



# Taekwondo Poomsae Competitor Perceptions of the Official and New Competition Poomsae, Field of Play, and Competition Rules

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## Abstract

Ten new Taekwondo *poomsae* (forms) were introduced for competition (including the then-named poomsae Himchari, Saebyeol, Bigak, and Nareusya) prior to their inclusion in the 2018 Asian Games in Jakarta, Indonesia. To determine general satisfaction of the current poomsae competition rules, field of play, official poomsae, and new poomsae, a survey of Asia Taekwondo Union poomsae competitors (n=91), coaches (n=33), and referees (n=100) was conducted. A total of 224 respondents completed the survey, but only 193 surveys were viable. Results of this study indicate a positive perception of current competition rules (70%; n=139); field of play (74.6%; n=144); official poomsae (16.5%; n=32); and the new poomsae (Himchari: 73.6%; n=142), (Saebyeol: 73.6%; n=142), (Bigak: 76.7.2%; n=148), and (Nareusya: 72%; n=139). This study should assist Taekwondo governing bodies in establishing practical strategies for the future of poomsae competitions. Numerous conclusions were drawn from this study, but most notably are that athletes, coaches, and referees had little problems with the “old” poomsae but also welcome the new, more challenging ones. This suggests that the respondents understand the value of the original official poomsae and appreciate the challenges that the new poomsae offer. The new poomsae can be said to illustrate how Taekwondo is growing positively while remaining true to its roots.

**Keywords:** 2018 Asian Games, Himchari Poomsae, Saebyeol Poomsae, Bigak Poomsae, Nareusya Poomsae, World Taekwondo (WT)

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## INTRODUCTION

World Taekwondo (WT; formerly known as the World Taekwondo Federation [WTF]), the international federation governing the Olympic sport of Taekwondo, began conceiving of holding a new type of competition after the 1<sup>st</sup> Taekwondo Hanmadang (“Taekwondo Festival”) in 1992. *Poomsae*, which are also known as *tul* and *hyung* in Korean and “forms” and “patterns” in English in various Taekwondo circles, are “sets of prearranged offensive and defensive movements to simulate interactions with imaginary opponents” that contain the fundamental techniques teachings of the martial art and combat sport of Taekwondo [1]. They are used as a standard of measure for Taekwondo practitioner’s proficiency in the martial art. A decade and a half after the first Hanmadang, the WTF held the 1<sup>st</sup> World Taekwondo Poomsae Championship in Seoul, Korea from September 4-6, 2006. The event hosted 525 competitors from 57 different countries, proving a worldwide interest for such competition existed.

In 2018, the number of poomsae divisions were expanded into individual, pair, team, and freestyle competitions. Those divisions are further divided by age (i.e., Cadet [12-14 yrs.], Junior (15-17 yrs.), Under 30 (18-30 yrs.), Under 40 (31-40 yrs.), Under 50 (41-50 yrs.) and Over 50 (50+ yrs. subdivisions). Poomsae players perform black belt-level poomsae that have been authorized by the Kukkiwon, the World Taekwondo Headquarters and the center dedicated to worldwide Taekwondo research, education, and rank examinations. The present Moreover, although 2020 Tokyo Olympics does not include a poomsae event (now only a sparring event is held), the WT is working to add a poomsae component or event at the 2024 Paris Olympics. The interest in poomsae competition is clearly on the rise.

The creation of international poomsae competitions has likewise fostered interest and research in poomsae in general. Researchers have determined some problems that detract from the success of poomsae as a competitive sport. Poomsae should be studied comprehensively for the purpose of learning self-defense rather than a series of individual movements [2] to be scored by a panel of judges. Yet, as many competitors are now focused primarily on practice to win competitions rather than the learning the martial art aspects of taekwondo [2], poomsae competitions may be said to move poomsae away from being a system of self-cultivation [1] toward becoming a performance art. Interest in poomsae competition nevertheless continues to grow, and studies are needed to ensure this emerging sport benefits athletes and spectators alike.

