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Research based on the limitations that multiple response analysis of national soccer team fans' perspective made to the development of football

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ABSTRACT

Recently, the Chinese state leaders repeatedly referred to Chinese football during their trip to Europe and have expressed their confidence to Chinese football in the future. As a result, People started thinking and discussion on the limitations of the Chinese Football. This article takes National soccer team fans among sports college students as the research object. Made a research about the important limiting factors to the development of Chinese football in their perspective. The conclusion is: Sports system, Sports people, Football population is the three main factors of population. Then adjust the development of Chinese football on this basis, the future of Chinese football results will be improved significantly.

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KEYWORDS

INTRODUCTION

Chinese people regain the confidence of Chinese football at the end of chairman Xi Jinping's visit to Europe. During the visit, chairman Xi mentioned Chinese football for four times, and he watched the German youth soccer friendliest in Germany. Thus, we can see that the state pay a high degree of attention to the Chinese national football. The news is greatly encouraging for Chinese soccer fans because they are really looking forward to the rise of Chinese football. China is the birthplace of football. Football first appeared in the spring and Autumn Period, and it used to be called Cujiu. However, the current situation of the Chinese football is pessimistic; this also led lots of people to the thinking of Chinese football. Many experts and scholars have offered advice for the improvement of China's football. Chinese fans also have its unique insights to Chinese football.

After checking a large number of relevant literatures, we found: In 2002, Huang Yinhua et al tried to talk about the characteristics of football fans group roundly in "On the Chinese soccer fan culture." In 2005, LingZi Yong comprehensively analyzed the current situation of Chinese football fans with the combination of various social perspectives in the context of "The analysis of China's soccer fans culture". In 2013, Wang Jinjing analyzed the students thinking about the factors that limited the development of football as well as the widely misunderstanding of Chinese football. Those writings did not consider the important factors which affecting the development of Chinese football fans from the perspective of Chinese football.

Today, the performance of Chinese football is not ideal. Under such conditions, the Chinese football fans are still keen to China's football game. They watched

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the Chinese football for a long time and analyzed the serve skills of Serve skills, offensive and defensive strategies as well as teamwork. They are immersed in the game during the Race time. They actively analyze the causes of failure, and accumulate the successful experience after the race. Therefore, the football fans are extremely important for the analysis of the limitations to the development of Chinese football. This article will strengthen the innovation on the basis of summing up predecessors' experience.

MODELING

The Chinese have a special liking to football whether he is the leader or the civilians. However, the Chinese soccer team just participated in the World Cup for only once. This caused the thinking of Chinese football fans about the factors which limited the development of Chinese football. This paper conducted a multiple response analysis based on the survey of the college stu-

dents' fans.

Data processing

Selecting a sports academy from each city. Shanghai, Zhengzhou, Changchun, Beijing, and Chengdu. It conducted a stratified random sampling from undergraduate students of those college, thus obtained the data in TABLE 1. 945 valid questionnaires were recovered. Then arrange them, and draw into the chart. Among which, the number which greater than 200 people was believed to be effective, and represented by"1", the number which less than or equal to 200 was considered to be invalid, and represented by "2". Thus we can get TABLE 2:

Make multiple response analysis TABLE 2 in SPSS, and then get the conclusion.

Multiple response analysis

In our daily life, we often choose a random statistical sampling method as a basic condition of things. The respondents often need to answer to a problem from

TABLE 1 : The Factors affecting the development of football investigation

Factors affecting the development of football		Number	Small	Smaller	Medium	Large	Larger
Relations between football development and state sports	Sports system	1	75	112	167	146	51
	Olympic strength	2	112	165	286	141	266
	Sports Population	3	55	142	253	192	293
	Football population	4	73	94	204	278	326
	Historic opportunity	5	130	177	301	250	277
Relations between football development and politics	State leaders	6	179	221	324	180	268
	Political system	7	113	263	330	155	358
	Ideology	8	122	216	387	296	318
	Legal conditions	9	153	204	315	343	298
Relations between football development and economy	Macro economy	10	93	156	258	134	166
	Average economic	11	86	184	311	201	156
Relations between football development and culture	Moral values	12	147	189	306	307	246
	Religion	13	243	251	245	123	257
	Sports tradition	14	77	97	209	92	236
Relations between football development and the society	Urban development	15	87	145	248	93	122
	Country Size	16	160	238	248	79	55
	population size	17	187	259	294	81	55
	Population quality	18	106	204	267	160	121
	Shazam adaptability	19	86	147	214	114	97
	Degree of modernization	20	113	173	129	123	105

