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Research on selection of athletic talents and training methods for long jump in chinese teenage track and field

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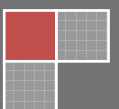
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ABSTRACT

As an essential part of track-and-field sports, long jump is one of the traditional sports events in China. After the 1980s, many records for long jump in Asia or even in the world were created or maintained by Chinese athletes. As the future and new blood of the country, teenagers would become the dominant forces in inheriting and developing the athletic business of long jump in China, which will have profound effects on the long jump in China. By referring to relevant documents as well as making questionnaire surveys and on-site interviews with the athletes and instructors who have attended the national Youth Championships in Athletics, this research conducts the comprehensive surveys on teenage athlete's sports intensity, sports time as well as instructor's educational background and competence etc. Through the research, young male and female long jumpers in China basically meet the requirements in joining the competitions; however, control over the teenager's training age, training duration and training intensity is obviously not good enough. Moreover, developments of the teenage long jumpers in China are affected by multiple factors such as the athletes' own conditions, training methods as well as the instructor's level; among them, the instructors' educational backgrounds and qualities, reasonable selections of athletic talents as well as training methods play a significant role in athlete's performance and development.

KEYWORDS

Teenagers; Long jump; Instructors; Performance; Training methods.



INTRODUCTION

With the development of track-and-field sports, China made limited progresses in long jump of track and field, which urgently needs to be further developed and exceeded; good news is that, with the increasing chance of taking part in the global teenage athletic sports, Chinese teenagers make satisfying achievements in different levels of long jump. Moreover, in recent years, more and more social groups have started to pay attention to the selection of athletic talents and the training methods for Chinese teenage athletic sports, which has gained certain achievements; however, long jumpers in China still need scientific guidance and rational training methods, which hinders the teenagers' physical and mental developments as well as the progresses of the Chinese long jump in track and field.

Numerous researches from home and abroad have already indicated that, track and field is an adult sport and athletes generally need to take 9 to 12 years of training^[1]. After 3 to 4 years of training, young long jumpers in China can generally reach to the first level before the age of 18 and reach the ranking standard of top athletes before the age of 20^[2]. Thus we can see that, long jump in track and field requires the athletes to receive the training at a young age, so they can reach the peak in their athletic career before the golden age of 20.

It is important cultivate the new blood and enlarge the reserve athletes in order to enhance the trainings and instructions for the track and field athletes. Therefore, through the research and survey on the selection of athletic talents and training methods for excellent teenage long jumpers in China, experience and lessons can be concluded, problems can be figured out and corresponding solutions can be put forward, which plays an important role in stimulating the harmonious and healthy developments of young track and field athletes as well as jumping event in track and field in China.

RESEARCH OBJECTS AND METHODS

Research objects

The research takes instructor's (here referred to instructor of long jump in teenage track and field in China) selection of athletic talents and training methods for teenage track and field athletes as its objects. Research objects include 66 athletes and 30 instructors, who took part in the long jump of national track and field in the 2008 Youth Championships in Athletics.

Research methods

Literature consultation

By referring to historical documents and relevant materials, training information and performance improvements of Chinese teenage long jumpers in track and field in successive years as well as the average performances of the world's excellent teenage long jumpers in track and field over the years will be provided; moreover, comparisons between performance improvements of Chinese teenage long jumpers and world's average level will be conducted.

Questionnaire survey

According to the objective of the research, two kinds of questionnaire are respectively designed for instructors and athletes; in the meantime, the questions coming up during the filling-in were revised and complemented in time. During the 2008 National Youth Championships in Athletics, 96 copies of questionnaires were handed out, 87 copies were successively retrieved, 87 copies are valid, the recovery rate is about 90%; the surveyed people include 2 national instructors, 10 advanced instructors, 9 intermediate instructors, 6 junior instructors as well 60 teenage long jumpers; among them, 3 instructors and 6 athletes could not return the valid questionnaires for some reason, which are thus regarded as being invalid.

