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Design the Training Program to Improve the Strength, Agility, and Quickness of the Table Tennis Players in Jing Zhou City

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Abstract

Background and Aim: With the continuous development of the project and the increasing confrontation and competitiveness of this competition, the physical fitness of the players is being given higher requirements. Therefore, the objective of this research was to compare it with the traditional training method. The combination of digital technology and traditional table tennis strength, agility, and quickness training methods are more effective.

Materials and Methods: The population used in this research was 120 students at Jing Zhou City Sports School. According to the formula of Yamane, the total was 92 samples. This research introduces the training programs for table tennis players, focusing on the theories of training strength, agility, and quickness. Semi-structured interviews were conducted to determine the training plan, and the final indicators were obtained through a questionnaire survey. The training experiment lasted for 8 weeks.

Results: The research results show that: (1) Compared with the conventional lower limb mobility training, the compound training method is better in sports load monitoring. (2) Compared with the conventional lower limb mobility training method, table tennis coaches and athletes pay more attention to the integration of digital technology compound training methods in improving the ability of lower limb mobility.

Conclusion: The research findings were: (1) the Effect of compound training on half-meter word test performance, (2) the Effect of compound training on the performance of side slip plus linear sprint test, (3) the Effect of compound training on SJ squat jump test performance.

Keywords: Training Program; Strength; Agility; Quickness; Table Tennis Players

Introduction

In table tennis, technical tactics and physical fitness are important components of athletes' competitive abilities to fight each other over the net. With the continuous development of the project and the increasing confrontation and competitiveness of this competition, the physical fitness of the players is being given higher requirements (Zheng Yu Jia et al., 2021), which is mainly reflected in the fact that the athletes follow changes in the route, strength, arc, etc. of the ball in the game and need to be constantly adjusted quickness to the position on the court to create the best hitting position to improve the return quality, and the fast movement of the left and right half. As a common form of movement or hitting in table tennis competitions, this requires athletes with excellent movement strength, agility, and quickness, and many studies have shown that mobility is of great significance to the improvement of the sports performance of players in isolated tennis events (Wang Jianmin, 2006). Therefore, how to improve the strength, agility, and quickness of table tennis players in daily training, not only becomes a table tennis coach and table tennis physical trainer but also an important training topic for trainers and trainers like the characteristics of table tennis sports.

In the 1970s, foreign training experts proposed "To efficiently improve the strength and explosive power of athletes, strength and explosive force exercises are arranged in the same training class, combining traditional anti-impedance training with fast telescopic compound training, called compound training. Based on post-activation potentiation (PAP), many studies have shown that this training mode can well improve items similar to the characteristics of table tennis. Eyes, such as football, volleyball, basketball, handball, taekwondo, boxing, sprint, and other athletes' mobility ability, especially in sports with high explosive power (Zhou Tong, Zhang Biyu, et al., 2020), but the summary is now relevant table tennis research, scholars at home and abroad apply compound training table tennis. However, in the research on table tennis, domestic and foreign scholars do not pay much attention to the application of compound training to the strength, agility, and quickness training of table tennis players. Meanwhile, the existing application of different new training methods for the strength, agility, and quickness training of table tennis players cannot effectively monitor the training and the whole experiment process (Wang YinHui, 2020).

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Based on the existing research background, a set of mixed training modes is designed to improve the strength, agility, and quickness of table tennis players in Jing Zhou City. At the same time as the theoretical research of the project, the compound training pair is verified by empirical means. Whether the mixed training method is better for improving the strength, agility, and quickness of table tennis players, and whether it can have a certain impact on the competitive ability of table tennis players based on improving the strength, agility, and quickness of table tennis players.

Additionally, the designed training model is utilized for experimentation to compare the differences in strength, agility, and quickness between the control and experimental groups. This confirmation is essential to validate that the specifically designed training regimen can effectively enhance athletes' abilities, including compound training for explosive lower limb performance in basketball events (Mat Zer, 2017). Furthermore, this approach can provide additional confirmation that mixed training can lead to suitable improvements in various sports training. Such improvements can yield both short-term and long-term desirable outcomes (Li Jiaxing, 2021). The impact of mixed training on football development is also noteworthy (Que Yilin, 2020) (Wang Fahui, 2021).

