

# Influencing Factors of the Orienteering Team of Coaches in Selected Universities in Guangdong Province, China

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**Abstract:** Orienteering has its origins in early field military activity in Sweden. Hong Kong, China is the first region in China to come into contact with orienteering. In 1983, the Chinese People's Liberation Army Sports Institute held the "Orienteering Experimental Competition" in the Baiyun Mountain Scenic Area of Guangzhou City, Guangdong Province, which opened the prelude to the development of orienteering in China. Orienteering is a representative high-level comprehensive sports event for college students in Guangdong Province, China, with the sports teams participating in the Guangdong University Games and the Guangdong University Orienteering Championship from 2018 to 2022. Among them, the China Guangdong University Games (held every three years in 2019 and 2022 respectively), the China Guangdong University Student Orienteering Championship (held once a year), combined with the statistics of the registration list of the events in the past five years, a total of 84 universities participated in the China Guangdong University Games and the China Guangdong University Student Orienteering Championship. This study has certain scope and limitations in formulating the research plan and direction. Firstly, this paper analyzes the spatial distribution characteristics of orienteering teams in colleges and universities in Guangdong Province. The main objective is to verify the influence of sports human resources, sports facilities resources, physical education teaching resources and sports training resources on the development of orienteering teams in Guangdong Province, China. Questionnaires were distributed and collected in this study. A total of 84 universities participated in the above 6 orientation activities for college students in Guangdong Province, and 5 representative universities were selected as research objects. Among them, four orienteering teams with the university as the research object have achieved good results in the competition and have been established for a long time, and the other university is a place where researchers work. One coach and four athletes per university. Respondents felt that different resources had a strong sense of identity with the impact of orienteering on Guangdong University in China. There was no significant difference between the self-efficacy level of the respondents and the impact of orienteering on Guangdong University, China, and there was no direct relationship between the two resources. According to the results of the study, a framework for strengthening orienteering in universities in Guangdong Province can be developed to improve the level of orienteering strength in universities in Guangdong Province, China.

**Keywords:** Influencing Factors; Orienteering; Self-Efficacy; Coaches; University.

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## 1. Introduction

Competitive sports are an important part of higher education in China, and building university sports teams is an important way for the sustainable and coordinated development of competitive sports in Chinese universities. Practice has proved that the construction of Chinese university sports teams has achieved a series of remarkable results, cultivated sports reserve talents for the field of competitive sports in China, promoted the development of sports activities for Chinese university students, and promoted the construction of spiritual civilization on university campuses. In the current context of China's higher education, the construction and development of university sports teams has been receiving widespread attention. Conducting research on university sports teams has important theoretical significance and practical role in creating a "double first-class university" in the new era.

Orienteering originated from early Swedish field military activities. Hong Kong, China, is the first region in China to come into contact with orienteering. In 1983, the "Orienteering Experimental Competition" held by the Sports Institute of the Chinese People's Liberation Army in the Baiyun Mountain Scenic Area, Guangzhou City, Guangdong

Province kicked off the development of orienteering in China. In 1995, Jilin Province, China The first China University Student National Defense Sports Festival and National University Student Orienteering Competition held laid a solid foundation for the healthy development of Chinese university orienteering. Compared with international universities, especially universities in Europe and North America, the construction of Chinese university orienteering teams started late and developed slowly. Because there are large differences in the economy, society, culture, population, etc. among various regions in China, the geographical distribution shows Obvious non-equilibrium characteristics. As one of the earliest regions to come into contact with orienteering, Guangdong Province in China has inherent advantages and has laid a solid material foundation for promoting the construction of university orienteering teams in Guangdong Province.

## 2. Statement of the Problem

Guangdong Province in China has many universities, ranking third in the country after Jiangsu and Henan provinces, and each university may have its own orienteering team. The spatial distribution characteristics of these teams may be affected by a variety of factors, which may include

physical geographical conditions, resource allocation, campus population density, etc., but the most important factors affecting spatial distribution are sports human resource factors, sports facility resource factors, sports Teaching resource factors and sports training resource factors. Specifically, this study will answer the following questions.

1. What is the profile of the respondents in terms of their;
  - 1.1 Age
  - 1.2 Orienteering Coaching Experience
2. What is the impact of the different resources on the university orienteering;
  - 2.1 Sports Human Resources
  - 2.2 Sports Facilities Resources
  - 2.3 Physical Education Resources
  - 2.4 Sports Training Resources
3. Is there significant difference on the impact of the different resources on the university orienteering when profile is taken as test factors?
4. What is the level of self-efficacy of the respondents in terms of:
  - 4.1 Situational Self-Efficacy
  - 4.2 Task Complexity
  - 4.3 Experience of Success
  - 4.4 Social Support
5. Is there significant relationship on the impact of the different resources on the university orienteering and level of self-efficacy of the respondents?
6. Based on the result of the study what development plan can be proposed?

### 3. Hypotheses

Hypothesis 1: There is no significant difference on the assessment of the respondents of their daily ethical behaviors when profile is taken as test factors.

Hypothesis 2: There is no significant relationship between the daily ethical behaviors and the level of motivation of the respondents.

