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Investigation on the Recognition of Referees on the Scoring Rules for TAEKWONDO Demonstration Competition

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Abstract

Purpose: This study is highly anticipated to reduce unfair judgment in Taekwondo demonstration games as a qualitative study done on the recognition, problems and development plans of Taekwondo breaking demonstration competitions through research subjects composed of referees with experience in Taekwondo breaking demonstration competitions. Furthermore, if unified competition rules are applied regardless of the event organizer, it can be used as basic data for establishing objective grounds for Taekwondo demonstration events as a sport.

Method: This study used the purposeful sampling method, a non-probability sampling method, as a representative method of qualitative research and selected 5 people who have experience as a referee in Taekwondo breaking demonstration competitions. The study participants include 4 men and 1 woman who are in their 30s and 40s. They possess Taekwondo Grade 6 or 7, and 2 of them have 5 years or less referee experience and 3 had 6 years or more referee experience. After explaining the purpose of the study and the contents of the interviews to the study participants, the participants were asked to respond through telephone recording in a stable atmosphere for the researcher to directly collect the data. The interviews were recorded using a call recording function of Samsung Galaxy S20 Ultra for about 40 minutes, and the recorded data were analyzed through a transcription process using an LG laptop.

Results: Breaking demonstration competition referees' perception of the competitions was found as follows; 'characteristics of Taekwondo breaking demonstration competition', 'advantages', 'disadvantages', and 'injury prevention and emergency response.' Breaking demonstration competition referees' perception of the scoring of the competition was found as follows; 'demonstration terminologies', 'evaluation methods', and 'referee qualifications.' Breaking demonstration competition referees' perception of the development plans of the competition was found as follows; 'development potentials', 'need for scoring criteria', 'establishment of scoring terminology', 'enhancement of referee expertise', and 'safety accidents.'

Conclusion: First, the perception of breaking demonstration competition referees toward the demonstration competitions was analyzed as the characteristics, advantages, disadvantages and emergency response of the breaking demonstration. Second, the perception of breaking demonstration competition referees toward the scoring was found to be demonstration terminologies, evaluation methods and referee qualifications. Third, the perception of breaking demonstration competition referees toward the development plan for breaking demonstration competitions was observed to be development potentials, need for scoring criteria, establishment of scoring terminology, enhancement of referee expertise and safety accidents.

[Keywords] Taekwondo, Demonstration, Breaking Competition, Scoring Rules, Referee Recognition

1. Introduction

There are different ways of determining win or loss during elite sports events; decisions on win or loss are made based on records for speed skating, swimming and track-and-field

whereas soccer, basketball, and handball games use score and figure skating, gymnastics, and diving use referee scoring to determine win or loss. Currently, Taekwondo game is divided into three major types: Gyeonggi, Poomsae, and demonstration. Gyeonggi is a sport in which win or loss is determined by scoring while referee scoring determines the win or loss in Poomsae and demonstration. Taekwondo has built a global infrastructure in which more than 10,000 people, including the members of the international sports development cooperation, from 210 countries are training[1].

Taekwondo is largely divided into sparring, poomsae, and breaking. In 1962, the Korea Taesoodo Association(the former entity of the Korea Taekwondo Association) joined the Korea Olympic Committee. In addition, the number of members of the World Taekwondo Federation is 209 countries as of 2019, more than 206 Olympic countries and 84 percent of 249 countries by the International Organization for Standardization[2][3].