The results of the research are that in the future. The training of athletes' strength, agility, and quickness increases more training methods. At the same time, to change the problems of inadequate training monitoring and irregular training movements in past research, digital technologies such as Virtual Reality and Global Positioning System wearable devices are integrated into the whole process of training and experimentation (using the "VR" system to help the experimental object build a correct training action model, as well as real-time playback of the comparison between the training action and the correct practice action; GPS wearable device is used to monitor whether the time and speed of the experimental object's sprint run after load-bearing exercise meet the standard), to strengthen the coach's monitoring of physical changes after athletes adopt compound training, improve the training effect.

Objectives

To compare it with the traditional training method. The combination of digital technology and traditional table tennis strength, agility, and quickness training methods are more effective.

Literature Review

In terms of origin and development, compound training abroad predates domestically. As mentioned above, compound training was proposed by two coaches Verkhoshansky and Tatyan in the 1970s and used in athletics training. Initially, these two coaches were in a training mode that combined speed and strength training to improve the athletic performance of athletes. This training mode is the earliest research literature on compound training. After large resistance training, explosive force exercises are carried out to improve athletic performance. After that, Verkhoshansky proposed that the combination of large and small loads should be used for compound training to achieve better training results. Since then, the research on compound training has gradually increased, such as Fleck and Kontor based on the review in 1986, it is proposed to carry out large anti-impedance training first when using compound training, which can achieve better training with lightweight and biologically similar movements. Chu (1996) in Fleck and Kontor based on the research, further suggestions are put forward in combination with the physiological mechanism. It is believed that the compound training course is suitable for basic strength training movements, such as squatting, split leg squatting, lying push, etc. Combining more than two kinds of strength training with rapid contraction compound training can achieve a maximum training effect. Kraemer, W. J., & Newton, R. U. (1994) define compound training as a muscle explosive training strategy, believing that this training method can improve the muscle strength and speed of athletes at the same time, which means that explosive power can be maximized. Macdonald, C.J. et al. (2012) compared the effects of compound training with resistance training and enhanced training on strength and anthropometric values through experiments. The results confirmed that compound training is a feasible training method. As the research progresses, the American Physical Association has developed guidelines for compound training to regulate and guide the use of compound training. As a means of explosive training, compound training has developed for a long time abroad, but it does not pay much attention to compound training in China. In 2017, Zhou Tong and Zhang Biyu, two scholars from Beijing Sports University, published the first high-quality domestic research on compound training in the Journal of Sports Science. Subsequently, Liao Yonghua (2018) used the experimental method to discuss the effect of high-intensity compound training on body fat and tissue damage in aerobics. The results showed that compound training can not

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only reduce the body fat content of aerobics but also promote muscle regeneration and increase the role of muscle tissue. Hao Lei et al. (2019) applied compound training to the training of diving events and used experimental methods to demonstrate its effectiveness. The results showed that a scientific compound training scheme can effectively improve the explosive power of the lower limbs of divers. Wang Yinhui (2020) sorted out the literature on strength training at home and abroad from a dynamic perspective and summarized the specific principles of use of compound training under different conditions. In the same year, Zhai Huanan and others used meta-analysis to study the impact of compound training on the lower limb strength of teenagers. The results showed that compound training is effective in improving jumping and sprinting projects. In addition, in recent years, the doctoral and master's thesis of some sports colleges and universities have also been designed to improve sports performance with compound training, which has promoted the development of compound training in China to a certain extent.

Summarizing the research on compound training at home and abroad, the physiological mechanism of compound training is not completely clear, but after adopting compound training, there are two main physiological mechanisms for athletes' exercise performance improvement: (1) compound training achieves effective stimulation and activation of the nervous system, improves the excitement of sports units, and indirectly improves the recruitment level of sports units so that trainers can show greater explosive power in a subsequent low load or overcoming their weight training (Ebben, W.P., & Watts, P.B.,1998). (2) The stimulation of high-load anti-impedance training in compound training can improve the speed of myosin light chain phosphorylation, increase the sensitivity of calcium ions, and reduce inhibition, thus creating good conditions for the improvement of explosive power(Hodgson, M., Docherty, D., & Robbins, D.2005). This is also the embodiment of post-activation potentiation (PAP).

