

Research on Development Trend of World Competitive Aerobics

Hongliang Yu

College of physical education, Binzhou University, Binzhou, 256600, China

Abstract: The world competitive aerobics is a synthesis of aesthetics and sports, which fused the athletics spirit and art aesthetics, embodied people's understanding about nature and beauty. The development of world competitive aerobics is of great significance for competitive sports, therefore, the research on development trend of world competitive aerobics is proposed in this paper. The investigation of development trend of the world competitive aerobics is conducted while using various analyzing methods to discuss the development of world competitive aerobics. The results showed that while taking accuracy as standard, keeping the characteristics of aerobics, the competitive quality, artistry, individuality and ornamental value are highlighted in the development of world competitive aerobics.

Keywords: World competitive aerobics; Trend; Inspiration

1. Introduction

In May 1994, Federation Internationale de Gymnastique (FIG) officially accepted aerobics as its member, also, the organizing committee of aerobics in FIG was established. Thus, the international integration leadership was realized, and accelerated the development of aerobics. To make the competitive aerobics become one of Olympic events as soon as possible, FIG made a lot of efforts^[1]. In 2000, FIG selected the mixed doubles and three-person champions of the 6th World Aerobics Championships to perform at the Sydney Olympics. This performance was highly appreciated by Olympic Committee. As a result, the competitive aerobics had been ranked as one of demonstration events by Olympic Committee of Beijing in 2008. In addition, the FIG Aerobics Committee revised and supplemented the original rules with the spirit of the Olympic Games as the standard. The new competition rules for 2005-2008 were introduced, and the competition rules were prepared for the early entry into the Olympic Games^[2]. Aerobics is a young sports program. Although its development history is only a short period of more than 20 years, it has been popular around the world with its own charm and project characteristics, and has won the favor of the people of the world. It has been reported that "there is aerobics in places where there are people", which fully shows that the popularity and development of aerobics movements are unexpected. Especially in May 1994, Federation Internationale de Gymnastique (FIG) officially accepted aerobics as its member, also, the organizing committee of aerobics in FIG was established. Thus, the international integration leadership was realized, and accelerated the development of aerobics^[3]. This indicates that aerobics will soon become the official competition event of the Olympic Games. The situation

is gratifying and the situation is compelling. In order to compete for gold in the Olympics, all countries are eager to try. Faced with such a situation, studying the development and countermeasures of aerobics is extremely significant and far-reaching. This paper attempts to analyze the problems and shortcomings of aerobics sports from the status quo and development trend of the world aerobics, and propose corresponding solutions and measures.

2. Investigation of Development Trend of the World Competitive Aerobics

Competitive aerobics is a sport that exemplifies continuous, complex, and high-intensity movements accompanied by music. The project originated from traditional fit aerobics. As an emerging sports competition, the development of competitive aerobics has been 20 years old. Later, with the establishment of international organizations, the corresponding competition rules were formulated, and international competitions of various forms and scales were held, competitive aerobics gradually developed into competitive sports that challenged the limits of the human body for the purpose of competition [4]. The set of exercises of competitive aerobics uses seven basic steps and complex arm movements to carry out a continuous and diverse combination of exercises, demonstrating the strength and beauty of the athletes, and combining the four groups of difficult movements to complete the complete set of movements and reflect the athletes' high athletic ability.

2.1. Research object and method

Research object: The trend and countermeasure of competition rules of international competitive aerobics. The changes of the new and old competition rules of the in-

ternational competitive aerobics are analyzed, and compared from three aspects of art, completion and difficulty by watching the video materials of the 10th and 12th World Aerobics Championships^[5]. The main methods used in the survey are mainly divided into.

Literature Review Method: In the library and the Internet, more than forty articles related to the rules of competitive aerobics, and many excellent master's thesis can be researched, understanding the trends and countermeasures of the rules of competitive aerobics competition, and sorting out and refining the above materials and papers to laid a solid theoretical basis and foundation for the writing of this paper^[6]. Detailed interpretation of the two sets of competition aerobics competition rules provides detailed theoretical materials for research.

Video observation method: By watching the video materials of the World Athletics Aerobics Championships, the paper provides a factual basis for the research on the trend and countermeasures of competitive aerobics under the change of rules.