Previously, only 16 official poomsae established by the Kukkiwon were used in competition. Those 16 poomsae increased in difficulty and represent the performer’s Taekwondo skill accordingly [3]. As part of the “Global Poomsae Project,” which was supported by the Republic of Korea’s (ROK) Ministry of Culture, Sports, and Tourism, the Asia Taekwondo Union (ATU) created a dozen new poomsae for competition purposes in 2016. The ATU is a regional organization under the WT that governs Olympic Taekwondo competitions throughout Asia (Table 1). From the 12 new poomsae, four were chosen as official competition poomsae for the 2018 Jakarta Asian Games. Unlike the official 16, the new poomsae are not used for rank assessment in black belt exams. Rather, they were created to be more challenging for competitors physically and thus enable judges to distinguish excellence in competition easier. The inclusion of Himchari Poomsae, Saebyeol Poomsae, Bigak Poomsae, and Nareusya Poomsae made a total of 20 official poomsae used in competition (i.e., 8 Taeguek, 8 black belt poomsae, and the 4 new competition poomsae).

The current study determined the perceptions of ATU competitors, referees, and coaches, who were at the time of the survey expecting to participate in the 2018 Jakarta Asian Games, on various aspects of poomsae competition. The following four research questions were established:

1. How do ATU Taekwondo poomsae competitors, coaches, and referees perceive the current poomsae competition rules?
2. How do ATU Taekwondo poomsae competitors, coaches, and referees perceive the suitability of the current poomsae field of play?
3. How do ATU Taekwondo poomsae competitors, coaches, and referees perceive the official poomsae used in competition (e.g., Taeguek Poomsae 1-7, Koryo, Keumgang, Taebaek, etc.)?
4. How do ATU Taekwondo poomsae competitors, coaches, and referees perceive the newly introduced competition poomsae?

The outcomes of this project should be able to assist the ATU, WT, and/or the Kukkiwon in establishing practical strategies for future poomsae competitions.

### *Change of poomsae names*

The ATU and WT introduced Himchari, Saebyeol, Bigak, and Nareusya poomsae to “consolidate the senior division,” “delete basic poomsae,” and add “new and more advanced poomsae” on June 23, 2017 [4]. Since the time our survey was conducted, WT has altered the names of some of these poomsae and eliminated others from competition. Taeguk Poomsae 4 and Taeguk Poomsae 5 are now removed from all competitions; Bee-gak Poomsae 1 has been added to the Cadet division; Bee-gak 2 and Bee-gak 3 has been added to the Junior division; and Bee-gak 1, Bee-gak 2, and Bee-gak 3 have been added to the Under 30 division and above [5,6]. Bee-gak 1 is based upon a poomsae named Bikkak that was introduced in 2007 but never adopted for competition or ranking purposes. Bak-gak 2 is based on the 2016 Big-gak Poomsae that was taught to the respondents of this study, and Bee-gak 3 is based upon Nareusya Poomsae taught to the respondents of this study [5]. Bigak/Bee-gak 2 Poomsae and Nareusya/Bee-gak 3 poomsae are performed exactly the same despite their name changes. To avoid confusion and to remain true to the answers provided by the respondents, the current study will discuss all poomsae by the names used in the original questionnaire: Himchari, Saebyeol, Bigak, and Nareusya Poomsae.

## **MATERIALS AND METHODS**

### *Subjects and sampling method*

This study’s research population consisted of Asian Taekwondo Union poomsae competitors, coaches, and referees from 34 different countries who participated in an educational seminar about the newly-developed taekwondo competition poomsae. Using the convenience sampling method, 224 respondents volunteered for the study. The purpose and the content of the study were explained to the participants, and the survey was performed in a self-rating method. From the 224 returned questionnaire forms, 193 were deemed valid. The 31 rejected questionnaires were incomplete and were rejected thusly. Table 1 provides the respondents’ demographic information.

### *Questionnaire and survey*

A questionnaire on the newly-developed competition poomsae was provided to the participants of an educational seminar jointly conducted by the ATU and the Kukkiwon. Table 2 outlines the questionnaire format. The questionnaire was written in English. Although the survey was done at an international seminar, English was not the first language of the participants. To address this potential problem, the questionnaire included only questions designed to gather fundamental information about the perception and the future direction of the new competition poomsae. No comprehension difficulties were reported at the time the survey results were collected.