Conceptual Framework

The research title was “Design the Training Program to Improve the Strength, Agility, and Quickness of the Table Tennis Players in Jing Zhou City” and the design of the conceptual framework is as follows:

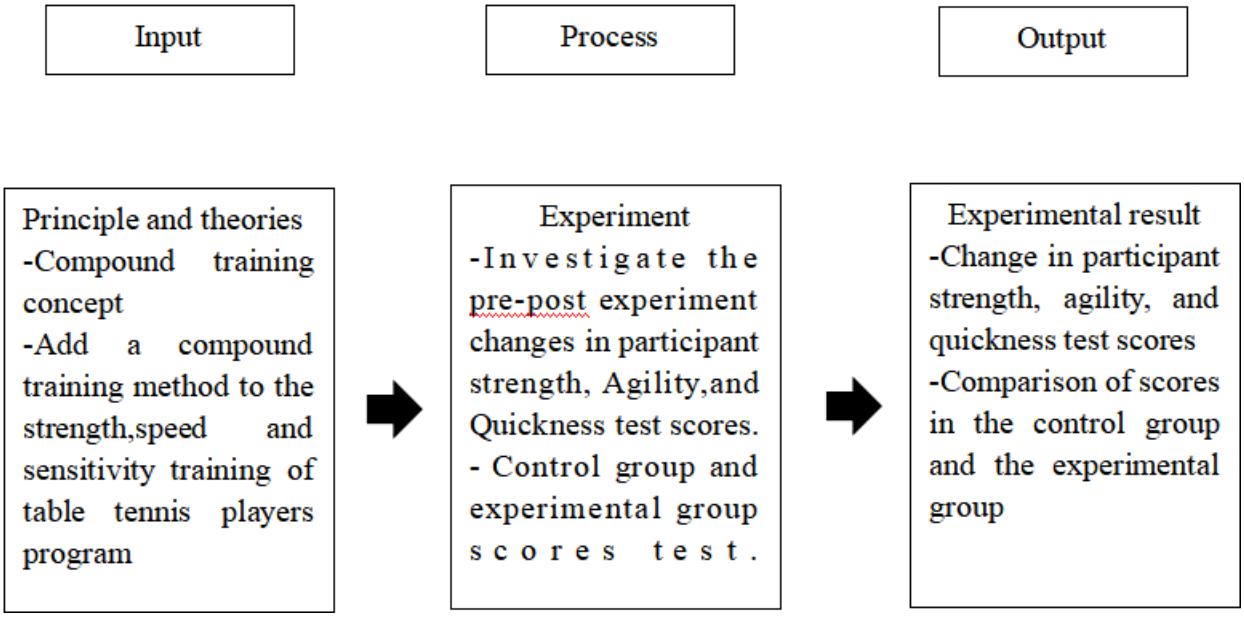

Figure 1 Conceptual Framework

Methodology

The sample group used in this research comprised 120 players from Jing Zhou City Sports School, and the exact population was known to the researcher. Therefore, the sample size used in this research was determined according to Yamane's formula (1973), resulting in a total of 92 samples obtained through non-probability convenience sampling.

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The research methods are as follows:

In the first stage, relevant research concepts and theories were checked and summarized into a concept paper.

In the second stage, semi-structured interviews were conducted with a total of 15 experts to determine the training plan for this study, as well as the preliminary indicators for testing strength, agility, and quickness.

The third stage involved a questionnaire survey to determine the final test indicators for strength, agility, and quickness, with input from 10 tennis doctoral supervisors and table tennis coaches.

Subsequently, an 8-week training experiment was conducted, comparing the control group and the experimental group.

Finally, the data were analyzed to report the results of the study.

Results

1. Comparative analysis of the results of 3 test indicators of the experimental group and the control group before the experiment

Using the method of T-test of independent samples, the 3 test indicators of the experimental group and the control group before the experiment were pretested, and the difference analysis was conducted. The purpose is to ensure that there is no difference between the lower limb movement indicators of the experimental group and the control group and to ensure that the final research conclusion is credible and scientific.

1.1 Differential analysis of the performance of 3 tests between the experimental group and the control group before the experiment.