TABLE 2 : The provisions of the investigation

Influencing factors of football development		Number	Small	Smaller	Medium	Large	Larger
Relations between football development and state sports	Sports system	1	0	0	0	1	1
	Olympic strength	2	0	0	1	1	0
	Sports Population	3	0	0	1	1	1
	Football population	4	0	0	1	1	1
	Historic opportunity	5	0	0	1	1	0
Relations between football development and politics	State leaders	6	0	1	1	0	0
	Political system	7	0	1	1	0	0
	Ideology	8	0	1	1	0	0
	Legal conditions	9	0	1	1	0	0
Relations between football development and economy	Macro economy	10	0	0	1	1	0
	Average economic	11	0	0	1	1	0
Relations between football development and culture	Moral values	12	0	0	1	0	0
	Religion	13	1	1	1	0	0
	Sports tradition	14	0	0	1	1	1
Relations between football development and the society	Urban development	15	0	0	1	1	0
	Country Size	16	0	1	1	0	0
	population size	17	0	1	1	0	0
	Population quality	18	0	1	1	1	0
	Shazam adaptability	19	0	0	1	1	0
	Degree of modernization	20	0	0	1	1	0

many aspects. However, we usually adopt multiple response analysis to analyze the in the filled answers.

Multiple responses also called multiple choices. It is a common way of sampling survey results. Multiple responses belong to classify data from a practical sense, but its answer to every aspect is from the same problem. There is a mutual relationship between them; it is unreasonable that every aspect be analyzed separately. The most suitable processing method for multiple response data is utilizing SPSS software. Do frequent analysis and cross-analysis to the answer from every aspect by defining variables set in different ways?

There are two kinds of standard way to the record of multiple responses.

(1)Multiple dichotomy

Put in every aspect of a problem as a variable to define.

0 can not be selected, 1 can be selected. Therefore, there will be a variable number of separate in several aspects of this problem. These two separate variables are 0 or 1.

(2)Multiple taxonomy

The number of separate variables in the question is decided by the number of the options. Each variable options and problems are at the same aspect. Each variable represents a choice of respondents. In many cases, when survey respondents were not limited to the number of selectable options, respondents may not all options are selected, so the last face several variables are missing values naturally. When the investigators on the multiple-choice options are all in choice, these variables have an option code, at this point there is no missing values.

TABLE 3 illustrates the basic statistical of the missing data valid data in the centralized information of mul-

TABLE 3 : Summary of individual case

	Individual case					
	Effective		Missing		Total	
	N	Percentage	N	Percentage	N	Percentage
$Factors	20	100.0%	0	.0%	20	100.0%

a. when the value is 1, the tabulation of two groups

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TABLE 4 : The frequency of the analysis of multiple response variables

		Response		Percentage of individual case
		N	Percentage	
	Small	1	2.3%	5.0%
	Smaller	8	18.2%	40.0%
Influencing factors of football development	Medium	19	43.2%	95.0%
	Large	12	27.3%	60.0%
	Larger	4	9.1%	20.0%
Total		44	100.0%	220.0%

a. when the value is 1, the tabulation of two groups.

TABLE 5 : The cross table of multiple response variable analysis

			Number Classification					Total
			1.00	2.00	3.00	4.00	5.00	
	Small	Count	0	0	0	1	0	1
		percentage in the classification	.0%	.0%	.0%	33.3%	.0%	
	Smaller	Count	0	4	0	1	3	8
		percentage in the classification	.0%	100.0%	.0%	33.3%	50.0%	
Influencing factors of football development	Medium	Count	4	4	2	3	6	19
		percentage in the classification	80.0%	100.0%	100.0%	100.0%	100.0%	
	large	Count	5	0	2	1	4	12
		percentage in the classification	100.0%	.0%	100.0%	33.3%	66.7%	
	Larger	Count	3	0	0	1	0	4
		percentage in the classification	60.0%	.0%	.0%	33.3%	.0%	
Total		Count	5	4	2	3	6	20

The Percentage and total based on the responder; a. when the value is 1, the tabulation of two groups

tiple response variables. In the 20 factors in the analysis, The Effective number 20 accounting for 100%, The Missing number is "0"(that 20 factors have no missing).