Interview

During the 2008 National Youth Championships in Athletics, several Chinese teenage long jumpers and their instructors were interviewed on the spot.

Mathematical statistics

After being classified, summarized, counted and analyzed, the data in successfully retrieved questionnaires shall be made into intuitive charts so as to provide more convincing theoretical foundations for the research conclusion

RESULTS AND ANALYSIS

Starting age for training, competition situation, performance improvement of Chinese teenage long jumper

Starting age for teenage long jumper

No matter how excellent the body condition is, it will decline with time; no matter how perfect the systematic training is, it can not save a sick body^[3]; therefore, excellent body condition and long-term systematic trainings are essential to a successful athlete. Only when both are obtained, possibility of becoming an excellent athlete can be achieved (see TABLE 1). Of course, proper training time and training age are also fundamental elements for athlete's success. Teenage long jumpers start to take part in the training at the following ages (see TABLE 2, TABLE 3)

TABLE 1 : Importance ranking for factors ensuring long jumpers and triple jumpers to become successful athletes

Factors Ensuring Athlete's Success	Average Score	Importance Ranking	Reflected Objects
Athlete's Own Condition	2.06	1	Athlete
Systemization of Athlete's Basic Training	3.67	2	Instructor
Rationality of Athlete's Skill	4.03	3	Athlete/Instructor
Instructor's Teaching Level	4.13	4	Instructor
Athlete's Physical Development in Special Event	5.50	5	Athlete/Instructor
Coordination of Athlete's physical development	5.57	6	Athlete/Instructor
Rationality of Training Arrangement and Training Load	6.40	7	Instructor
Instructor's Correct Guiding Ideology for Teaching	7.37	8	Instructor
Athlete's family Condition and Outer Environment	7.60	9	outer condition
No Serious Disease ever Happened to Athlete	7.67	10	Athlete
Rationality of Competition System for Teenager	7.73	11	outer condition

TABLE 2 : Age at which teenage (male) athlete starts to take basic training of track and field

Age	9	10	11	12	13	14	15	Average Age
Frequency (Person)	1	1	2	4	8	12	2	
Frequency (%)	3.3	3.3	6.7	13.3	26.7	40.0	6.6	13.1

N=30 person

TABLE 3 : Age at which teenage (female) athlete starts take basic training of track and field

Age	9	10	11	12	13	14	Average Age
Frequency (Person)	3	1	4	9	10	3	
Frequency (%)	10.0	3.3	13.3	30.0	33.3	10.0	12.1

N=30 person

It can be seen from the above tables that, the average age at which male teenage long jumpers in China start the training is 13.1, and the average age at which the female teenage long jumpers in China start the training is 12.1, male and female differ from each other by about 1 year. According to the division in the textbook Track and Field used for the pre-job training taken by the PE instructor in China, the ages from 8 to 12 can be only considered as the general basic training stage for the teenagers, and from the age of 13 to 15, the teenagers should have entered the basic training stage for special event^[4]. Thus it can be seen that, Chinese teenage long jumpers start to receive the basic training at an older age, which is normally later than the required time.

Frequency of competition attended by teenage long jumper

Attending the sports competition is not only the test for the instructor's training achievement, but it is also the examination on the athlete's training effectiveness; through the sports competition, instructor can get the instant feedbacks from the athlete's performance in the competition so as to provide the effective comments and suggestions for the athlete's training in the next stage; therefore, sports competition is inevitable for all the athletes. However, what needs to be clarified is that, the main purpose of training the teenage long jumpers is to provide the country with the reserve talents for long jump rather than only to attend the competition and win the competition. According to the survey, frequency of competitions attended by teenage long jumpers last year is shown in the following table (TABLE 4) .

