D. For a university experience

E. Others_____

16. Do your studies interfere with your athletic performance?

A. Yes. Why_____?

B. No.

17. Does your athletic performance interfere with your studies?

A. Yes. Why_____?

B. No.

18. Do you consider yourself to be:

A. A student-athlete

B. An athlete-student

19. What is most important for you?

A. Study

B. Training

C. Others

20. How easy/difficult is it for you to balance your sporting life with your academic life?

A. Very easy

B. Easy

C. Neither easy nor difficult

D. Difficult

E. Very difficult

21. How much do you value having a 'Flexible curriculum' as part of the services and features of your dual career at your university?

A. Not highly at all

B. Somewhat highly

C. Neutral

D. Highly

E. Very highly

22. How much do you value having access to 'Distance learning' as part of the services and features of your dual career at your university?

A. Not highly at all

B. Somewhat highly

C. Neutral

D. Highly

E. Very highly

23. What are your expectations for the end of your studies?

A. Further studies

B. Employment in my area of study

C. Athletic career

D. Graduate employment

E. Other_____

24. Do you have any support from your coach to study?

A. Yes.

B. No.

25. Do you have any support from your family to study?

A. Yes.

B. No.

26. 'The university is far from my home' is a barrier towards achieving a good balance between my sporting life and my studies

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

27. 'The university is far from my training site' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

28. 'I find myself unable to balance study and training time' is a barrier towards achieving a good balance between my sporting life and my studies

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

29. 'I have to take care of my family' is a barrier towards achieving a good balance between my sporting life and my studies

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

30. 'I am usually tired' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

31. 'I lose the rhythm of the course' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

32. 'I lose touch with my classmates' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

33. 'The cost of education is high' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

34. 'I do not have enough university support' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

35. 'Students' schedules are not flexible' is a barrier towards achieving a good balance between my sporting life and my studies

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

36. 'Training's schedules are not flexible' is a barrier towards achieving a good balance between my sporting life and my studies.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

37. Who supports you towards achieving a good balance between your sporting life and your studies?

A. Family

B. Coach

C. Friends

D. Lecturers

E. Peers

F. Sports University Service

G. None of the above

H. Others: _____

38. Do your Lecturers implement learning and teaching strategies that promote having a dual career?

A. Yes. What type?_____

B. No.

39. How many hours do you spend per week studying?

A. Attending lectures_____ hours/week

B. Self-study_____ hours/week

40. Do you know the national or regional legislation regarding the elite athletes?

A. Yes.

B. No.

C. I am not aware that there are any.

41. Do you know the academic regulations of your university regarding the student-athletes?

A. Yes.

B. No.

C. I am not aware that there are any.

42. The university has virtual tools to promote dual career:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

43. It is important for me to learn what is taught in my studies:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

44. I am willing to invest time to get excellent grades in my studies:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

45. I will be able to use what is taught in my studies on different aspects of my life outside the university:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

46. I get more satisfaction from getting high marks in a subject than winning a game in my sport:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

47. I have some doubts about my ability to get high grades in my studies:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

48. I am sure I can get a degree:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

49. Is not important for me to have better results than other students in my studies:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

50. The content of most of my subjects is interesting to me:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

51. Getting a degree is the most important reason for which I am studying at the University

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

52. It is not worth the effort to get an excellent grade in my studies:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

53. In an academic environment, I find it more difficult to cope with difficult tasks:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