### 4. Scope and Delimitation of the Study

This study takes the sport teams that participated in the China Guangdong University Games and the China Guangdong University Orienteering Championships from 2018 to 2022 as the research objects. Among them, the China Guangdong University Games (held every three years) were held in 2019 and 2022.), China Guangdong Provincial University Student Orienteering Championships (held once a year), combined with the statistics of event registration lists in the past five years, a total of 84 universities have participated in the China Guangdong Provincial University Games and the China Guangdong Provincial University Student Orienteering Championships. Analysis of China Guangdong Provincial University Spatial distribution characteristics of orienteering teams. This study has certain scope and limitations when formulating the research plan and direction. First, this study analyzed the spatial distribution characteristics of the university orienteering team in Guangdong Province, China. The main purpose is to verify the sports human resources, sports facility resources, sports teaching resources and the impact of sports training resources and other factors on the development of university orienteering teams in Guangdong Province, China. Secondly, the respondents are mainly limited to school sports managers, coaches and team members, including age, gender and sports

experience/sports management experience, etc. In addition, the impact they have produced can provide guidance for the rationalization of other sports teams in Guangdong University in China. Suggestion.

Guangdong Provincial University Games is the highest-level sports event in the universities of Guangdong province. It is organized by the Education Department of Guangdong Province and the Sports Bureau of Guangdong Province. Currently, it is held every three years and features 12 sporting events (Orienteering, Basketball, Volleyball, Football, Table tennis, Badminton, Tennis, Aerobics, Cheerleading, Athletics, Martial arts, Swimming). The inaugural edition took place in 1980 at South China Normal University, and there have been 11 editions held to date. In 2003, Orienteering was included in the Guangdong Provincial University Games and is a dominant sport carried out by universities in Guangdong Province Competitive events, their research is representative.

The papers in this study are for academic purposes only. During the research process, the personal information and survey data of the respondents collected by the researchers through questionnaires, discussions, etc. be kept strictly confidential. At the same time, the questionnaires and discussion outlines be made available online. The questionnaires and statistical data were distributed and collected in a mixed form to ensure the validity of the questionnaires. The questionnaires and statistical data were processed by professional data analysis software.

### 5. Research Design

Combined with the characteristics of orienteering, the research content is divided into six categories: sports human resources, sports facility resources, sports teaching resources, and sports training resources. Based on the university sports resource evaluation index system, combined with literature research and the current spatial distribution status of university orienteering teams in Guangdong Province, China, a purposeful, comprehensive, and systematic investigation, and analysis was conducted and the index system was screened. During this process, a small-scale preliminary survey will be carried out simultaneously, and opinions and suggestions pointed out by experts will be actively absorbed to further modify and improve the indicator system to ensure the complete objectivity and specific timeliness of the indicator system, making the indicator system independent and operable. sex, and try to make it conform to the objective reality of contemporary society. The primary source of research data is a questionnaire developed by the researcher, which is closely related to the problem statement of this study.

### 6. Sampling Method

Orienteering is the highest-level comprehensive sports event for college students in Guangdong Province, China, and is representative. This study takes the participating universities that participated in the 2019 and 2022 China Guangdong Provincial University Games; and 2018, 2019, 2020, 2021, and 2022 China Guangdong Provincial University Orienteering Championships Teams as the survey objects. Questionnaires were distributed and collected. A total of 84 universities participated in the above 6 orienteering events for college students in Guangdong Province, and 5 representative universities (Table 1) were selected as research objects. Among them, 4 orienteering teams of the university as the research object have good results in competitions and

have been established for a long time, and the other university is where the researcher work. One coach and four athletes from each university. The Questionnaire Star application was used to obtain data.

**Table 1.** Research University

Sun Yat-sen University
South China University of Technology
South China Agricultural University
Guangdong Pharmaceutical University
Guangdong University of Science and Technology

## 7. RESULTS, ANALYSIS, AND DISCUSSIONS

This chapter presents the data collected through the Chinese software Question Star with figures and corresponding descriptions. In this section, the collected data are interpreted based on the research design and analysis according to the statement of the problem. The data collected and analyzed will be interpreted involving in-depth and critical discussions to further justify the purpose of the research and answer the research questions.

### 7.1. Profile of the Respondents in terms of their Age and Orienteering Coaching Experience

**Table 2.** Profiles of the Respondents

Variables	Indicators	Frequency	Percentage
Age	30 years old & <	20	80.0
	31 years old & >	5	20.0
	<b>Total</b>	<b>25</b>	<b>100.0</b>
Orienteering Coaching Experience	10 – 15 years	17	68.0
	16 years and <	8	32.0
	<b>Total</b>	<b>25</b>	<b>100.0</b>

Table 2 shows the profiles of the respondents, the above table disclosed that the majority of the respondents belonged with the age range of 30 years old and below. Their orienteering coaching experience showed that the majority of them had experiences from 10 to 15 years.

### 7.2. Impact of the Different Resources on the University Orienteering;

#### 7.2.1. Sports Human Resources

Table 3 shows the results in terms of sports human resources, the impact of the different resources on the university orienteering generated a composite mean score of 3.91 with a 0.15 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 3.68. This implied that the respondents strongly agreed on the impact of human resources on the university orienteering. The highest mean score was equally apparent by advantages of coaches age, coaching experience, sports experience and drawing

experience. On the other hand, the lowest mean score was evident by the advantages of coaching refereeing experience.

**Table 3.** Impact of the Different Resources on the University Orienteering in terms of Sports Human Resources

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
Advantages of coach's age	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages of coaching experience	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages of coaching sports experience	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages of coaching refereeing experience	3.68	0.48	Strongly Agree	Very Great Extent	3
Advantages of coaching drawing experience	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by the coach's continuing education experience	3.80	0.41	Strongly Agree	Very Great Extent	2
<b>Composite</b>	<b>3.91</b>	<b>0.15</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Some universities in Guangdong Province have complete infrastructure and rich natural environment resources, which has laid a good foundation for the development of orienteering in universities in Guangdong Province. Smith, J. A. (2020) Research by analyzing different types of training resources can significantly improve athletes' performance and results, enhance the technical and tactical levels of student athletes, and promote the development of orienteering in universities. Further optimizing the layout of the orienteering team of universities in Guangdong Province, China will accelerate the development of university sports and competitive sports in Guangdong Province, and is of great significance in promoting the balanced, sustainable, and harmonious development of university competitive sports.