The N in TABLE 4represent the number of Influencing factors of football development, "Response percentage" means the" impact factor" percentage share of the overall. "Percentage of individual case" shows "that affect the percentage accounted for of total number of respondents.

TABLE 5 indicates on the classification of "Influencing factors of football development ".

Relations between football development and state sports is represented by "1", it conclude "Sports system", "Olympic strength", "Sports Population", "Football population", "Historic opportunity".

Relations between football development and politics is represented by "2, " it conclude "State leaders", "", "Political system", "Ideology", "Legal conditions".

Relations between football development and economy is represented by "3, " it conclude "macro economy", "", "", "Average economic".

Relations between football development and culture is represented by "4, " it conclude "Moral values", "Religion", "Sports tradition".

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Relations between football development and society is represented by "5, " it conclude "Urban development", "Country Size", "population size", "", "Population quality", "Shaman adaptability", "Degree of modernization".

According to those data, TABLE 5 is made (The cross table of multiple response variable analysis). Each cell in the table shows the extent of Relations between football development and state sports, Relations between football development and politics, Relations between football development and economy, Relations between football development and culture, Relations between football development and society. Among

which, The three factors "sports system", "Sports Population", "football population" are more prominent.

MODEL EVALUATION

The most obvious feature of the multiple response analysis is to analyze the different aspects of the same question. It is a summary of answer frequency to the different aspects of the same question. Currently multiple response is mostly used in the field of polymer chemistry. It is not much used in dealing with the market survey results. Since the multiple is a summary of frequency response analysis, so multiple response analy-
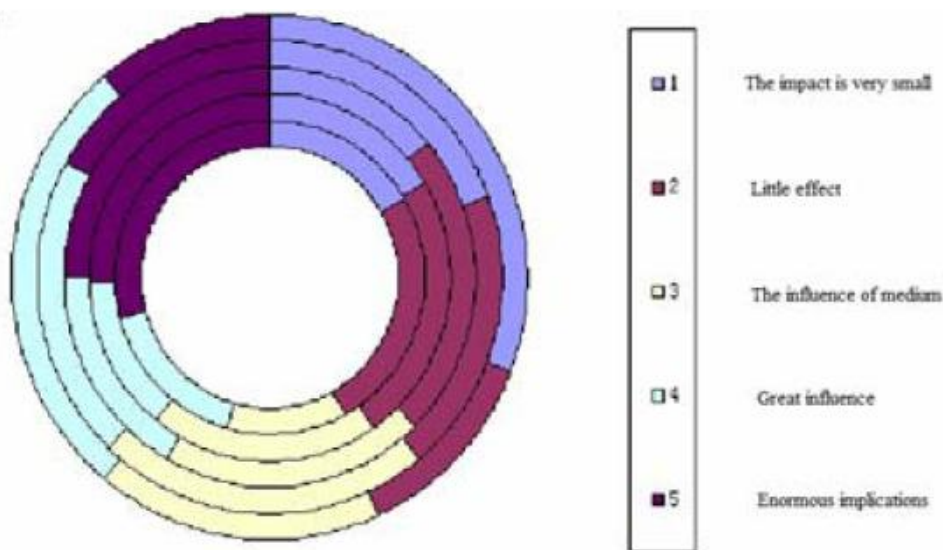