Method of comparative analysis: Analyzing the evolution of competitive aerobics competition rules, comparing the similarities and differences between the two sets of rules, watching the video materials of the world's competitive aerobics championships, and comparing the scores of the top eight athletes in terms of difficulty, art and completion.

Mathematical statistics: Statistics on the data collected in the rules and videos are performed, and using SPSS statistical software and EXCEL office system software to sort and analyze the data, and obtain statistical data with high authenticity to support the conclusions drawn from this study.

2.2. Analysis and discussion

The cycle aerobics rules issued by FIG are updated every four years. Since the aerobics project entered the International Gymnastics Federation in 1995, the competition rules have become standardized, normalized, systematic and international^[7]. Through careful comparison and analysis of international competitive aerobics rules, the rules have been greatly adjusted in difficulty level, artistry, completion and general rules to make the rules of new cycle more normalized, detailed and reasonable^[8]. According to the main contents and changes of previous competitive aerobics rules, the order of the referees' seats in the new and old rules can directly show the changes of the competitive focus. The referee's seat arrangement changes in the old and new rules, as shown in Figure 1:

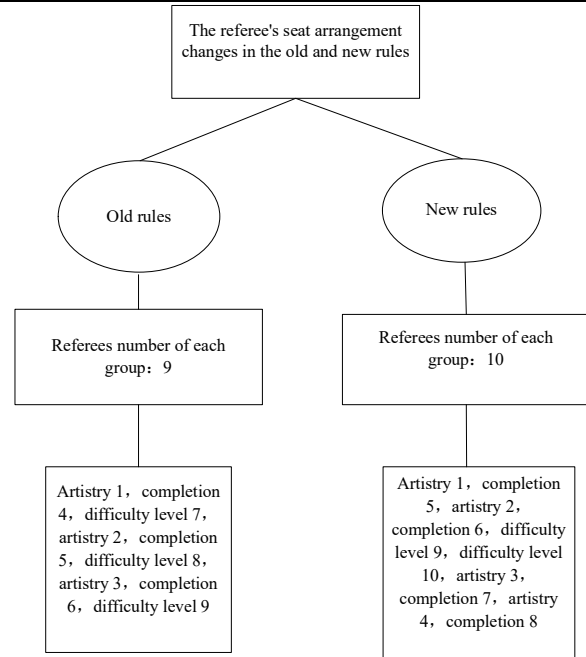


Figure 1. The referee's seat arrangement changes in the old and new rules

The old rules add the referees number from original 12 to 14, the detailed information are given below: artistry referees and completion referees increased from original 3 to 4, while the difficulty level referees are reduced to 2 from original 3, in addition, there is a timekeeper increased, aiming to improve the fairness and accuracy of artistry referee and completion referee, reduce the unfair rating due to non-objective factors such as the referee's personal factors and subjective influence, at the same time, it is more conducive to objective response to athletes' achievements^[9]. As can be seen from Figure 1, in the old rules, the seats of artistry, completion, and difficulty level referees are separated from each other; In the old rules, the artistry referee and the completion referee sat at the two sides of the difficulty level referee, and the two difficulty level referees sat together in middle to avoid the wrong judgment. At the same time, it is convenient to consider all the referee duties to confirm and compare the scores and the points, and the opinions are the same, and the final score is presented; if the opinions are different, the average score is taken. The score thus obtained is more fair and reasonable than the rules of 97 version^[10].

From the old rules to the new rules, the FIG has changed the based name of the difficulty action and made a clear classification and adjustment. The based name classification of various groups of difficulty action is shown in Figure 2:

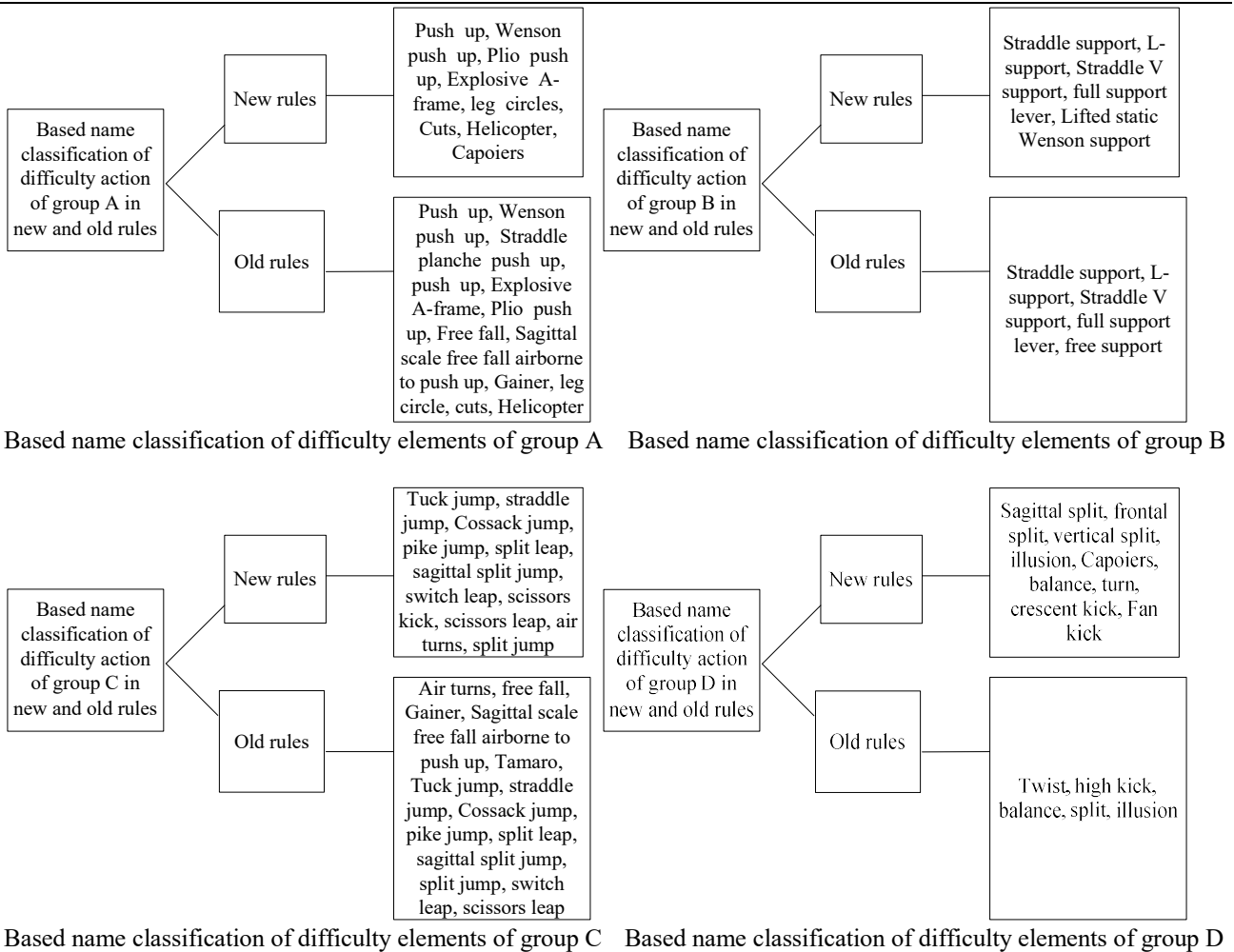


Figure 2. Based name classification of difficulty elements of various groups

According to the comparative analysis in Figure 2, the old rules divide the 321 difficulty actions in the difficulty score table into 34 based names. And on the original basis, there are some integrations and adjustments, for example, the two based names of push up and Gainer in Group A are deleted; the Straddle planche push up originally in Group A is distributed to Group B, the free fall and Sagittal scale free fall airborne to push up originally in Group A are distributed to Group C, and the Sagittal scale free fall airborne to push up is renamed as Gainer; the Capoiers originally in Group D is distributed to Group A^[11]. There are barely no changes in difficulty elements of Group B. The fan kick in Group D is distributed to Group C and renamed as Tamaro; the crescent kick, fan kick and capoiers are deleted; Sagittal split, Frontal split and Vertical Split are combined as Split. Analysis of the above figure shows that on the basis of the old version, the new version of the rules redistribute the difficulty action, the dynamic power and static power are divided into the difficulty group, and the same type of