Taekwondo demonstration has been transformed into a performing arts and sports event representing Taekwondo, beyond its role in promoting Taekwondo[4]. In addition, with the development of Taekwondo demonstration and the World Taekwondo Hanmadang Competition as the first demonstration competition, Taekwondo demonstration was adapted as a sport game at university competitions such as those sponsored by the president of Korea National Sport University, Kyunghee University, and Yongin University in 2014, directly affecting college admission and increasing the number of athletes and the level of technological difficulty. However, due to each competition's own game management method, the scoring rules are not unified nor the rules and evaluation criteria are sufficient[5]. Athletes continue to develop new skills in Taekwondo demonstration sport as they express themselves freely in their own way using the principle of attack in Taekwondo kicks, and skill proficiency is regarded important in the sport. It is true that even in gymnastics games, which show similar tendencies to the current Taekwondo demonstration sport, distrust of the scoring rules and scoring and referees' mistakes have been constantly occurring[6]. One of the most representative cases is the case of gymnast Tae-Young Yang at the Athens Olympics where the score determined was not corrected even after a question about the start value was raised. Even the referees of Taekwondo demonstration have difficulties in scoring the game as the scoring evaluation indicators are not objectively prepared irrespective of the increased demonstration techniques through grafting Taekwondo demonstration with other sports such as gymnastics and cheerleading. In addition, there is a growing need for clear technical terms and unification of game rules, as for Gyeonggi and Poomsae, and official referees.

With the founding of the Kukkiwon Demonstration Team in 1974, taekwondo demonstration played a significant role in promoting and disseminating taekwondo not only in Korea but also around the world. taekwondo demonstrations were carried out as a means to promote taekwondo as an official Olympic event[7][8]. Currently, referees must hold a certificate and complete referee training for the Taekwondo games of Gyeonggi and Poomsae. On the other hand, though the referees in Taekwondo demonstration competition is set to be those with profound knowledge in the demonstration, such as university professors and executives of a demonstration team belonging to a Taekwondo institution, the lack of referee certificate in this game, unlike the other two games of Taekwondo, causes difficulties even in referee training

Prior research on Taekwondo demonstration events studied athletic performance and technology[9][10][11][12][13] and demonstration competition[5][14][15][16](Kim et al., 2014; Kim and Jeon, 2018; Lee and Kim, 2019; Shin and Lee, 2015), was studied in terms of the activation and status of Taekwondo demonstration competitions. Nonetheless, There certainly is a lack of research on the fair scoring rules and scoring of Taekwondo breaking demonstration competitions that can be objectively recognized.

While Taekwondo demonstration competition and event are being revitalized and developing, the advancement of Taekwondo demonstration is faced with great difficulties due to unclear scoring evaluation indicators and technical terms. In addition, the perception of referees

employed in demonstration competitions organized by universities and institutions is also unclear. Therefore, this study investigates the perception of referees of Taekwondo breaking demonstration competitions and their view on scoring of the competitions and examines development measures for Taekwondo demonstration competitions.

Consequently, this study is highly anticipated to reduce unfair judgment in Taekwondo demonstration games as a qualitative study done on the recognition, problems and development plans of Taekwondo breaking demonstration competitions through research subjects composed of referees with experience in Taekwondo breaking demonstration competitions. Furthermore, if unified competition rules are applied regardless of the event organizer, it can be used as basic data for establishing objective grounds for Taekwondo demonstration events as a sport.

2. Research Method

2.1. Research subject

This study used the purposeful sampling method, a non-probability sampling method, as a representative method of qualitative research and selected 5 people who have experience as a referee in Taekwondo breaking demonstration competitions. The study participants include 4 men and 1 woman who are in their 30s and 40s. They possess Taekwondo Grade 6 or 7, and 2 of them have 5 years or less referee experience and 3 had 6 years or more referee experience. The characteristics of the study participants are as shown in <Table 1>.

Table 1. Characteristics of study participants.

Participant	Gender	Taekwondo Grade	Age	Referee experience	Remark
Poo	Male	7	Between 40~49	6 years or more	
Koo	Male	7	Between 40~49	6 years or more	
Joo	Male	6	Between 30~39	6 years or more	
Loo	Female	6	Between 30~39	5 years or less	
Noo	Male	6	Between 30~39	5 years or less	

2.2. Data collection

This study presented 2019 scoring criteria for competitions sponsored by the president of Korea National Sport University and Yongin University that implement the competition rules of the Korea Taekwondo Association and conducted in-depth interviews focusing on semi-structured questionnaires for general problems and solutions of Taekwondo breaking demonstration competitions. In addition, the contents of the interviews were recorded using a recording device with the consent of the research participants and then documented through a transcription process.