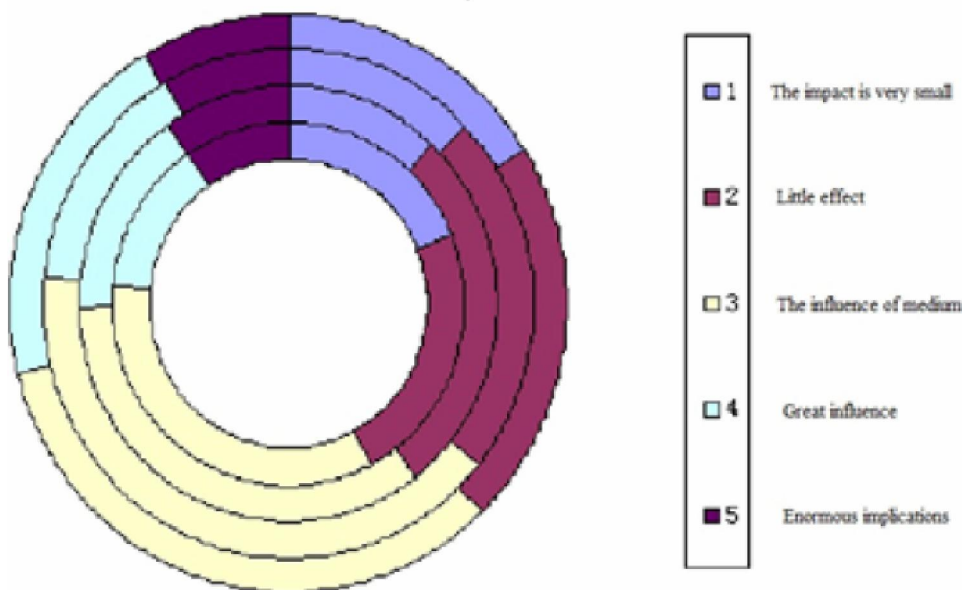**Figure 1 : The ring diagram of relationship development and national sports in football**

Figure 2 : The ring diagram of football development and the relationship between the national political
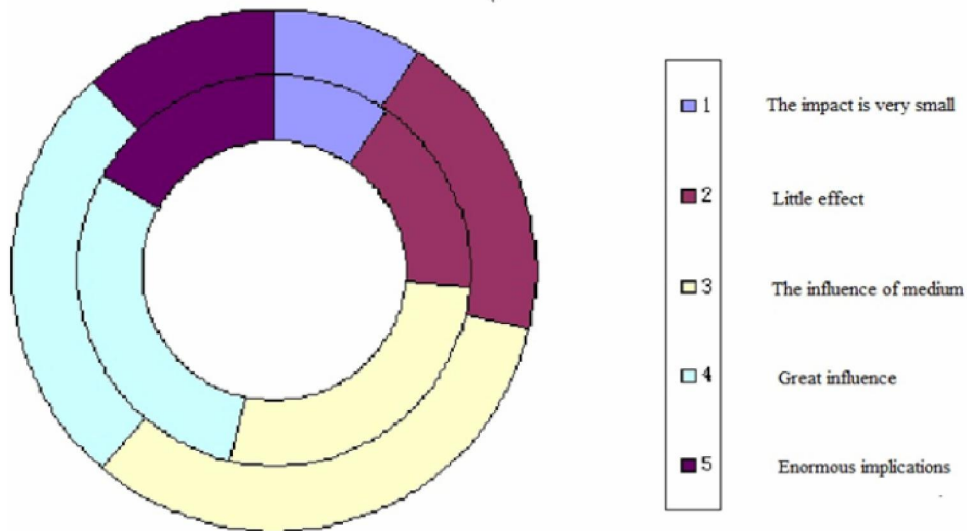
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Figure 3 : The circular diagram of football development and national economic relations
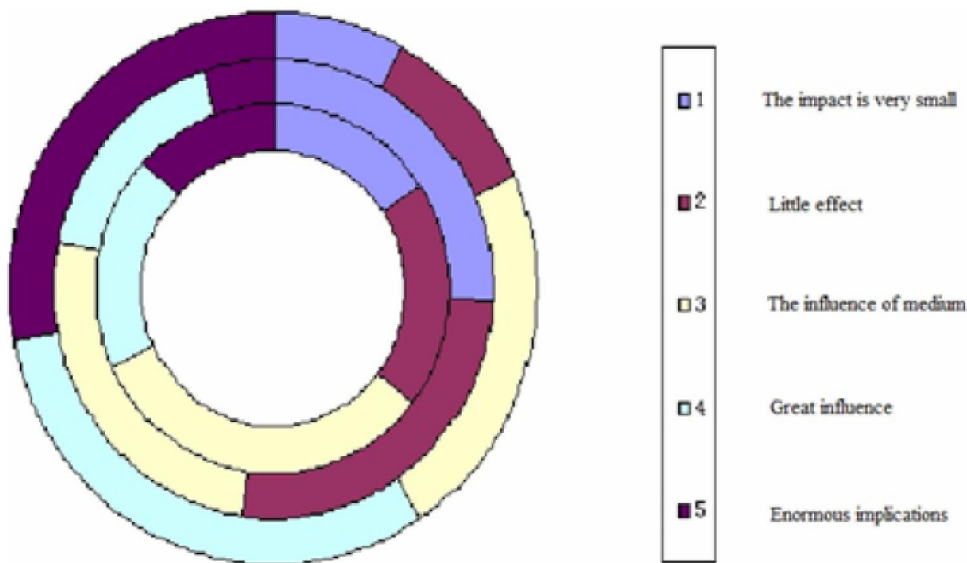