#### 7.2.2. Sports Facilities Resources

Table 4 shows the results in terms of sports facilities resources, the impact of the different resources on the university orienteering generated a composite mean score of 3.62 with a 0.32 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 2.72. This implied that the respondents strongly agreed on the impact of sports facilities resources on the university orienteering. Of all the indicators, the highest mean score was similarly evident by the advantages brought by orienteering venues and the advantages brought by orienteering equipment. The lowest mean score was evident by the advantages brought by multimedia classrooms.

**Table 4.** Impact of the Different Resources on the University Orienteering in terms of Sports Facilities Resources

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
Advantages brought by orienteering venues	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by orienteering equipment	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by multimedia classrooms	2.72	0.46	Agree	Certain Extent	5
Advantages brought by physical training room	3.80	0.41	Strongly Agree	Very Great Extent	2
Advantages brought by orienteering simulation laboratory	3.64	0.49	Strongly Agree	Very Great Extent	3
Advantages brought by psychological laboratory	3.56	0.58	Strongly Agree	Very Great Extent	4
<b>Composite</b>	<b>3.62</b>	<b>0.32</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Sports facilities are an important guarantee for teaching, training, sports competitions, and fitness activities, and are the basic conditions for teaching and training. Thompson, R. B., & Jackson, K. L. (2018) Research explores the relationship between investment in athletic facilities and athletic performance at the college level. The study used a variety of data collection methods, including data on investment in college sports facilities and data on the competitive performance of college sports teams. The findings indicate that there is a moderately positive relationship between university investment in sports facilities and the performance of university sports teams. The study also found that universities need to consider the needs of different programs when deciding how to allocate investments in athletic facilities to maximize athletic performance. When Li, Y., Li, X., & Dou, H. (2011) studied the orienteering resources of Guangzhou University in Guangdong Province, China, they divided them into human resources and material resources. Material resources include

equipment and maps; human resources include teachers, equipment managers, system operators, map plotters, Route designer, venue layout person, event organizer, event referee. When Liu Haiqing and Liu Shuxiong (2016) studied orienteering resources in universities in Guangdong Province, they selected orienteering venues, orienteering maps, teacher professional training, and orienteering teaching materials and facilities as factors to investigate orienteering resources. Liu Guihong (2018) proposed that in order to promote the common improvement of the orienteering level of universities in Guangdong Province, they should share their own orienteering equipment, venues, and professional maps, and carry out friendly competitions and invitational competitions at all levels to promote exchanges between universities. Strengthen collaboration and exchanges with the government and social units to gain more social support and promote the promotion of orienteering.

### 7.2.3. Physical Education Resources

**Table 5.** Impact of the Different Resources on the University Orienteering in terms of Physical Education Resources

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
Advantages brought by orienteering courses	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by orienteering materials	3.64	0.49	Strongly Agree	Very Great Extent	2
Advantages brought by orienteering extracurricular club	3.48	0.51	Agree	Certain Extent	3
Advantages brought by orienteering training team	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by orienteering major	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by orienteering teachers	4.00	0.00	Strongly Agree	Very Great Extent	1
<b>Composite</b>	<b>3.85</b>	<b>0.17</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Table 5 shows the results in terms of physical education resources, the impact of the different resources on the university orienteering generated a composite mean score of 3.85 with a 0.17 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 3.48. This implied that the respondents strongly agreed on the impact of physical education resources on the university orienteering. The highest mean score was equally evident by the advantages brought by orienteering courses, advantages brought by orienteering training team, advantages brought by orienteering major and, advantages brought by orienteering teachers. The lowest mean score was evident by the advantages brought by orienteering extracurricular club.

Some universities in Guangdong Province have complete infrastructure resources, which has laid a good foundation for

the development of orienteering in universities in Guangdong Province. Strengthening the construction of teaching resources is an important measure for universities to improve the overall teaching level and the quality of talent training. It involves many aspects of teaching infrastructure such as teaching staff, teaching content, teaching methods and means, teaching materials, and teaching management. It is a comprehensive teaching reform and construction work. Wang Ning (2019) found that the impact of teaching resources on orienteering is significant. Student-athletes demonstrate improved orienteering skill levels after receiving support from specially designed maps and navigation tools.

### 7.2.4. Sports Training Resources

**Table 6.** Impact of the Different Resources on the University Orienteering in terms of Sports Training Resources

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
Advantages of professional training map	3.72	0.46	Strongly Agree	Very Great Extent	2
Advantages brought by the system's training mode	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by a sound competition system	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by sufficient financial security	3.48	0.51	Agree	Certain Extent	3
Advantages brought by stable echelon construction	4.00	0.00	Strongly Agree	Very Great Extent	1
Advantages brought by effective incentive mechanism	2.72	0.46	Agree	Certain Extent	4
<b>Composite</b>	<b>3.65</b>	<b>0.24</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Table 6 shows the results in terms of sports training resources, the impact of the different resources on the university orienteering generated a composite mean score of 3.65 with a 0.24 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 2.72. This implied that the respondents strongly agreed on the impact of sports training resources on the university orienteering. Specifically, the highest mean score was equally evident by the advantages brought by the system's training mode, advantages brought by a sound competition system and the advantages brought by stable echelon construction.