difficulty action is classified. This not only limits the difficulty of the same based name, but also highlights the diversity of individual actions. While making the competition project reflect the athlete's athletic ability and personal characteristics, it also expands the space for athletes and coaches in the selection of difficult movements^[12]. When the two athletes have the same scores, the one with higher artistry scores won, which indicates that in the whole complete aerobics movements, the experts of artistry is quite important. If the athletes want high scores, they must feel the music and grasp the rhythm, make full use of the space, show elegant movements, fully demonstrate themselves' advantages and show their artistry level to the largest extent. To meet the requirements for artistry, the design of a complete set of aerobics must show its special content with creativity and competitiveness, and the diversity and the close combination with set of music, set of content, and the expressive force of athletes. The comparison of artistry scores factors in new and old rules is shown in Figure 3.

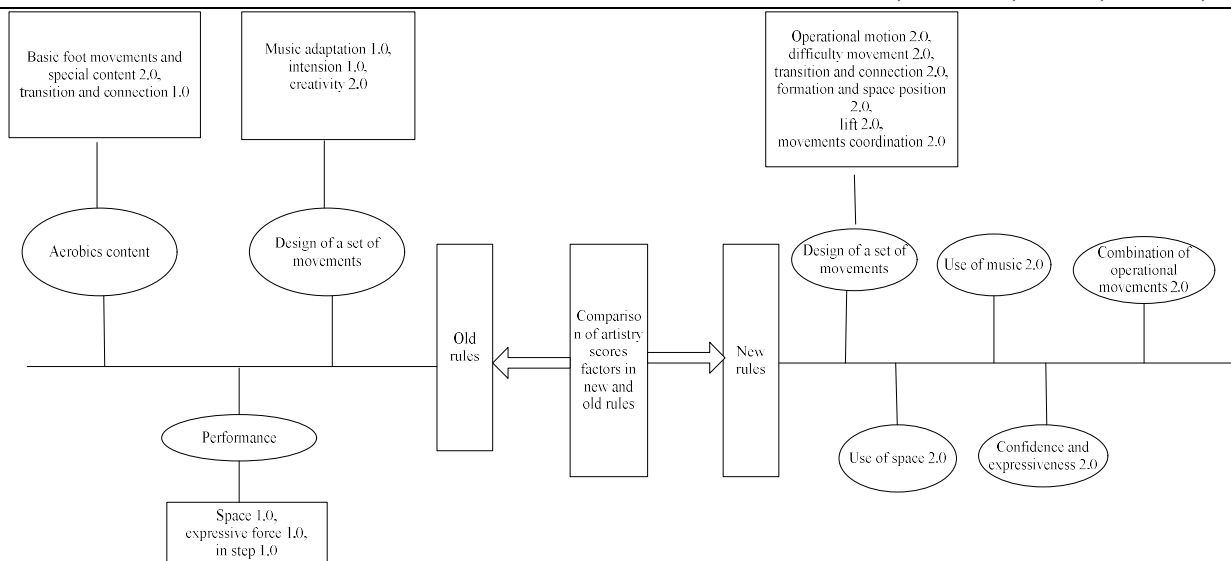


Figure 3. Comparison of artistry scores factors in new and old rules

Through the table, we find that there are three aspects of scoring factors of the old art rules: design of set of movements, aerobics content, performance, in which the design of set of movements includes the music adaption, intension and creativity; the aerobics content includes basic foot movements and special content, transition and connection; performance includes space, expressive force and in step^[14]. Obviously, the old rules completely separate the operational movements and the characteristic performance, but the strength and the in-step are largely manifested by the expressiveness of the athletes. Therefore, in the scoring rules of the new rules, these unreasonable factors have been modified and adjusted. The art scores were scored mainly from five aspects: design of set of movements, use of music, combination of operational movements, use of space, confidence and expressiveness. The biggest change is the reorganization of the artistic score of 10 points. The rules no longer list creativity as a scoring factor, but requires that the entire set of actions must be innovative. The basic foot movements, music adaption, intension of movements and in-step are deleted. And formation, lift and movements coordination are added. It compensates for the lack of separation between the original set and the featured content, and allows the athletes to display their personal characteristics to a greater extent. Secondly, in the 05 version of the rules, the evaluation of the art score includes not only what the athlete is doing, but also the specific "how to do it". For example, excited music requires athletes to move clearly and cleanly, and cheering music requires athletes to perform gracefully^[15]. There is great difference between use of music and music adaption, one is to follow passively, another is to feel positively. The original design of set of movements is abanded, the scores are risen from 1.0 to 2.0. The operational movements (2.0) are

established separately. The scores of space also raised from 1.0 to 2. The scores of these three are equal to 60% of the artistry scores. In the final analysis, the athletes who control the music to perfectly display the personal characteristics and technical style is quite important, the unique and novel and complex and varied operation combination and the multi-dimensional space of the venue and the sense of innovation will be the leading factors in the future art value of competitive aerobics.