Figure 4 : The ring diagram of the relationship between football culture and national development

sis is not applicable when there is roughly same the frequency of all aspects of the same problem.

This paper selected the students in several representative sports college as respondents. Although there were lots of respondents, but the accuracy of the survey results is not high.. As used herein, the model can be extended to the whole country, and to the statistical analysis of the limiting factors to the development of football.

The ring diagram analysis

In order to express the relationship between the various factors more intuitive, the following is a ring diagram analysis:

From the inner to the outer turn represent: "sports system", "Olympic Strength", "Sports Population", "football population", "historic opportunity." The length of the circular arc represented the proportion.

From the inner to the outer turn represent: a "national leader", "political system", "and ideology "," legal environment."

From the inner to the outer turn represent: "the overall economy", "average amount of the economy."

From the inner to the outer turn represent: "moral values", "religion", "and sports tradition."

From the inner to the outer turn represent: "Urban Development", "size of the country", "population", "population quality", "faster adaptability, " "modernized."
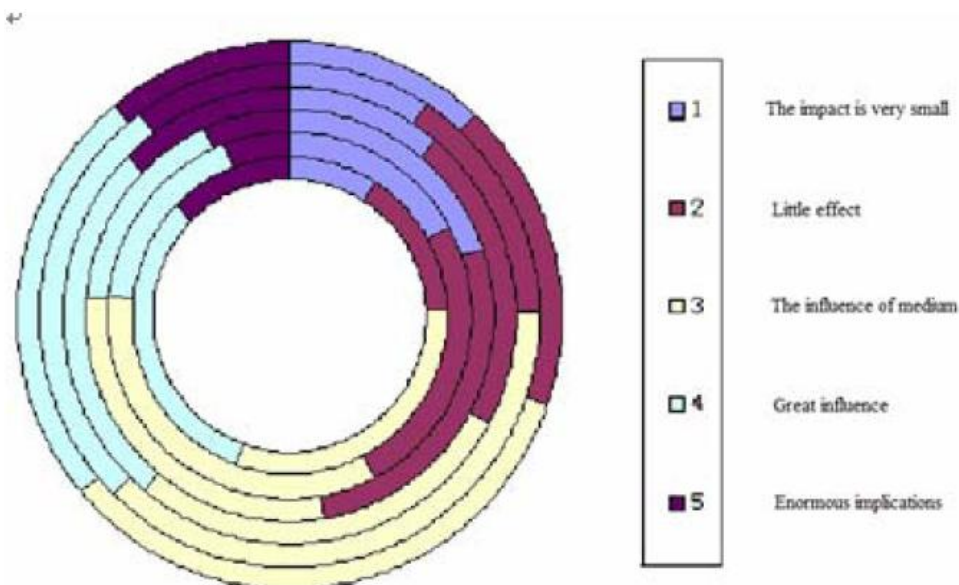
Figure 5 : The ring diagram of the relationship between football and social development

CONCLUSION

This paper selected the student's fans of five sports colleges of as the research object. Analyzes the important limiting factors for the development of football in China from their perspective. The conclusion is that the "sports system", "Sports Population" and "football population" are the three main important limiting factors for the development of football. Currently, China put the strategy of enterprises "going-global as an important means to improve the performance of Chinese football. China will sent soccer players to Brazil, Germany and other developed countries to study. In China, the China will held International competitions regularly in order to absorb more competition experience. On the basis of the conclusions, adjust the development of Chinese football; the future performance of Chinese football will be improved significantly.

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