Smith, J. A. (2020) Research by analyzing different types of training resources can significantly improve athletes' performance and results, enhance the technical and tactical levels of student athletes, and promote the development of orienteering in universities. Further optimizing the layout of the orienteering team of universities in Guangdong Province, China will accelerate the development of university sports and competitive sports in Guangdong Province, and is of great significance in promoting the balanced, sustainable, and harmonious development of university competitive sports.

**Table 7.** Impact of the Different Resources on the University Orienteering

Variables	Composite			Interpretation	Rank
	Mean	SD	Adjectival Description		
Sports Human Resources	3.91	0.15	Strongly Agree	Very Great Extent	1
Sports Facilities Resources	3.62	0.32	Strongly Agree	Very Great Extent	4
Physical Education Resources	3.85	0.17	Strongly Agree	Very Great Extent	2
Sports Training Resources	3.65	0.24	Strongly Agree	Very Great Extent	3
<b>Overall</b>	<b>3.76</b>	<b>0.22</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Overall, Table 7 shows the results the respondents strongly agreed on the impact of different resources on the university orienteering with a grand mean score of 3.76 and a 0.22 corresponding standard deviation. The highest mean is 3.91 while the lowest mean is 3.62. Of all the variables, the one top was evident by sports human resources followed by the physical education resources, sports training resources and sports facilities resources.

Resources are the material basis for the survival and development of human beings, and the value of different sports resources to the development of school sports should be brought into play. The results show that sports human resources are the most influential factor in orienteering in Guangdong University in China, which shows the importance of the coaching team in the orienteering team, including the personal ability and knowledge structure of the coaching team; physical education resources are the content system of orienteering in university sports, which is the basis of orienteering, orienteering in Guangdong University has a certain competitiveness in China, and good physical education resources provide conditions and guarantees for the implementation of orienteering in Guangdong universities. As one of the earliest regions to come into contact with orienteering, Guangdong Province in China has inherent advantages and has laid a solid material foundation for promoting the construction of university orienteering teams

in Guangdong Province. At the same time, orienteering in Guangdong University also has relatively abundant, systematic, and scientific sports training resources and sports facilities resources. So far, the orienteering competition of the Guangdong University Games has been held for 5 sessions, and the Guangdong University Student Orienteering Championship has been held for 20 sessions.

### 7.3. Difference in the Impact of the Different Resources on the University Orienteering when Profile is Taken as Test Factors

Table 8 using a T-Test of Independent Samples, the differences in the impact of different resources on the university orienteering by respondents' age yielded significant results in sports human resources and sports facilities resources. This implied that the respondents whose ages are between 30 years old & below and 31 years old & above had different views on the impact of the different resources on the university orienteering. Contrariwise, the physical education resources and sports training resources yielded no significant findings, thus the impacts of those resources were similarly viewed by the respondents whose ages are between 30 years old & below and 31 years old & above.

**Table 8.** Difference in the Impact of the Different Resources on the University Orienteering by Respondents' Age

Variable	Mean		t-value	sig	Decision Ho	Interpretation
	30 & <	31 & >				
Sports Human Resources	3.89	4.00	-4.951	.000	Reject	Significant
Sports Facilities Resources	3.57	3.83	-10.514	.000	Reject	Significant
Physical Education Resources	3.86	3.83	.443	.662	Accept	Not Significant
Sports Training Resources	3.65	3.67	-.306	.762	Accept	Not Significant
<b>Overall</b>	<b>3.74</b>	<b>3.83</b>	<b>-3.832</b>	<b>.356</b>	<b>Accept</b>	<b>Not Significant</b>

**Table 9.** Difference in the Impact of the Different Resources on the University Orienteering by Respondents' Orienteering Coaching Experience

Variable	Mean		t-value	sig	Decision Ho	Interpretation
	10-15 years	16 years & >				
Sports Human Resources	3.88	3.98	-3.063	.006	Reject	Significant
Sports Facilities Resources	3.62	3.63	-.113	.911	Accept	Not Significant
Physical Education Resources	3.82	3.92	-2.090	.048	Reject	Significant
Sports Training Resources	3.64	3.69	-1.394	.177	Accept	Not Significant
<b>Overall</b>	<b>3.74</b>	<b>3.80</b>	<b>—</b>	<b>—</b>	<b>Accept</b>	<b>Not Significant</b>

Table 9 using a T-Test of Independent Samples, the differences in the impact of different resources on the university orienteering by respondents' orienteering coaching experience yielded significant results in sports human resources and physical education resources. This implied that the respondents whose experiences are between 10 – 15 years and 16 years old & above had different views on the impact of the different resources on the university orienteering. Inversely, the sports facilities resources and sports training

resources yielded no significant findings, thus the impacts of those resources were similarly viewed by the respondents whose experiences are between 10 – 15 years and 16 years old & above.

#### 7.4. Level of Self-efficacy of the Respondents in Terms of:

##### 7.4.1. Situational Self-Efficacy

**Table 10.** Level of Self-Efficacy of the Respondents in terms of Situational Self-Efficacy

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
I believe I can perform well in a given situation.	3.72	0.46	Strongly Agree	Very Great Extent	3
I believe I have sufficient ability and skills to solve problems in specific situations.	3.84	0.37	Strongly Agree	Very Great Extent	2
I believe I can communicate and interact effectively with others in specific situations.	4.00	0.00	Strongly Agree	Very Great Extent	1
When I am faced with a new task, you feel confident.	4.00	0.00	Strongly Agree	Very Great Extent	1
When I need to deal with something urgent, I believe I have sufficient resilience.	4.00	0.00	Strongly Agree	Very Great Extent	1
When I need to learn new knowledge or skills, I believe I have enough learning ability.	4.00	0.00	Strongly Agree	Very Great Extent	1
<b>Composite</b>	<b>3.93</b>	<b>0.14</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Table 10 shows the results in terms of situational self-efficacy, the level of self-efficacy of the respondents provided a composite mean score of 3.93 with a 0.14 corresponding standard deviation. The highest mean is 4.00 while the lowest mean is 3.72. This implied that the respondents strongly agreed on the level of their situational self-efficacy. Specifically, the highest mean score was equally apparent by believing to communicate and interact effectively with others in specific situations, feel confident in facing the new tasks, believing to have sufficient resilience when dealing with something urgent and, having enough learning abilities to learn new knowledge. On the other hand, the lowest mean score was evident by believing to have sufficient ability and skills to solve problems in specific situations.