Demographic information questions, which included black belt rank, years of Taekwondo practice, and Asia region (Table 2) were adapted from Oh [7]. Suitability of poomsae competition format questions were based on the same study [7] but were adapted to the current research topics. Questions regarding poomsae rules were likewise adapted from previous researches [8,9,10]. Lastly, questions pertaining to respondents’ perception of the new poomsae were based on and adapted from studies by Kim [11] and Park [12]. All non-demographic data inquiries were scored on a 5-point Likert scale where answers were *strongly disagree*, *disagree*, *undecided*, *agree*, and *strongly agree*; these were scored in ascending value. This cross-sectional analysis examined respondents’ general perceptions to determine poomsae competitors’ satisfaction with the current poomsae rules, the poomsae field of play, official poomsae, and the newly introduced competition poomsae. Data was then correlated the respondents’ demographic data (i.e., age, black belt rank, years of practice, and region).

Table 1. General features of the research subjects.

Category		Frequency (N)	Total (N)	
Gender	Male	135	193	
	Female	58		
Age	10-19 yrs.	15	193	
	20-29 yrs.	73		
	30-39 yrs.	20		
	40-49 yrs.	56		
	50 yrs. or older	29		
Black belt rank	Low	1 <sup>st</sup> degree	19	74
		2 <sup>nd</sup> degree	23	
		3 <sup>rd</sup> degree	32	
	High	4 <sup>th</sup> degree	32	119
		5 <sup>th</sup> degree or higher	87	
Years of practice	1-3 years	4	193	
	3-5 years	10		
	5-10 years	17		
	10 or more	162		
Region	East Asia	63	193	
	Central Asia	5		
	Southeast Asia	70		
	Southwest Asia	23		
	West Asia	32		
Asian Taekwondo Union (ATU) member nations	East Asia: China, Chinese Taipei, Hong Kong, Japan, South Korea, Macau, Mongolia			
	Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan			
	Southeast Asia: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam			
	Southwest Asia: Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka			
	West Asia: Bahrain, Iran, Iraq, Jordan, Kuwait, Lebanon, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen			

Table 2. Questionnaire design.

Topic	Content	Number of questions
Demographic information	Gender, age, black belt rank, years of practice, region	5
Perception of new poomsae	Individual evaluation of the new poomsae (i.e., Himchari, Saebyeol, Bigak, and Nareusya) for competition purpose	4
Current competition rules and field of play	Size and system of competition area	2
Perception of official poomsae	Suitability of official poomsae in competitions	1

## RESULTS

Table 3 contains the perceptions of current poomsae competition rules by the different ATU black belts and regions. A majority of respondents (n=139; 70.02%) perceive the rules used today favorably. East Asian (i.e., China, Chinese Taipei, Hong Kong, Japan, South Korea, Macau, and Mongolia) and Southeast Asian (i.e., Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam; Table 1) respondents had the strongest positive perceptions of the rule set. Respondents from the Central Asian (i.e., Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan; Table 1) nations were split in their perceptions of the rules: out of the 5 respondents,

2 had positive perceptions, 2 were undecided, and 1 had a slightly negative perception of the rules. There were few overall negative perceptions in this category, however. The lowest perception of the poomsae competition rules came from the East Asian (n=7) and Southeast Asian countries (n=6), whereas the other regions surveyed had only 3 respondents claim a negative perception of the poomsae rules.

Table 4 includes the perceptions of the current Taekwondo poomsae field of play by the different ATU black belts and regions. The majority of respondents (n=144; 74.6%) perceive the poomsae competition area positively. Southeast Asian respondents provided the highest positive answers (n=53), while East Asian respondents gave the second highest number of positive responses (n=46). A large number of respondents did not indicate positive or negative perceptions of the competition ring (n=39). Interestingly, 2 of the 5 (40% of the population surveyed) Central Asian respondents had, again, the lowest number of positive responses. Yet, none of the Central Asian and the Southwest Asian (i.e., Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka; Table 1) respondents stated negative perceptions, thus indicating an overall positive perception of the competition area. Both East Asian and Southeast Asian groups reported the same number of negative perceptions of the field of play (n=3), which were the lowest negative perceptions of the 5 groups surveyed.