TABLE 4 : Frequency of competitions that teenage long jumper attended last year

Frequency of Competition (Times)	0	1	2	3	4	Above 5 times (including 5 times)
Frequency (Person)	0	9	18	19	10	4
Frequency (%)	0	1.7	30.0	31.7	16.7	6.7

As can be seen from TABLE 4, frequency of competitions attended by teenage track and field athletes in China is currently twice or 3 times per year, few athletes have never attended the competition or only attended the competition once per year. However, the syllabus requires that teenage athletes should take part in competitions 6 to 12 times per year^[5]; therefore, we can see that frequency of competitions attended by teenage long jumpers is much lower than the frequency put forward by actual requirements.

Moreover, survey shows that, track and field attended by the teenage long jumpers mostly adopts the adult's competition manner and it does not additionally conduct comprehensive tests over the teenager's stamina, physical and mental competence, which causes single sport performance to become the only criteria for judging the teenage athletes; as a result, teenage athletes and instructors carry out the training for blindly pursuing the performance of special event and ignore the overall developments of the athletes, which hinders the healthy developments of the teenage athletes.

Time arrangement of training taken by teenage long jumper

The training for long jump is a long and hard process, which does not only have certain requirements for the amount of exercise done by teenagers, but which also has strict requirements for the sports time and sports event taken by teenage athletes etc^[6]. According to the survey questionnaires, teenager's weekly sports frequency and the corresponding sport duration for each time are displayed in the following tables (See TABLE 5, TABLE 6).

TABLE 5 : Teenage athlete's average weekly sports frequency

Training Frequency(Times)	<5	5~6	7~8	9~10	>11	Total
Frequency(Person)	1	15	18	23	3	60
Frequency(%)	1.6	25.0	30.0	38.3	5	100

TABLE 6 : Teenage athlete's average sports duration for each time

Training Duration(Hour)	1	2	3	4	>4	Total
Frequency(Person)	5	30	18	5	2	60
Frequency(%)	8.3	50	30.0	8.3	3.3	100

It can be concluded from TABLE 4 that, weekly frequency of sports conducted by teenage long jumpers in China is about 7 to 10 times, which is much higher than 5 to 8 times of training for every week required in Track and Field. This indicates that frequency of training taken by teenage long jumpers in China is too high, which can impose high-intensity training and comparatively high mental pressure on teenage athletes in China, and which will also affect the teenagers' normal physical and mental developments.

In the meantime, the syllabus in Track and Field requires that the duration for each training conducted by teenage long jumpers should be about 2 to 3 hours, and TABLE 6 shows that the average duration for each training conducted by teenage long jumpers in China is around 2 to 3 hours. This indicates that the average duration for each training conducted by Chinese teenage long jumpers is rational.

Performance improvements made by teenage long jumper in China

Figure 1 and Figure 3 both indicate the same tendency: with the continuous progress of long jump in world's track and field, the performances made by male and female long jumpers and triple jumpers in China will be constantly improved with increasing age.

As can be seen from Figure 1, though the performances made by male and female long jumpers in China are constantly improved with increasing age, the performance level of long jump in China still falls behind the average world's level. Before the age of 20, the growth rate of annual performance made by male and female long jumpers in China is higher; after the age of 20, growth speed slows down or even has the tendency to decline at times; however, the world's average level stays at the stage of steady growth, which is averagely higher than the performance made by the male and female long jumpers by 0.5 meter; moreover, the gap has the tendency of gradually getting enlarged. This indicates that teenage long jump in China still has a big space for developments and improvements.

As is shown in Figure 2, the initial performance of men's triple jump in China is much higher than the world's average level; however, with the growth of age, performance made by male triple jumpers in China keeps being caught up with or even gets exceeded. Moreover, the figure shows that world's performance of men's triple jump experiences a tendency of rapid development, which gradually enlarges its distance with the performance of men's triple jump in China; however, female triple long jump in China shows the tendency of being stable with some declines, among which two obvious declines can be observed at the age of 17 and 23. It is a pity that there are quite few documents related to the performance made by the female athletes of world triple jump, which requires more investigations and researches.