2.3. Research procedure

In this study, the researcher directly sought cooperation from the personnel who participated as a referee in the 2019 Taekwondo Breaking Demonstration Competition Sponsored by the President of Korea Sport University and Yongin University held between June to July 2020 and obtained consent for in-depth interviews.

After explaining the purpose of the study and the contents of the interviews to the study participants, the participants were asked to respond through telephone recording in a stable atmosphere for the researcher to directly collect the data. The interviews were recorded using a call recording function of Samsung Galaxy S20 Ultra for about 40 minutes, and the recorded data were analyzed through a transcription process using an LG laptop.

In addition, information that was not disclosed during the in-depth interviews was collected through additional phone calls which were recorded with prior consent. During all procedures, the research participants' information was kept anonymous.

2.4. Data analysis

This study conducted inductive category analysis through domain analysis and taxonomic analysis used in qualitative research to definitize observations made during the in-depth interviews, focusing on the subject and thematic categorization of the meanings in this study[17]. After the in-depth interviews, internal criticism was conducted on the summarized finding from the interviews by the researcher and expert groups. Also, the results of the study were derived by executing investigator triangulation, one of the sub-validation procedures for qualitative research, through expert meetings[18].

2.5. Data integrity and ethics

After collecting data through an open questionnaire, reviewing the meaning and analyzing the contents of the collected data, an expert meeting was held to secure the truthfulness of the study. A semi-structured interview was conducted based on the extracted factors. Data integrity of this study was secured through multilateral verification. In order to correctly understand and verify the perceptions of the research participants, a group composed of three members who are an expert in Taekwondo demonstration or Taekwondo professor was formed to exclude the researcher' prejudice and subjectivity. It consisted of a total of 4 individuals, including the researcher and three members – 1 Taekwondo professor, 1 executive from the National Demonstration Team, and 1 referee for Taekwondo breaking demonstration competition. Content validity and data integrity were secured through expert consultation for each research procedure, from data analysis to result interpretation, and the following steps were followed to minimize ethical issues in the qualitative research process. First, in the process of selecting the research participants, the consent from the study participants was obtained only after sufficiently explaining the contents of the study. Second, efforts were made to protect the personal information of research participants; the identity of the participants was kept anonymous to avoid identification exposure and the collected contents were kept confidential.

3. Results

Table 2. Referees' recognition and improvement measures for the scoring rules for taekwondo breaking demonstration competitions.

Category	Sub-category	Original data
Breaking demonstration competition referees' perception of the competition	Advantages of breaking demonstration competition	Arouse interest through various and dynamic techniques
		As a means to promote taekwondo worldwide, the development of taekwondo demonstration technique leads to the development of taekwondo
	Disadvantages of breaking	Technique increases, but the quality as a martial art declines

	demonstration competition	Emergence of breaking demonstration techniques imprudently combining other sports	
	Injury prevention and emergency response	Athletes are seriously injured due to indiscreetly high-level breaking	
		Rapid response to emergency situations by specialized medical staff	
Perception toward the Scoring of taekwondo breaking demonstration competition	Demonstration terminologies	Unified terminologies for the sports	
		Unified terminologies for the techniques	
	Evaluation method	Allocated points according to complete breaking and technical difficulty	
		Unification of criteria for important evaluation items	
		Unification of clear deduction criteria	
		Changes in scoring rules	
	Referee qualification	Measures for fair judgment	
		Evaluation of new techniques through referee training	
		Enhancement of referee expertise	
		Systematic referee education	
	Improvement measures	Development potential	Affecting college entrance with the specialization of taekwondo demonstration
			Exclusive admission for demonstrators through the establishment of university demonstration teams
Taekwondo performance and development of demonstration competitions			
International exchange through taekwondo demonstration			
Need for scoring criteria		Complete breaking(pine board)	
		Deduction criteria	
		Technical standard	
Establishment of scoring terminology		New technique	
		Same technique	
		Same sport	
Enhancement of referee expertise		Referee qualifications identical to gyeorugi and poomsae	
		Taekwondo experience and demonstration competition awards	
		Revitalization of the referee education system	
Safety accident		Professional medical staff	
		Use of safety landing mat	
		Players' unskilled use of highly difficult techniques	
		Need age restrictions for high-level techniques	