According to Bandura, self-efficacy refers to an individual's expectation of their ability to accomplish a certain behavior in a given situation. Self-efficacy influences

people's thinking patterns and emotional response patterns. People with full self-efficacy focus their attention and effort on the demands of the situation and are motivated by the obstacle to exert greater effort.

##### 7.4.2. Task Complexity

Table 11 shows the results in terms of task complexity, the level of self-efficacy of the respondents provided a composite mean score of 3.91 with a 0.08 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 3.48. This implied that the respondents strongly agreed on the level of their task complexity. Of all the indicators, the highest mean score was similarly evident by having the ability to complete some relatively easy tasks, having the ability to handle some moderately difficult tasks, capability in completing some very complex tasks, having the ability to overcome some minor difficulties and challenges and, having the ability to deal with some moderately difficult problems

and challenges. Inversely, the lowest mean score was apparent by having the ability to overcome some very difficult

problems and challenges.

**Table 11.** Level of Self-Efficacy of the Respondents in terms of Task Complexity

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
I believe I have the ability to complete some relatively easy tasks.	4.00	0.00	Strongly Agree	Very Great Extent	1
I believe I have the ability to handle some moderately difficult tasks.	4.00	0.00	Strongly Agree	Very Great Extent	1
I believe I am capable of completing some very complex tasks.	4.00	0.00	Strongly Agree	Very Great Extent	1
I believe I have the ability to overcome some minor difficulties and challenges.	4.00	0.00	Strongly Agree	Very Great Extent	1
I believe I have the ability to deal with some moderately difficult problems and challenges.	4.00	0.00	Strongly Agree	Very Great Extent	1
I believe I have the ability to overcome some very difficult problems and challenges.	3.48	0.51	Agree	Certain Extent	2
<b>Composite</b>	<b>3.91</b>	<b>0.08</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Bandura believes the difficulty and complexity of the task can affect an individual's self-efficacy. The self-efficacy determines how much effort people will put in and how long they will stick with it when faced with complex tasks. The stronger the self-efficacy, the more vigorous the effort and the more persistent it will be. When entangled in complex tasks,

those who are skeptical of their ability will relax their efforts or give up altogether, while those with a strong sense of self-efficacy will try harder to meet the challenge.

#### 7.4.3. Experience of Success

**Table 12.** Level of Self-Efficacy of the Respondents in terms of Experience of Success

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
I have often succeeded in similar tasks before.	4.00	0.00	Strongly Agree	Very Great Extent	1
I have had some successes that have given me the confidence to tackle future challenges.	4.00	0.00	Strongly Agree	Very Great Extent	1
I have had some failures, but I have learned from them and become stronger and more confident.	4.00	0.00	Strongly Agree	Very Great Extent	1
I have been praised, which makes me believe that I am capable of good performance.	4.00	0.00	Strongly Agree	Very Great Extent	1
I have received awards, which makes me believe that my efforts will be rewarded.	4.00	0.00	Strongly Agree	Very Great Extent	1
I have helped others to solve their problems, which makes me believe that I am capable of helping others.	3.40	0.50	Agree	Certain Extent	2
<b>Composite</b>	<b>3.90</b>	<b>0.08</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

In terms of experience of success, the level of self-efficacy of the respondents provided a composite mean score of 3.90 with a 0.08 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 3.40. This implied that the respondents strongly agreed on the level of their experience of success. The highest mean score was similarly evident by having often succeeded in similar tasks before, having had some successes that have given the confidence to tackle future challenges, having had some failures but have learned from them and become stronger and more confident, having been praised which makes believing in the capability of good performance and, having received awards which makes the efforts will be rewarded. The lowest mean score was evident by helping others to solve problems which makes the capability of helping others.

The experience of others successfully completing a particular task can improve an individual's self-efficacy, Giving individuals confidence in their abilities. When individuals see similar people who can successfully complete a task, they assume that they can do it too. Among them, the more similar the conditions of the successful person to him when completing a certain task, the more confident he will be that he will be able to complete the same task. As well An individual's successes and achievements from past experiences will enhance their sense of self-efficacy. Successful experiences will make individuals believe that they can succeed in similar tasks, and individuals will have positive expectations for the results of similar activities.

#### 7.4.4. Social Support

**Table 13.** Level of Self-Efficacy of the Respondents in terms of Social Support

Indicators	Mean	SD	Adjectival Description	Interpretation	Rank
My family always supports me and encourages me to pursue my dreams.	4.00	0.00	Strongly Agree	Very Great Extent	1
My friends always give me help and support when I need them.	3.64	0.49	Strongly Agree	Very Great Extent	4
I have teachers who have provided me with valuable guidance and support.	4.00	0.00	Strongly Agree	Very Great Extent	1
My teachers always encourage me and make me believe that I can achieve good results.	3.80	0.41	Strongly Agree	Very Great Extent	3
My classmates are always willing to study and discuss problems with me.	4.00	0.00	Strongly Agree	Very Great Extent	1
My social groups or organizations always give me opportunities to use my talents and abilities.	3.92	0.28	Strongly Agree	Very Great Extent	2
<b>Composite</b>	<b>3.89</b>	<b>0.20</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

In terms of social support, the level of self-efficacy of the respondents provided a composite mean score of 3.89 with a 0.20 corresponding standard deviation. The highest mean is 4.0 while the lowest mean is 3.64. This implied that the respondents strongly agreed on the level of their social support. Of all the indicators, the highest mean score was similarly evident by the family supports and encouragement to pursue dreams, having teachers with valuable guidance and support and, having classmates who are always willing to study and discuss problems. The lowest mean score was evident by having friends who are always giving help and

support when needed.