Table 5 contains the perceptions of the suitability of the official poomsae used in competition (e.g., Taeguk Poomsae 1-7, Koryo, Keumgang, Taebaek, etc.) by different ATU black belts and regions. The majority of respondents perceived the official poomsae favorably (n=124; 64.3%), while 53 remained undecided and 16 did not perceive the poomsae positively. Southeast Asian respondents with high black belt ranks (4<sup>th</sup> degree black belts and higher) reported the highest perceptions (n=28) of the official poomsae used today. Only 2 Central Asian respondents perceived the official poomsae positively, while the other 3 Central Asian respondents were either undecided (n=2) or had negative perceptions of them poomsae (n=1). The largest number of negative perceptions came from East Asian respondents (n=3, or 60% of the Central Asian population surveyed). However, 16 respondents, or 8.3% of the total population surveyed, indicated dissatisfaction with the official poomsae.

Table 3. Perception of poomsae competition rules by different ATU members and regions.

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	5	0	13	1	8	27
	High	16	0	14	4	9	43
	Total	21	0	27	5	17	70
Agree	Low	8	1	14	5	2	30
	High	9	1	14	5	10	39
	Total	17	2	28	10	12	69
Undecided	Low	2	0	5	4	0	11
	High	16	2	4	3	2	27
	Total	18	2	9	7	2	38
Disagree	Low	1	0	3	1	0	5
	High	5	1	1	0	1	8
	Total	6	1	4	1	1	13
Strongly disagree	Low	1	0	0	0	0	1
	High	0	0	2	0	0	2
	Total	1	0	2	0	0	3

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 4: Perception of the current poomsae field of play by different ATU members and regions.

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	6	0	7	3	5	21
	High	17	0	14	6	8	45
	Total	23	0	21	9	13	66
Agree	Low	8	1	18	4	3	34
	High	15	1	14	4	10	44
	Total	23	2	32	8	13	78
Undecided	Low	2	0	7	4	2	15
	High	11	3	5	2	3	24
	Total	13	3	12	6	5	39
Disagree	Low	0	0	2	0	0	2
	High	3	0	1	0	1	5
	Total	3	0	3	0	1	7
Strongly disagree	Low	1	0	1	0	0	2
	High	0	0	1	0	0	1
	Total	1	0	2	0	0	3

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 5. Perception of the suitability of the official official poomsae (e.g., Taeguk Poomsae 1-7, Koryo, Keumgang, Taebaek, etc.) performed in competition by different ATU members and regions.

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	3	0	5	4	6	18
	High	7	0	14	6	13	40
	Total	10	0	19	10	19	58
Agree	Low	10	1	15	1	3	30
	High	15	1	13	3	4	36
	Total	25	2	28	4	7	66
Undecided	Low	2	0	12	6	1	21
	High	17	2	6	2	5	32
	Total	19	2	18	8	6	53
Disagree	Low	1	1	3	0	0	4
	High	6	1	2	1	0	10
	Total	7	1	5	1	0	14
Strongly disagree	Low	1	0	0	0	0	1
	High	1	0	0	0	0	1
	Total	2	0	0	0	0	2

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 7 contains the perceptions of the suitability of the new poomsae named Saebyeol Poomsae by different ATU black belts and regions. With 73.6% (n=142) of the respondents reporting a

positive or very positive perception of this poomsae, the majority of respondents clearly see this poomsae favorably. Similar to the results reported for Himchari Poomsae, the survey's Southeast Asian population had the highest number of positive responses (n=56), East Asian respondents had the second highest number (n=42), and West Asian (i.e., Bahrain, Iran, Iraq, Jordan, Kuwait, Lebanon, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen; Table 1) respondents were third (n=18), or 29%, 21.8%, and 9.3% of the population, respectfully. Once again the Central Asian respondents perceived Saebyeol Poomsae very favorably with all but 1 respondent being undecided and with no negative perceptions whatsoever.