3.1. Taekwondo demonstration competition referees' perception of the competition

Breaking demonstration competition referees' perception of the competitions was found as follows; 'characteristics of Taekwondo breaking demonstration competition', 'advantages', 'disadvantages', and 'injury prevention and emergency response.' Among the characteristics of the breaking demonstration competition that the referees perceive, the dynamic characteristics of the competition, which Gyeonggi and Poomsae lack, was found to induce the interest of

the audience and enhances the value of being a spectator. The referees also perceived that as the number of Taekwondo demonstration competitions increase, the performance of Taekwondo demonstration and development of demonstration techniques advance, becoming a medium to promote Taekwondo to the world. However, highly difficult techniques that imprudently combine Taekwondo with other sports such as gymnastics and cheerleading were recognized as declining the quality of Taekwondo as a martial art. In fact, indiscreetly high level skills performed by unskilled players were recognized as leading to injuries to which emergency measures cannot be taken due to lack specialized medical staff.

Argued that Taekwondo demonstration serves an international role by inviting the International Olympic Committee(IOC) and each country's influential political and sports figures for demonstration, taking the lead in the central position to make Taekwondo a world-class cultural product and enhancing national prestige of Korea through sports diplomacy[18][19].

Criticized that the use of slightly different techniques obscures the identity of Taekwondo; though the component techniques belonging to Taekwondo which used to have the same terminology and movement[20].

Showed that unskilled players participating Taekwondo breaking demonstration competitions indiscriminately perform high-difficulty and demonstrated measures for injuries occurred during performance[5].

With splendid movements, high-difficulty techniques and dynamic performances that cannot be found in Gyeorugi and Poomsae, Taekwondo demonstration and the spirit of Taekwondo has a tremendous effect on the audience. In addition, it plays an important role in international exchange and the Korean Wave. However, there is a perception that the effects of these performances are losing the spirit of Taekwondo and declining the quality, as a martial art, of the movements and kicks of Taekwondo. It is also deemed necessary to have evaluation index for the quality as a martial art and dynamic performance skills in Taekwondo against the injuries caused by indiscreet high-difficulty techniques.

3.2. Perception toward the scoring of the taekwondo demonstration competition

Breaking demonstration competition referees' perception of the scoring of the competition was found as follows; 'demonstration terminologies', 'evaluation methods', and 'referee qualifications.' It was found that each competition of Taekwondo demonstration uses different names for the sport and technique, and the increased number of techniques that combine Taekwondo with other sports even worsened the situation for the referees and athletes. The referees recognized that for the development and fair scoring of Taekwondo demonstration its terms must be established. In addition, there also found a problem in the distribution of points in evaluation methods of Taekwondo demonstration. The referees found it difficult to fairly score players who completely broke pine boards with a low-level technique and who did not completely break pine boards with a high-level technique as there is no clear standard for point allocation. Although there are criteria for scoring for expressiveness, proficiency, completeness, artistry, and creativity, it was recognized that the concept of evaluation items was interpreted differently by hosting organizations, resulting in subjective evaluation by referees. In addition, the need to unify the criteria for point deduction was also recognized as different hosting organizations have different criteria. Moreover, the referees perceived that the scoring rules should clearly express the scoring criteria through separate scoring of referees and important evaluation items should be established appropriate to the purpose of breaking demonstration competitions. It was found that Kukkiwon, the government, agency for Taekwondo, needs to prepare measures for fair and systematic scoring. Also, enhancing expertise by appointing professional referees for Taekwondo demonstration events and establishing unified evaluation items and evaluation criteria for new technologies through systematic referee training were found to be necessary.