Being supported by others and definitely enhancing an individual's sense of self-efficacy. Encouragement and positive feedback can convince individuals that they are capable of accomplishing a particular task. Especially when individuals are in adverse situations, timely and effective positive responses can regain confidence, strengthen their belief in success, and multiply their self-efficacy, the higher the social support they will receive.

**Table 14.** Level of Self-Efficacy of the Respondents

Variables	Composite				Rank
	Mean	SD	Adjectival Description	Interpretation	
Situational Self-Efficacy	3.93	0.14	Strongly Agree	Very Great Extent	1
Task Complexity	3.91	0.08	Strongly Agree	Very Great Extent	2
Experience of Success	3.90	0.08	Strongly Agree	Very Great Extent	3
Social Support	3.89	0.20	Strongly Agree	Very Great Extent	4
<b>Overall</b>	<b>3.91</b>	<b>0.13</b>	<b>Strongly Agree</b>	<b>Very Great Extent</b>	<b>--</b>

*Scale: 4.00-3.51=Strongly Agree; 3.50-2.51=Agree; 2.50-1.51=Disagree; 1.50-1.00=Strongly Disagree*

Overall, the respondents strongly agreed on the level of their self-efficacy in university orienteering with a grand mean score of 3.91 and a 0.13 corresponding standard deviation. The highest mean is 3.93 while the lowest mean is 3.89. The one on top was apparent by situational self-efficacy followed by the task complexity, experience of success and social support.

### 7.5. Is There Significant Relationship on the Impact of the Different Resources on the University Orienteering and Level of Self-Efficacy of the Respondents?

Using a Pearson r, the relationships between the impact of the different resources and the self-efficacy of respondents in the university orienteering yielded significant findings between sports human resources and social support; sports facilities resources and task complexity; sports facilities resources and experience of success and; sports facilities resources and social support. This implied that those variables greatly influence each other. Furthermore, the impact of the different resources was somewhat associated with the self-efficacy of the respondents in the university orienteering.

## 8. Summary of Findings, Conclusion and Recommendations

This chapter summarizes the research findings, implications for practice and future research, and conclusions. The results of the collected data were described by computational thinking and SPSS analysis, and the relevant conclusions of the study were drawn based on the questionnaire data filled in by their individuals in the orienteering coaches and athletes of Guangdong University in China.

### 8.1. Summary of Findings

#### Profile of the Respondents (SOP#1)

**As to Age**, 80% are 30 years old or below which are 20 of the 25 total respondents. While the 20% are over 31 years old which are 5 of the 25 total respondents.

**As to Orienteering Coaching Experience**, 68% are 10 – 15 years which are 17 of the 25 total respondents. While the 32% are over 16 years old which are 8 of the 25 total respondents.



**Table 15.** Relationships between the Impact of the Different Resources on the University Orienteering and the Level of Self-Efficacy of the Respondents

Impact of the Different Resources on the University Orienteering	Statistical Treatment	Level of Self-Efficacy of the Respondents				
		Situational Self-Efficacy	Task Complexity	Experience of Success	Social Support	Overall
Sports Human Resources	Pearson r	.304	.173	.313	.522**	.328
	sig	.140	.408	.128	.007	.171
	Decision Ho	Accept	Accept	Accept	Reject	Accept
	Interpret	Not Significant	Not Significant	Not Significant	Significant	Not Significant
Sports Facilities Resources	Pearson r	.300	.492*	.543**	.405*	.435
	sig	.146	.013	.005	.045	.052
	Decision Ho	Accept	Reject	Reject	Reject	Accept
	Interpret	Not Significant	Significant	Significant	Significant	Not Significant
Physical Education Resources	Pearson r	-.218	.069	.100	-.106	-.039
	sig	.294	.744	.634	.614	.572
	Decision Ho	Accept	Accept	Accept	Accept	Accept
	Interpret	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
Sports Training Resources	Pearson r	-.329	-.133	-.156	-.233	-.213
	sig	.109	.527	.456	.263	.339
	Decision Ho	Accept	Accept	Accept	Accept	Accept
	Interpret	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.05 level (2-tailed).

### The impact of the different resources on the university orienteering (SOP#2)

**As to Sports Human Resources**, Sports human resources have a decisive impact on orienteering, and they are also the most important resources for orienteering, and they are the specific implementers and organizers of orienteering. Table 2 shows the results in terms of sports human resources, which has a great impact on orienteering in Guangdong University in China, including the age of the coach, the coach's coaching experience, the coach's sports experience, The coach's mapping experience had the greatest impact on orienteering in Guangdong University in China, with a score of 4.00, followed by the coach's continuing education experience with a score of 3.80, and the coach's refereeing experience had the lowest impact with a score of 3.68. The research shows that with the coach's coaching experience and coaching experience, coupled with the coach's athlete experience, it can have a positive impact on the development of orienteering in Guangdong University in China.