3. Development Trend of World Competitive Aerobics

In 21st century, there are both opportunities and challenges for the development of the world aerobics movement. The opportunity comes from the return of aerobics to the gymnastics family, and the process of joining into the Olympics is greatly shortened; The challenge is how to make aerobics show its unique artistic charm in the world sports, making aerobics more colorful. Looking at the development process of aerobics, combined with the newly-enrolled international aerobics scoring rules, the development trend of aerobics should be worthy of attention.

3.1. Aiming at leading the development direction of world competitive aerobic

The FIG International Rules are currently recognized and common rules for competitive aerobics competitions. The rules are the guide for the development of aerobics technology. Its formulation and modification are aimed at the needs of technological development. Whether it is the first FIG competition rules or the recent new rules, the FIG. Aerobics rules are leading the development of the world's competitive aerobics technology in constant revision and innovation. In art: from the initial extra points

for creativity to the necessary elements of innovation, the perfection of music to the perfect display, the 4.0 art embodiment is divided into the current three major components of the nine small components, it's accumulated and perfected in areconstant practice. In terms of completion and difficulty: from the initial error deduction criteria to the current graphical representation of the various basic steps and difficulty actions. The addition of six-person projects, the constant innovation of difficult actions, the constant adjustment of scores, and the creation of action connections all proved to the world that: The future development goal of the FIG. Aerobics rules is still the comprehensive development of competitive aerobics technology.

3.2. Based on the fairness of the game and the accuracy of the score results

As an international organization, the "fairness and justice" of the rules is the direction of all sports competition projects and efforts. Competitive aerobics is a difficult group of skills-oriented categories. The score of the project will be subjectively influenced by people to some extent. So how to improve the fairness and accuracy of competitive aerobics program scores, which is closely related to the rules of competitive aerobics. We will clearly discover from the constantly updated rules that the standards for the completion of the action, the use of music, and the expression of performance are constantly being refined. Even in the 2009-2012 rules, the illustrations are used to clearly describe the requirements of each action and the deduction criteria, so that each score of the athlete can be reviewed with reference to the rules, reflecting the accuracy of the scoring rules. At the same time, the meticulous requirements and strict training of the referee are also the guarantee of justice and fair rules. The FIG competitive aerobics competition rules have been constantly improving the rules, with a goal of refined scoring standards and objective scoring basis. It can be said that on the future competitive platform, the fairness of the game and the accuracy of the scoring results will still be the development direction of the FIG competitive aerobics competition rules.

3.3. Maintaining the characteristics of aerobics sports

As early as 1998, the communique of the International Federation of Athletics Conferences clearly stated: "These guidelines have finely guaranteed the outstanding performance and the safety of athletes as a priority over the difficulty; At the same time, it guarantees the continued progress of the difficulty and gives appropriate evaluation of all the innovative skills of excellent athletes." To make the aerobics develop towards healthy and scientific direction, the latest aerobics competition rules make great revision on the requirements of difficulty movements. The original "each set of movements must com-

plete 16 difficulty movements of different types, then the scores of 12 difficulty movements will be counted" is revised as "each set of movements must complete 12 difficulty movements of different groups", meanwhile, the classification of aerobics difficulty movements is also revised from "6 types" to "4 groups". The modification of these contents is mainly for the future development trend of aerobics, avoiding the athletes' loss of the characteristics of aerobics sports because their pursuit of too high and too difficult movements in order to win. The rules of the competition have always played a guiding role in the development of this sports technology. Therefore, limiting the difficulty of movement and maintaining the characteristics of aerobics programs is the general trend of the development of aerobics in the 21st century.