Argued that the technical terminology of each institution was not unified due to the rapid development of demonstration techniques, and the increasing number of new techniques

complicates the technical terminologies used in the demonstration. Also underlined that the government and institutions related to Taekwondo need to respond quickly[5].

Currently, the scoring rules for figure skating are divided into the first score and the second score, which is composed of the rule element and the directing element. Similarly, scoring breaking demonstration competitions by dividing it into the first score on complete breaking and the second score on the level of technique seems to help drawing concrete judgments. In addition, showed that the scoring and deduction criteria of the competition are different for each competition and they must be unified[5].

Emphasized the need for professional referees due to the lack of expertise in Taekwondo referees[5][21].

For the fairness of the current Taekwondo demonstration competition and the development of the Taekwondo breaking demonstration competition, Taekwondo institutions must establish accurate items and concepts, while showing clear evaluation items. In order to revitalize Taekwondo demonstration competitions, it is necessary to introduce a qualification system for referees. In addition, it is considered imperative for experts with profound knowledge in the demonstration to discuss for unified terminology, concept establishment and evaluation items.

3.3. Perception toward taekwondo demonstration competition development plans

Breaking demonstration competition referees' perception of the development plans of the competition was found as follows; 'development potentials', 'need for scoring criteria', 'establishment of scoring terminology', 'enhancement of referee expertise', and 'safety accidents.' They recognized that as the demonstration competition is activated, athletes' performance in such competition is directly linked to university admission, which, in turn, establishes and activates university demonstration teams and leads to the development of Taekwondo demonstration events and competitions, ultimately developing Taekwondo as a whole. In addition, Taekwondo demonstration performance in public can make the general public to be interested in Taekwondo demonstrations and make contributions to the country through international exchange. On the other hand, it was recognized that clear scoring criteria were needed in order to resolve the problems facing the current Taekwondo breaking demonstration competitions. Currently, the pine boards used in breaking competitions can be easily broken even by young children without difficulty, so to increase professionalism, different standards need to be set for elementary, middle school, high school, and college students by increasing skills and accuracy and differentiating the thickness of pine boards for each of the student groups. Moreover, it was found that clear scoring rules should be made according to clear criteria for point deduction and level of techniques, and for such clear scoring rules, the establishment of terminology should be given priority. Since the use of different names and terminologies for the same breaking techniques by different hosting organizations found to be a problem, it is necessary to discuss to have a framework for newly developed techniques. In addition, unlike the current Gyeonggi and Poomsae practice, Taekwondo demonstration was found to lack fairness in scoring because there is no referee license. Thus, it was recognized that there should be a referee license equivalent to that of Gyeonggi and Poomsae and the referees must be selected based on certified Taekwondo experiences and received awards to activate referee education system and lead to the development of breaking demonstration events and competitions. As the results of demonstration breaking competitions affect college admission, the number of taekwondo demonstration athletes increases and their age decreases, directly influencing the rapid development of high-skill techniques. Athletes tend to perform underdeveloped high-level techniques in consideration of college admission. This often leads to minor injuries to serious injuries, so hosting organizations should receive an oath of responsibility for safety accidents from athletes to arouse attention to injuries and avoid unreasonably high-skill techniques. In addition, the referees responded that a legal system for safety accidents must be established by limiting the techniques using obstacles according to age and deploying spe-

cialized medical staff in case of injury, while ensuring high level of completeness by installing safety landing mats at designated locations.

Starting with Korea Sport University in 2014, Taekwondo demonstration has been newly established as a general competition for games sponsored by the president of universities such as Yongin University and Kyunghee, directly affecting the admission into university. This, in turn, increased the number of young athletes and activated Taekwondo demonstration competitions. Also, with the increasing number of colleges specialized in Taekwondo, Taekwondo demonstrations are influencing Taekwondo.

Argued that in order for Taekwondo performances to become a public performance, the diversity of Taekwondo and its value as an art must be recognized[22]. Currently, Taekwondo performance contest(KTA Demonstration Contest) in the form of a musical that added a story to Taekwondo through the emergence of high-level Taekwondo demonstration techniques and the activation of the demonstration competitions has been held. In fact, story score has been added to the World Taekwondo Hanmadang Team Competition, revitalizing Taekwondo, not as a simple demonstration, but as a performance[23].