**As to Sports Facilities Resources**, Sports facilities resources are an important material guarantee to ensure the teaching, training and competition of orienteering, and their scale and level are directly related to the degree of orienteering development. Table 3 shows the results in terms of Sports Facilities Resources, orienteering venues and s orienteering equipment have the greatest impact on orienteering in Guangdong University in China, with a score of 4.00; The importance of physical training room was scored at 3.80, followed by the orienteering simulation laboratory with a score of 3.64, followed by the psychological laboratory with a score of 3.56, and the multimedia classrooms had the lowest advantage with a score of 2.74.

**As to Physical Education Resources**, physical education resources are the main content of the development and construction of orienteering teaching in universities, and the main measures to improve the teaching level and talent training quality. Table 4 shows the results in terms of Physical Education Resources, orienteering courses, orienteering

training team, orienteering majors and orienteering teachers have the greatest impact on orienteering in Guangdong University in China, with a score of 4.00, followed by orienteering materials with a score of 3.64, and orienteering extracurricular clubs have the lowest impact with a score of 3.48.

**As to Sports Training Resources**, sports training resources are the premise of improving competition performance and enhancing competitive ability. Table 5 shows the results in terms of Sports Training Resources, The system's training mode, a sound competition system and stable echelon construction are extremely important, with a score of 4.00; as one of the core components of orienteering, the professional orienteering map also has an important influence advantage, with a score of 3.72; followed by the financial guarantee of reorganization, with sufficient financial security, it can ensure that the competition can be carried out smoothly, and the improvement of athletes' skills can also be tested through the competition, with a score of 3.48; the lowest impact advantage is the effective incentive mechanism, with a score of 2.72.

### There is significant difference on the impact of the different resources on the university orienteering when profile is taken as test factors (SOP#3)

**As to Impact of the Different Resources on the University Orienteering**, Table 6 shows that different resources have had an impact on orienteering at universities in Guangdong Province, China. Among them, sports human resources had the most obvious impact on orienteering in Guangdong University in China, with a score of 3.91, ranking 1, followed by Physical Education Resources with a score of 3.85, ranking 2, Sports Training Resources ranking 3, and Sports Facilities Resources had the lowest impact on orienteering at Guangdong University in China, with a score of 3.62 and a ranking of 4.

**As to Difference in the Impact of the Different Resources on the University Orienteering by Respondents' Age**, Table 7 shows there is a significant difference between

30 years old & below and 31 years old & above respondents age that there is a significant difference in the impact of sports human resources on orienteering in Guangdong universities in China, with a score of 4.00 for those 31 years old & above and 3.89 for 30 years old & below respondents, while the same for 30 years old & below and 31 years old & above respondents for Sports Facilities Resources. There are significant differences in the influence of age on orienteering in Guangdong universities in China, with different perceptions between the two, with a score of 3.83 for those over 31 and 3.57 for those 30 years old & below and 31 years old & above. And Physical Education Resources for those 30 years old & below and 31 years old & above There was no significant difference in the impact of orienteering among universities in Guangdong Province in China, with similar opinions among different age groups, with a score of 3.83 for those 31 years old & above and 3.86 for those 30 years old & below, while the same for those 30 years old & below and 31 years old & above said Sports Training Resources. There was no significant difference in the impact of resources on orienteering in Guangdong universities in China, and the opinions of different age groups were similar, with the score of 3.67 for those 31 years old & above and 3.65 for those 30 years old & below.

**As to Difference in the Impact of the Different Resources on the University Orienteering by Respondents' Orienteering Coaching Experience,** Table 8 shows there is a significant difference in the impact of sports human resources on university orienteering respondents' orienteering coaching experience are between 10-15 years and 16 years old & above, Respondents with 10-15 years of experience scored 3.88, and those with 16 years old & above scored 3.98. There is a significant difference in the impact of Physical Education Resources on university orienteering respondents' orienteering coaching experience are between 10-15 years and 16 years old & above, Respondents with 10-15 years of experience scored 3.82, and those with 16 years old & above scored 3.92. It shows that interviewees have different ideas in sports human resources and Physical Education Resources. There is a not significant difference in the impact of Sports Facilities Resources on university orienteering respondents' orienteering coaching experience are between 10-15 years and 16 years old & above, Respondents with 10-15 years of experience scored 3.62, and those with 16 years old & above scored 3.63. There is a not significant difference in the impact of Sports Training Resources on university orienteering respondents' orienteering coaching experience are between 10-15 years and 16 years old & above, Respondents with 10-15 years of experience scored 3.64, and those with 16 years old & above scored 3.69. It shows that respondents have the same views on Sports Facilities Resources and Sports Training Resources.

**The level of self-efficacy of the respondents in terms of (SOP#4)**

**As to Situational Self-Efficacy,** the results of statistical analysis in Table 9 show the beliefs that respondents are able to adequately express in certain situations. Communicate and interact effectively with others in specific situations, faced with a new task, you feel confident, deal with something urgent, I believe I have sufficient resilience, learn new knowledge or skills, I believe I have enough learning ability. The respondents showed a very high level of self-situational efficacy with a score of 4.00. Secondly, the score of sufficient ability and skills to solve problems in specific situations was

3.84, indicating the respondents' high recognition of their own abilities and skills. And it performs well in a given situation. The respondents were still able to show a high level of self-situational efficacy, with a score of 3.72.

**As to Task Complexity,** Table 10 analyzes the self-efficacy level of respondents in terms of task complexity, and the results show that respondents have a very high level of self-efficacy in terms of task complexity and difficulty overcoming. When faced with some relatively easy tasks, some moderately difficult tasks and some very complex tasks, respondents showed a strong sense of self-efficacy. It also shows that the more confident respondents are in their own knowledge and skills, Respondents also showed a strong sense of self-efficacy when overcoming some minor difficulties and challenges, and dealing with some moderately difficult problems and challenges. The score is 4.00; However, when it comes to overcoming some very difficult problems and challenges, the respondents' sense of self-efficacy has decreased, with a score of 3.48, but they can still show a high spirit and belief in overcoming difficulties.