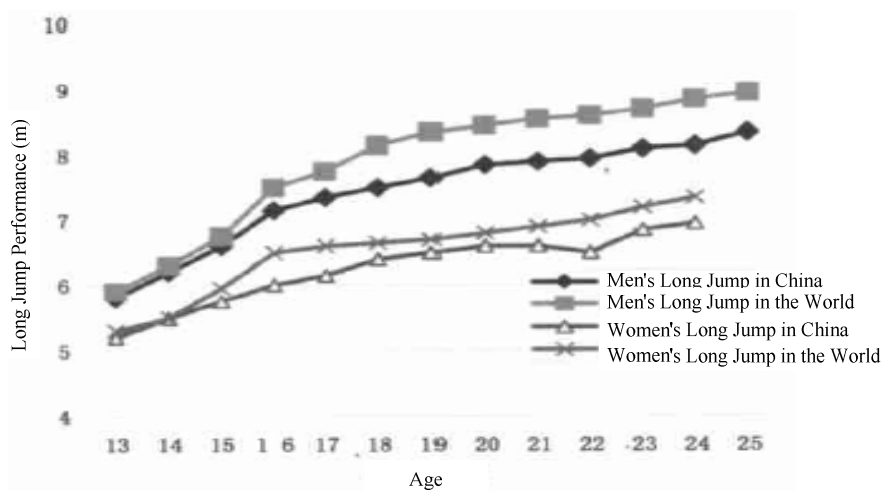


Figure 1 : Graph showing that performances of long jump in the world and China change with increasing age

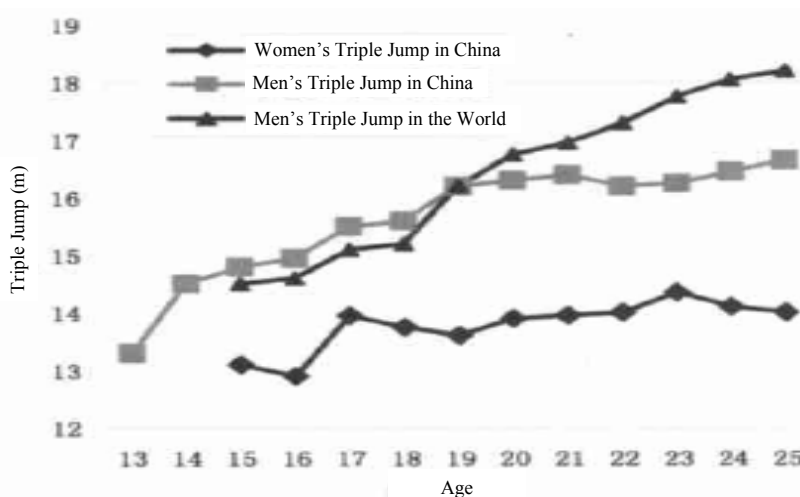


Figure 2 : Graph showing that performances of triple jump in the world and China change with increasing age

Basic information on instructor of teenage long jump

Educational background and level distribution of the instructor

As can be seen from TABLE 7, instructors of long jump in track and field have low academic qualities on the whole. Though TABLE 8 shows that level distribution of instructors for the teenage long jump in track and field is quite decent, about 80% instructors are at intermediate and advanced level; however, due to the fact that teenagers take the training without getting fully developed in body and mind, there should be higher quality requirements for instructors' qualities in all aspects, and the qualities of the instructors for long jump in track and field still need to be further improved.

TABLE 7 : Educational level of the instructors who attended the 2008 national youth championships in athletics

Educational Background	Doctorate Student	Graduate Student	Undergraduate Student	Junior College Student	Total
Frequency (Person)	1	2	6	18	27
Frequency (%)	3.7	7.4	22.2	66.7	100

TABLE 8 : Level distribution of the instructors who attended the 2008 national youth championships in athletics

Title	National	Advanced	Intermediate	Junior	Total
Frequency (Person)	2	10	9	6	27
Frequency (%)	7.4	37.0	33.3	22.2	100

Instructor’s ideological and moral quality

By making analysis and discussion over the 27 copies of questionnaire retrieved from the instructors, it can be known that the instructors of jumping event attending the 2008 Youth Championships in Athletics generally have quite high ideological and moral qualities in all aspects, which has fundamental significance in promoting the overall developments of the long jumpers.