Table 1 T-test table of mobility and explosive force tests between experimental and control groups (X ± S, N=46 persons)

Test specification	Experimental group	Control group	T	P
Half-meter test	15.54±0.72	15.73±0.51	0.478	0.582
Side slip and a straight sprint	6.86±0.15	6.84±0.22	1.174	0.217
SJ squat jump	57.42±3.02	56.82±3.44	1.334	0.255

Table 1 is the table of the difference analysis of the pretest scores of the speed, sensitivity, and response between the experiment group and the control group. The data in the above table show that among the six items tested, the results of the experimental and control groups were not significantly different, and P was greater than 0.05. Therefore, the selected subjects in the experimental group and the control group moved at the same level before the experiment, and there was no significant difference, so they as the subjects will have no impact on the final experimental conclusion.

1.2 Differential analysis of the performance of three table tennis skills in the experimental group and the control group before the experiment

Table 2 T Test Table for mobility and Control group ((X ± S, N=46 persons)

Test specification	Experimental group	Control group	T	P
Push, side, flutter right corner/min/time	14.26±2.01	13.97±1.99	0.401	0.218
Pull the arc circle speed/meter per second	11.37±1.08	11.41±0.94	1.076	0.389
Backhand far and middle platform pull arc circle speed/meter per second	9.48±1.33	9.52±1.25	0.837	0.217

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Table 2 is before the experiment using the independent sample T-test of the experimental group and control group 3 highly related to lower limb movement ability table tennis technology test, including push, side, right technology mainly records the success of table tennis players in 1 minute, the main test the speed of the ball back / m per second. According to the table above, before the experiment group and the control group in the above three table tennis technology test index performance, there is no significant difference, the P value is greater than 0.05 before the experiment group and experiment group subjects whether push, side, and the right corner technology one minute, or the backhand and loop speed, the three table tennis technology at the same level, shows that the experiment before the three table tennis technology will not affect the final experimental results.

2. Comparative analysis of the results of 3 test items between the experimental group and the control group after the experiment.

2.1 Comparison of the overall indicators of the experimental group and the control group after the experiment.

The test results of the experimental group and the control group before and after the experiment were summarized, which can intuitively find the changes in the data before and after. At the same time, the change amplitude index was added to further indicate the change in the test results of the experimental group and the control group in the 8-week training experiment.

Table 3 Overall change of 3 test indicators between the experimental group and control group after the experiment (N=92 persons)

Test specification	The experimental group (n=46 persons)			Control group (n=46 persons)		
	Before the experiment	After the experiment	Rangeability	Before the experiment	After the experiment	Rangeability
Half-meter test	15.54±0.72	14.66±0.31	4.0%	15.73±0.51	15.18±0.26	2.2%
Side slip and a straight sprint	6.86±0.15	6.21±0.11	11.5%	6.84±0.22	6.52±0.17	3.6%
SJ squat jump	57.42±3.02	63.02±4.14	9.9%	56.82±3.44	59.33±2.18	4.9%

Table 3 data shows that 8 weeks after the experiment, the control group and speed, sensitivity, and reaction ability of highly related three indicators' results have a certain range of promotion, 8 weeks of targeted practice, for table tennis players mobile ability promotion obviously, including for table tennis players performance also has a positive influence. However, from the perspective of the range of change of the two groups, the performance improvement of the test items in the experimental group is higher than that of the control group, indicating that the integration of digital technology composite training mode can more effectively improve the speed, response, and agility ability of table tennis players. Below, the experimental group and control group will analyze the specific test items before and after the test and the non-repeated test difference test.

2.1.1 Comparison of the test scores before and after the experimental group and the control group

Table 4 Comparison of pre-and post-half-meter test results between the experimental group and control group. (unit / s)

Group	N	Before the experiment	After the experiment	Improve the situation
experimental group	46	15.54±0.72	14.66±0.31$^{\#}$	0.91±0.14*
control group	46	15.73±0.51	15.18±0.26$^{\#}$	0.17±0.06

Table 4 shows the results of the two groups before and after the experiment. The data show that after the experiment, both the experimental group and the control group improved their half-meter

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test scores, and both the experimental group and the control group improved significantly by P <0.05. After the experiment, the difference test results between the experimental group and the control group showed that P <0.05, which showed that the performance improvement of the experimental group was higher than that of the control group, indicating that the compound training of integrated digital technology had more advantages in improving the half-meter test performance of table tennis players.