Table 8 indicates the perceptions of the suitability of Bigak Poomsae by different ATU black belts and regions. Out of the newly introduced poomsae, respondents perceived Bigak most positively (n=146; 75.6%). Again, the Southeast Asian and East Asian respondents responded most favorably with 30.1% (n=58) and 23.1% (n=45) of those surveyed having a positive perception of Bigak Poomsae. Only 14.5% (n=28) of those surveyed were undecided, and 8.8% (n=17) had a negative perception toward this poomsae, which is the lowest percentage of negative perception of any of the new poomsae. East Asian respondents reported the largest number of negative responses to Bigak Poomsae (n=6). However, out of those 6 responses, 4 came from high ranking Taekwondo black belts (2.6% of the total population survey). The second lowest perception came from the Southeast Asia group, which reported 5 total negative responses (2.6% of the total population), but only 2 of the respondents in this group were high ranking Taekwondo black belts.

Table 6. Perception of suitability of Himchari Poomsae as a new competition poomsae by different ATU members and regions

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	6	0	14	5	1	26
	High	16	0	16	8	7	47
	Total	22	0	30	13	8	73
Agree	Low	7	1	13	4	3	28
	High	13	3	13	3	9	41
	Total	20	4	26	7	12	69
Undecided	Low	2	0	6	0	3	11
	High	14	1	4	0	5	24
	Total	16	1	10	0	8	35
Disagree	Low	1	0	2	0	2	5
	High	2	0	2	0	1	5
	Total	3	0	4	0	3	10
Strongly disagree	Low	1	0	0	2	1	4
	High	1	0	0	1	0	2
	Total	2	0	0	3	1	6

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 7. Perception of suitability of Saebyeol Poomsae as a new competition poomsae by different ATU members and regions

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	7	0	10	6	3	26
	High	17	0	13	6	6	42
	Total	24	0	23	12	9	68
Agree	Low	7	1	17	4	2	31
	High	11	3	16	6	7	43
	Total	18	4	33	10	9	74
Undecided	Low	1	0	6	0	1	8
	High	12	1	3	0	8	24
	Total	13	1	9	0	9	32
Disagree	Low	1	0	2	0	3	6
	High	5	0	2	0	1	8
	Total	6	0	4	0	4	14
Strongly disagree	Low	1	0	0	1	1	3
	High	1	0	1	0	0	2
	Total	2	0	1	1	1	5

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 8. Perception of suitability of Bigak Poomsae as a new competition poomsae by different ATU members and regions

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	8	0	11	6	2	27
	High	17	0	15	6	7	45
	Total	25	0	26	12	9	72
Agree	Low	6	1	17	3	3	30
	High	14	3	15	5	9	46
	Total	20	4	32	8	12	76
Undecided	Low	1	0	4	0	3	8
	High	11	1	3	0	5	20
	Total	12	1	7	0	8	28
Disagree	Low	1	0	3	2	1	7
	High	4	0	1	1	0	6
	Total	5	0	4	3	1	13
Strongly disagree	Low	1	0	0	0	1	2
	High	0	0	1	0	1	2
	Total	1	0	1	0	2	4

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 9. Perception of suitability of Nareusya Poomsae as a new competition poomsae by different ATU members and regions

Likert scale responses	Region						Total (N)
	Black belt rank	East Asia	Central Asia	Southeast Asia	Southwest Asia	West Asia	
Strongly agree	Low	8	0	17	6	2	33
	High	15	0	17	6	8	46
	Total	23	0	34	12	10	79
Agree	Low	6	1	10	3	2	22
	High	14	3	10	5	6	38
	Total	20	4	20	8	8	60
Undecided	Low	1	0	5	0	3	9
	High	12	1	5	0	8	26
	Total	13	1	10	0	11	35
Disagree	Low	1	0	3	1	1	6
	High	3	0	1	0	0	4
	Total	4	0	4	1	1	10
Strongly disagree	Low	1	0	0	1	2	4
	High	2	0	2	1	0	5
	Total	3	0	2	2	2	9