Instructor’s knowledge structure

As the saying goes, “An accomplished disciple owes his accomplishment to his great teacher!” Instructor’s knowledge level has vital influence on the athlete’s development. An instructor with rich and proficient knowledge is more likely to bring up excellent athletes. According to the questionnaire and on-site interview, the fundamental knowledge mastered by instructors engaging in the teaching of long jump comes from the reeducation after the employment, and therefore their foundations are quite weak; in addition, as for the instructors who were surveyed or interviewed, their professional knowledge mainly comes from the sports experiences after engaging in the training career, before which they have no related practical experiences, and therefore their professional knowledge is quite limited ; furthermore, as can be observed from Figure 3, only 18% surveyed instructors are able to master the computer knowledge, which limits instructor’s instant acquisition and update of the information to a great degree.

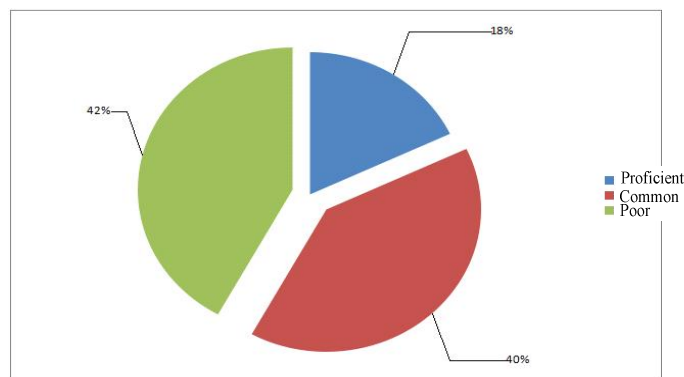


Figure 3 : Instructor’s computer competence

Instructor’s teaching ability

Generally speaking, instructors of special event must have the sports experiences for this event, especially the high-level sports experiences^[7]. Among 30 instructors who engage in the teaching of teenage long jump, 72% of instructors are the national advanced and intermediate athletes; however, few instructors carry the title of top athlete and international top athlete (Figure 4). This research also conducted survey over instructor’s research ability and level etc. As for the research results, half of the instructors for teenage long jump indicate that they have never published any related papers, and only one person have published more than 4 papers, which shows that instructors of teenage long jump in China lack certain creativities in exploring the scientific training for long jump and have not obtained the corresponding progresses and developments. It is a great challenge for the long jump of track and field in China.

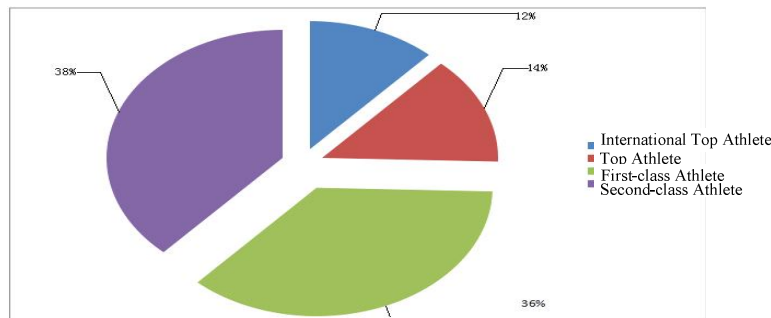


Figure 4 : Instructor’s working background

CONCLUSIONS

This research carries out the survey on the selection of athletic talents and training methods for long jump in Chinese teenage track and field. Based on the survey, as for long jump in track and field, it does not only have strict requirements for congenital condition and training methods, but it also holds the corresponding requirements for instructor’s fundamental

theories and educational background. Therefore, along with the scientific training methods for teenage long jumpers, strict selection and training for the instructors of teenage long jump is the only way to accelerate the developments of Chinese teenage long jump of track and field.

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