2.1.2 Comparison of lateral sliding steps and linear running results between the experimental group and the control group.

Table 5 Comparison of lateral sliding steps and linear runs in experimental and control groups (units / s)

Group	N	Before the experiment	After the experiment	Improve the situation
experimental group	46	6.86±0.15	6.21±0.11$^{\#\#}$	0.52±0.02*
control group	46	6.84±0.22	6.52±0.17$^{\#}$	0.15±0.03

Table 5 shows the performance of side sliding and straight running in the two groups. The data show that after the experiment, the performance of the experimental group the control group, and the control group improved to different degrees, but from the effect of the improvement, the performance of the experimental group was very significant. The results of the group difference showed that P <0.01. At the same time, the results of the difference between groups also showed that the conclusion was confirmed, P <0.05. From the actual training situation, the resistance training and fast expansion training adopted by the experimental group can make good use of the PAP effect to improve the mobile ability of the athletes. Compared with the traditional mobile training of the control group, the training program of the experimental group is more significant.

2.1.3 Comparison of SJ squatting and jumping performance before and after experimental group and control group

Table 6 Comparison of SJ squatting and jump scores before and after the experiment (unit / CM)

Group	N	Before the experiment	After the experiment	Improve the situation
experimental group	46	57.42±3.02	63.02±4.14$^{\#\#}$	5.41±1.13**
control group	46	56.82±3.44	59.33±2.18$^{\#}$	2.37±1.04

Table 6 shows the change in SJ squatting performance before and after the experiment between the experimental group and the control group. The data in the table show that SJ squatting in both groups improved after the experiment, which is similar to the improvement of 1 RM weight and half squatting. The performance of the experimental group improved significantly, and the difference between groups and between groups showed that the P-value was less than 0.01. However, compared with the experimental group, the control group improved the performance of the experimental group was significantly improved, P <0.05, the increase was 2.37±1.04CM, and the improvement of the experimental group reached 5.41±1.13CM. The same is mainly derived from the experimental group fusion of digital technology compound training program in lower limb explosive practice, part of the combination training means to improve table tennis players lower limb explosive has an ideal effect, such as resistance training after training, or resistance training after feet continuous jump small hurdles, etc., can have a positive impact on table tennis players' lower limb explosive force, including real-time monitoring of training object heart rate changes, continuous training load adjustment, to

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increase the degree of stimulating athletes. However, the control group is mostly a simple practice of running, although it can affect the explosive force of the athletes after a period of training, the effect is limited.

Discussion

The results show that the integration of digital technology compound training method can not only effectively improve the lower limb movement ability of table tennis players, but also has more advantages than the conventional lower limb mobility ability training of table tennis, and the improvement effect is better. In addition, the integration of digital technology compound training methods uses heart rate detection, Probert intelligent table tennis eagle eye system, and other modern digital technologies are applied to the training process, which not only improves the coaches' ability to monitor the training process but also can effectively use digital technology to attract the enthusiasm of athletes to actively participate in the training. compound training achieves effective stimulation and activation of the nervous system, improves the excitement of sports units, and indirectly improves the recruitment level of sports units so that trainers can show greater explosive power in a subsequent low load or overcoming their weight training. (Ebben, W.P., & Watts, P.B.,1998) The stimulation of high-load anti-impedance training in compound training can improve the speed of myosin light chain phosphorylation, increase the sensitivity of calcium ions, and reduce inhibition, thus creating good conditions for the improvement of explosive power. (Hodgson, M., Docherty, D., & Robbins, D.2005)

Table tennis, as a net competition event, is a fast table tennis competition. The speed here includes fast ball speed, fast response, fast movement, fast movement, etc., which requires athletes to have excellent reaction ability, but also requires athletes to have excellent lower limb movement ability. Therefore, has been how to improve the table tennis players' lower limb movement ability to become the focus of table tennis coaches at all levels, compound training method can well improve the similar characteristics of table tennis, such as football, volleyball, basketball, handball, taekwondo, boxing, sprint, such as athletes' movement, especially in the movement with high explosive force. (Zhai Huanan & Zhou Tong, 2020) It is important to note that the vast majority of table tennis technology use needs lower limb explosive participation, such as the choice of push, side, the right technology, positive, backhand cosco impact technology, the use of these technologies in addition to the basic lower limbs movement, needs lower limbs to provide larger forward, upward strength to the upper limbs, arms, wrist, and fingers, and finally on the ball, using fusion digital technology compound training method not only improves the ability of table tennis players lower limbs, also can effectively improve the explosive force of athletes, and comprehensive performance in improving table tennis athletes performance. Therefore, applying the combination of digital technology to the lower limb movement ability training of table tennis players can better improve the players' lower limb movement ability and sports performance.