Claimed that the scoring standards should be established through systematic data accumulation by analyzing competitions techniques every year and argued that a unified and clear deduction standard is also necessary. In addition, if the standards of pine boards are differently set for each age group such as elementary, middle school, high school, and university students, along with clear scoring criteria, skilled techniques can reduce injuries. Underlined that officially granting qualifications through referee selection procedures, selecting dedicated referees and providing systematic referee training are necessary for consistent fair judgments of referees. In fact, argued that the efforts of each institution are also necessary[5][21].

Emphasized the necessity of institutionalizing safety accident prevention measures to revitalize demonstration competitions against injuries due to the advent of high-level techniques, and that safety accidents can be reduced if hosting organizations are obligated to use protective mats[5].

It was mentioned that the pine boards used in competitions directly connected to college admission is easily breakable even by young children, resulting in reckless high-difficulty techniques and poor accuracy. It is considered necessary to set the standard for pine boards for each division by Taekwondo institutions and establish technical terminology for Taekwondo demonstration in order to have consistent unified terminologies among different universities and institutions hosting the competitions and provide clear explanation of the system to the athletes, referees, and trainers. In addition, a system for referee qualifications and referee education should be prepared to make the game clearer and fairer, and young athletes should refrain themselves from unreasonable skills by placing appropriate age-restrictions. Moreover, mandating the installation of landing mats for high-level techniques, legalizing medical methods for emergency situations by hosting organizations and receiving an oath for safety accident responsibility are highly anticipated to reduce the risk of safety accidents.

4. Conclusion and Suggestions

This study demonstrated that unfair judgments on Taekwondo breaking demonstration competitions can be reduced by presenting fair scoring rules and scoring standards that can be objectively recognized and implementing verified scoring methods. In addition, the purpose of this study is to provide fundamental data to secure objective basis for Taekwondo demonstration events as a sport by applying unified competition rules regardless of the hosting organization based on the rules, standards and methods. As a result of conducting the study, the following conclusions were obtained;

First, the perception of breaking demonstration competition referees toward the demonstration competitions was analyzed as the characteristics, advantages, disadvantages and emergency response of the breaking demonstration.

Second, the perception of breaking demonstration competition referees toward the scoring was found to be demonstration terminologies, evaluation methods and referee qualifications.

Third, the perception of breaking demonstration competition referees toward the development plan for breaking demonstration competitions was observed to be development potentials, need for scoring criteria, establishment of scoring terminology, enhancement of referee expertise and safety accidents.

Controversy over judgments in sports events still exists. In the process of Taekwondo becoming a sporting sport, problems with judgment appeared in Gyeorugi, Poomsae, and demonstration games. However, as Taekwondo events develop, efforts have been made to make clear and reasonable competition scoring standards for the audience.

These efforts will lead to the development of the breaking demonstration competition, and detailed regulations and professional referees appropriate for the competition must be prepared as soon as possible. The breaking demonstration competition has been unbalanced competition without an exact frame; however, it is now at the transitional phase to transform into specialized and more subdivided professional sports and expand the base of sports Taekwondo through the splendid performance of the demonstration.

Therefore, it is necessary to prepare a uniform competition rule in the Taekwondo system as soon as possible, rather than settling down with the competition rules tailored to each hosting organization. In addition, professional referee selection methods and training are required, and such a system is expected to minimize unfair decisions and errors in judgments.

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7. Appendix

7.1. Authors contribution

Initial name		Contribution
Author	HCS	<ul style="list-style-type: none"> -Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/> -Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/> -Significant contributions to concepts, designs, practices, analysis and interpretation of data <input checked="" type="checkbox"/> -Participants in Drafting and Revising Papers <input checked="" type="checkbox"/> -Someone who can explain all aspects of the paper <input checked="" type="checkbox"/>