54. Studies are important to acquire knowledge and skills:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

55. Achieving a degree is important to enrich my knowledge:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

56. It is important for me to get a degree and that will help me to find a job:

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

57. How many training sessions a week?

A. 1

B. 2

C. 3

D. 4

E. 5

F. 6

G. 7

H. 8

I. 9

J. 10

K. others _____

58. How many hours do you train per week?

A. less than 5

B. 5-10

C. 11-15

D. 16-20

E. more than 20

F. others_____

59. How strongly do you disagree/agree that your sporting career helps you to cope with your studies?

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

60. How strongly do you disagree/agree that your academic commitment interferes with your training?

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

61. The University offers the following services:

A. Nutritionist

B. Exercise Physiologist

C. Sport doctor

D. Physiotherapist

E. Performance analysist

F. Sport psychologist

G. Sport facilities

H. others____

62. The federation offers the following services:

A. Nutritionist

B. Exercise Physiologist

C. Sport doctor

D. Physiotherapist

E. Performance analysist

F. Sport psychologist

G. Sport facilities

H. others____

63. Do you normally use 'Tencent meeting, Ding or Zoom' as a teaching tool?

A. Never

B. Almost never

C. Sometimes

D. Almost always

E. Always

64. Do you normally use Wechat as a teaching tool?

A. Never

B. Almost never

C. Sometimes

D. Almost always

E. Always

65. Do you normally use Tencent QQ as a teaching tool?

A. Never

B. Almost never

C. Sometimes

D. Almost always

E. Always

66. Do you normally use E-mail as a teaching tool?

A. Never

B. Almost never

C. Sometimes

D. Almost always

E. Always

67. What is the most difficult aspect for you to coordinate with your studies? (please tick one only)

A. Daily training

B. Training camps

C. Competitions

D. Others_____

68. What are your expectations after finishing your athletic career?

A. Continue to be involved in sport

B. Work in what I studied

C. To live on my savings

69. There is a facilitator in my university to deal with the time conflict between study and training/ competition.

A. Yes

B. No

70. There is a facilitator in my federation to deal with the time conflict between study and training/ competition.

A. Yes

B. No

71. The facilitator in my university would keep in touch with me.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

72. The facilitator in my federation would keep in touch with me.

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

73. My facilitator in the university contacted me to offer advice and/or support:

A. Yes

B. In the classroom

C. By phone call

D. By text message

E. By Email

F. No

74. My facilitator in the federation contacted me to offer advice and/or support:

A. Yes

B. By phone call

C. By text message

D. By Email

E. No

75. You think that the facilitator and the service provided by university assist your dual career

A. Yes

B. No

76. I wish the facilitator help me on my study

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

77. I wish the facilitator help me on my personal life

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

78. I wish the facilitator help me on my time conflict

A. Strongly disagree

B. Disagree

C. Neither disagree nor agree

D. Agree

E. Strongly agree

79. I wish to get the following service from the facilitator:

A. Pick up courses

B. Change the date of exam

C. How to communicate with teachers

D. Make up lessons

E. Others _____

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UCAM ETHICS COMMITTEE

PROJECT DATA

Title:	"Dual Career of High-Performance Student Athletes in China (mainland)"

Principle Researcher	**Name**	**Email**
PhD.	Luis Manuel Martínez Aranda	lmmartinez2@ucam.edu

COMITTEE REPORT

Date	**30/09/2022**	**Code**	**CE092202**

Type of Experimentation

Experimental clinical research involving human subjects	
Non-clinical experimental research with humans	
Using human tissues from patients, healthy people, embryonic or fetal tissue	
Using human tissues, embryonic or fetal tissue from banks or tissue samples	
Observational research with humans or use of personal data, genetic information, etc.	X
Animal studies	
Use of biological agents of risk to human health, animal or plant	
Use of genetically modified organisms (GMOs)	

Comments regarding the type of experimentation
No comments

Comments regarding the methodology of experimentation
No comments

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UCAM ETHICS COMMITTEE

Suggestions for the researcher

In view of the application of the attached report by the Researcher and the above mentioned recommendations, the opinion of the Committee is to:

Issue a favorable report	X
Issue an unfavorable report	
Issue a favorable report with subject to correction	

MOTIVATION
It will increase knowledge in this area

Approved by the President,

Sig.: José Alberto Cánovas Sánchez

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Approved by the Secretary,

Sig.: José Alarcón Teruel