Recommendation

1. Coaches in the use of fusion digital technology compound training arrangement should fully consider the individual differences of athletes, increase monitoring and regulation, physical attention after the second day of training, such as transition fatigue, should adjust the established training plan, reduce the intensity and measurement, arrange restorative practice, prompted the athlete body recovery, reduce the risk of injury athletes.

2. In larger intensity training, should be prepared for training, at the same time in the process of training specific attention to auxiliary tools such as waist, and knee help athletes to complete the established training, reduce the risk of injury, at the same time, should also strictly control the interval time, according to the athletes after a group of movements, flexible arrangement. When using a fusion digital technology compound training method, the actual situation of the athletes should be fully studied, and the specific training plan should be formulated according to the existing site resource conditions.

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References

Chu, D. A. (1996). *Explosive Power and Strength: Complex Training for Maximum Results*. Human Kinetics.

Ebben, W. P., & Watts, P. B. (1998). A review of combined weight training and plyometric training modes: Complex training. *Strength and Conditioning Journal,* 20, 18-27.

Hao, L., Nie, Y., Han, X., & Zhong, B. S. (2019). Experimental study on the effect of compound training on lower limb explosion force in competitive divers. *Journal of Capital Institute of Physical Education,* 02, 175-181.

Hodgson, M., Docherty, D., & Robbins, D. (2005). Post-activation potentiation. *Sports Medicine*, 35(7), 585-595.

Kraemer, W. J., & Newton, R. U. (1994). Training for improved vertical jump. *Sports Science Exchange,* 7(6), 1-12.

Li, J. (2021). *Study on the effect of composite training on the lower limbs of sprinters in universities.* Master's thesis, Shanghai Institute of Physical Education.

Liao, Y. (2018). The influence of high-intensity composite training on body fat and tissue damage in aerobics athletes. *Journal of Southwest Normal University (Natural Science Edition),* 08, 70-76.

MacDonald, C. J., Lamont, H. S., & Garner, J. C. (2012). A comparison of the effects of 6 weeks of traditional resistance training, plyometric training, and complex training on measures of strength and anthropometrics. *Journal of Strength and Conditioning Research,* 2, 422-431.

Matzer. (2017). The effect of composite training on lower limb explosive force in young male basketball players. *Contemporary Sports Technology,* (25), 14-15.

Que, Y. (2020). *Experimental study on the effect of single and bilateral lower limb composite training and SAQ training on the multidirectional speed of college student male soccer players.* Master's thesis, Wuhan Institute of Physical Education.

Wang, F. (2021). *Comparative study on the influence of single and bilateral lower limb composite training on lower limb strength, speed, and orientation ability of football players.* Master's thesis, Shanghai Institute of Physical Education.

Wang, J. (2006). Study on the mode of special footstep movement ability training for junior male volleyball players. *China Sports Science and Technology,* (01), 62-96.

Wang, Y. (2020). Application of composite strength training mechanism, characteristics, and method based on kinetic perspective. *Journal of Chengdu Institute of Physical Education*, 02, 100-106.

Yamane, T. (1973). *Statistics: An Introductory Analysis.* 3rd Edition. Harper and Row.

Zhai, H., & Zhou, T. (2020). A meta-analysis of composite training affecting lower limb explosive force in adolescents. *Journal of Wuhan Institute of Physical Education*, (10), 65-71.

Zheng, Y. J. (2021). *Study on the influence of composite training on the special mobility of college men's volleyball players.* Master's thesis, Hebei Normal University.

Zhou, T., & Zhang, B. (2017). Research progress of compound training. *Sports Science,* 10, 72-79.

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