**As to Experience of Success,** Table 11 analyzes respondents' levels of self-efficacy in terms of successful experiences. The research shows that, combined with the analysis of the respondents' personal ability, experience and skill level, the respondents have a strong level of self-efficacy in completing specific tasks and gaining experience, the main performance is often succeeded in similar tasks before, some successes that have given me the confidence to tackle future challenges, some failures, with a score of 4.00. But I have learned from them and become stronger and more confident, been praised, which makes me believe that I am capable of good performance, received awards, which makes me believe that my efforts will be rewarded. Five aspects; But in terms of helping others to solve their problems, which makes me believe that I am capable of helping others, The respondents' self-efficacy level in terms of successful experiences dropped to 3.40, indicating that their ability to help others solve problems still needs to be improved.

**As to Social Support,** Table 12 shows the level of self-efficacy of respondents in terms of social support. The study showed that the respondents had a strong sense of self-efficacy in social support, with a score of 3.89. With the help and support of family, teachers, and classmates, the respondents had a high self-efficacy level of 4.00, while at work, the respondents always received support from their employers, with a score of 3.92, with the encouragement of teachers, they believed that they could achieve good grades, and with the encouragement of teachers, they scored 3.80, and my friends always gave me help and support when I needed it, and my self-efficacy level scored 3.64.

**As to Level of Self-Efficacy of the Respondents,** Table 13 shows the level of self-efficacy of the respondents. Among them, respondents ranked 1st with the highest Situational Self-Efficacy level with a score of 3.93, followed by the respondents with a Task Complexity level of 3.91 and ranked 2nd, the respondents ranked 3rd with a score of 3.90 for Experience of Success, and the respondents ranked 4th with a Social Support level score of 3.89.

**There is significant relationship on the impact of the different resources on the university orienteering and level of self-efficacy of the respondents (SOP#5)** Table 14 shows the relationship between the impact of different resources on college orienteering and the level of self-efficacy of respondents. There was a significant difference between

the effect of Sports Human Resources on college orienteering and the level of social support self-efficacy, while there was no significant difference between the effect of Sports Human Resources on college orienteering and the level of Situational Self-Efficacy, Task Complexity, and Task Complexity. There was no significant difference between the effect of Facilities Resources on college orienteering and the Situational Self-Efficacy level of respondents, while the effect of Sports Facilities Resources on college orienteering was the same as that of Task Complexity, Task Complexity, and Social. There was a significant difference in the level of support, and there was no significant difference between the effects of Physical Education Resources and Sports Training Resources on college orienteering and the level of self-efficacy of respondents.

## 9. Conclusion

The purpose of this study was to analyze the impact of different factors on orienteering instructors in Guangdong universities in China, and to explore the practical value on the basis of self-efficacy.

1. Respondents believe that different resources have a strong sense of identity with the impact of orienteering on Guangdong universities in China.

2. There were significant differences in the factors of sports human resources and sports facilities affecting orienteering in Guangdong universities of different ages, but there were no significant differences in the factors of physical education resources and sports training resources.

3. There were significant differences in the factors of sports human resources and physical education resources affecting orienteering in Guangdong Provincial Universities in China, but there was no significant difference in the factors of sports facilities and sports training resources.

4. The level of self-efficacy of the respondents had a strong sense of identification with the impact of orienteering on Guangdong universities in China.

5. The respondents believed that different resources had a strong impact on orienteering in Guangdong universities in China, and the self-efficacy level of the respondents had a strong sense of recognition of the impact of orienteering on orienteering in Guangdong universities in China. However, there was no significant difference between the two, and the effect of different resources on college orienteering was not directly related to respondents' self-efficacy.

6. According to the research results, a framework for strengthening orienteering in Guangdong universities in China can be developed to improve the level of orienteering strength of universities in Guangdong Province, China.

## 10. Recommendations

Orienteering has a unique advantage in Guangdong Province, China, we should not only maintain the advantages at this stage, but also need to actively explore the sustainable development factors of orienteering in the campus environment of Guangdong University in China, and promote orienteering with scientific concepts.

1. According to the age and coaching experience of the coach, combined with the development trend of the project, tailor-made development plans to improve the knowledge

level and skill level of the coach, so as to ensure that orienteering provides targeted support in Guangdong University in China.

2. Advocate for university administrations and relevant departments to increase financial and infrastructural support to strengthen sports human resources, sports facilities, physical education resources, and sports training resources. Implement regular training and development programs for instructors, emphasizing advancements in orienteering training methods. Regularly evaluate existing facilities, upgrade training environments, prioritize the creation of simulated orienteering environments, and enhance athletes' adaptability to different terrains.

3. Implement specific support strategies based on the coach's age and experience, encourage the coach to engage in continuous learning and professional development, including attending professional training sessions and conferences, and strengthen close contact with experienced coaches from the outside world.

4. Strive to improve the situational self-efficacy of orienteering coaches in Guangdong Province, China, the ability to deal with complex tasks, and improve the overall self-efficacy level.

5. Develop and execute talent development programs and incentives to attract and retain talented orienteering athletes, recognizing the critical role that participant engagement plays in the long-term success of an orienteering program.

6. Regularly evaluate the orientation training program and evaluate the effectiveness of the recommendations made. Gather feedback from coaches and stakeholders to refine and strengthen existing support structures, address identified gaps, optimize resource utilization, and create a supportive environment conducive to the continued development of university orientation programs in Guangdong Province.

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