3.4. Highlighting the quality

In addition to restricting the difficulty of action, the latest international aerobics competition rules of the International Gymnastics Federation have put forward higher requirements for the quality of the set of movements. It emphasizes that the complete set of actions must first demonstrate the perfect and high-quality completion of aerobics, reflecting the overall coordination and aerobics characteristics, while also making strict and detailed regulations on the specifications, reduction criteria and minimum completion limits of difficult movements. For example, if the angle of the legs of all the fork-like movements is less than 180 degrees and the maximum deduction is 0.5 points, the swivel movement must be complete, otherwise it will be regarded as the degrading of difficulty, etc., which actually increases the difficulty of the movement and improves the quality requirements of completion of the movement. The new rules state: "They expect a perfect completion, and any deviation from perfect completion will be reduced." "The difficulty referee scores the first 12 difficulty actions completed, and the difficulty action of the mistake is recorded as a completed action, but the score is 0.0 points." Through the revision of the competition rules by the International Gymnastics Federation, it can be expected that the competition in the aerobics competition in the next century will inevitably be reflected in the high quality of the action. Highlighting high quality and pursuing perfection will be another development trend of aerobics in the 21st century.

3.5. Taking innovation as the mainstream of development

Innovation is the eternal topic of social progress. Innovation fosters life. The development of aerobics is so fast because continuous innovation has given it a powerful life. Innovation is the key for the 21st century international competitive aerobics competition to win. Compound difficulty actions refer to the use of full body abili-

ty and high skill to complete different types of difficult actions at the same time. Compound action can fully reflect the overall quality and ability of athletes. In particular, the restrictions and modifications of the difficulty movements in the 2001 aerobics competition rules will make the innovation of compound difficulty movements the most beautiful scene in the 21st century international competitive aerobics stage. Whether athletes can win gold medal and silver medal in the arena depends on the level of aerobics design and the quality of completion, and the design is the basis for completion. The unique action design, ingenious technical connection and exquisite, unique style and personalized dance style will bring aerobics to a new world.

3.6. Prominent artistry

Artisticity is a prominent feature of the difficult beauty group in competitive sports. Aerobics is also creating a "world" in the field of competitive sports with its unique artistic expression. It can be has learned from the historical analysis of the International Aerobics Scoring Rules that artisticity has always been a place in the scoring factors of aerobics rules and has always been an important aspect of measuring the level of sports technology. In particular, the International Gymnastics Federation clearly stated in the Executive Committee held in Indianapolis, USA that the next century's competitive aerobics scoring rules should add an art score to highlight the artistry of aerobics. In order to implement this spirit, the international aerobics scoring rules have made major revisions to the scoring method, and the original "design scores, completion scores, and difficulty scores" have been changed to "art scores, completion scores, difficulty scores". Emphasizing the appreciation of aerobics, from reducing the difficulty to increasing the artistic scores, we can predict that the 21st century aerobics movement will achieve unprecedented breakthroughs in artistic expression and level.

3.7. Highlighting personality and enjoyment

Competitive aerobics is a highly performing sports program. The athletes' unique music production, different styles of action design, vivid, passionate, highly personalized performances and novel costume design not only adding colour to the whole set of exercises, impressing the audience and the referee, is also the key to determining the outcome of the game. Especially in the spirit of the new rules of 2001, "guarantee safety, maintain aerobics characteristics, and strengthen artisticity", the 21st century world aerobics movement will definitely develop in the direction of art, individualization and stylization, so that the aerobics is more enjoyable.

4. Conclusion

The changes in the rules of competitive aerobics, the rules of scoring are more standardized, meticulous and rational, and the development of competitive aerobics is in the direction of difficulty, newness and beauty. The judge's judgment is also more objective and fair. Analyzing the techniques of difficult movements in the difficulty table of competitive aerobics rules, studying advanced training methods and means, and improving the ability of aerobics players to complete the difficult movements and complete the high scores. Strengthening the research on the characteristics of competitive aerobics art scoring, understanding the artistic design elements of competitive aerobics, and highlighting innovation and diversity, to make the layout design idea of the complete set of sports aerobics consistent with the development trend of the competitive aerobics rules under the new cycle. Strengthening the expressiveness of athletes and the level of music appreciation, so that people, aerobics, and music are coordinated and unified.

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