ATU: Asia Taekwondo Union; Low = Taekwondo 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree Taekwondo black belts; High = 5<sup>th</sup> degree or higher Taekwondo black belts

Table 9 contains the perceptions of the suitability of the new poomsae named Nareusya Poomsae by different ATU black belts and regions. Nareusya is the second-most positively perceived of the new poomsae introduced for competition: 72% (n=139) of the total population surveyed reported having a positive perception of it. Similar to Saebyeol and Bigak poomsae, very few respondents were undecided about Nareusya (n=35, or 18.1% of the total population surveyed) and fewer still possessed negative perceptions of the poomsae (n=19, or 9.8% of the total population surveyed). The Southeast Asian (n=37; 19.2%) and East Asian (n=54; 28%) respondents once again had the highest perceptions of this poomsae, while again the Central Asian respondents showed no negative perception to this poomsae, just as they reported for Bigak Poomsae. Only 9.8% of those surveyed reported having any negative perception of Nareusya Poomsae, another indicator of how well it has been received by ATU members.

## DISCUSSION

The first research objective was to determine ATU black belts' perceptions of the current competition rules. Our survey revealed that the respondents perceive the competition system positively. Possibly more important is that the high ranked black belts (5<sup>th</sup> degree black belts and higher) responded the most positively out of all the demographics reported. Thus, the respondents with the most experience in Taekwondo and Taekwondo competition found little to object to within the current system. When that is coupled with the fact only 16 respondents, or 8.3% of the total population, viewed today's system negatively, there seems little need to overhaul it. The results of this survey also indicate that the current poomsae competition system is viewed favorably across all ATU regions, indicating it adheres to international standards of fair play. However, some competition regulations were changed subsequent to this survey [5], suggesting that some problems were identified by WT officials.

Our second research objective was to determine the suitability of the field of play currently used in poomsae competitions. Respondents' perception of its present size was likewise mostly positive. Regarding this part of the questionnaire, it can be inferred that the lower ranked black belt

(1<sup>st</sup> through 4<sup>th</sup> degree black belts) respondents were poomsae competitors, since coaches and referees require more experience than competitors and would thus have earned higher ranks. Thus, we can reasonably assume that the majority of competitors, those most affected by the field of play, view it favorably. After taking into consideration that 28.5% (n=55) of the lower ranked black belts respondents and 74.1% (n=144) of the total respondents perceive the field of play positively, it can be assumed that few ATU black belts have encountered few problems the current field of play.

This study's third research objective was to determine ATU black belts' perceptions of the official poomsae used in competition (e.g., Taeguk Poomsae 1-7, Koryo, Keumgang, Taebaek, etc.). The official poomsae have been used in Taekwondo rank exams since the 1970s and in poomsae competitions since the first World Poomsae Championships were held in 2006. While our survey did not question ATU black belts about their perceptions of the freestyle poomsae division, which is separate from the official poomsae division and one that is growing in popularity [13], our results indicate the official poomsae division is still viewed positively among the ATU poomsae competitors, coaches, and referees. That being said, WT still removed two official poomsae from competition (Taeguk 4 and 5), indicating that the results of this part of the study were not universally shared.

The fourth objective was to determine ATU black belts' perceptions of the newly introduced competition poomsae (i.e., Himchari, Saebyeol, Bigak, and Nareusya). These were perceived very positively across all black belt ranks and ATU regions. When compared to the results of the third research objective, the respondents showed nearly equal positive perceptions of the official and newly introduced poomsae, thus indicating no preference for either category. More importantly to WT, the ATU, and other Taekwondo governing bodies is that both high and low ranked black belts view the new poomsae positively. The high ranked respondents' positive perceptions of the new poomsae could suggest that the new poomsae do not move the martial art aspects of Taekwondo too far away from its roots, while the lower ranked respondents' positive perceptions may indicate that the new poomsae are challenging, fun, and add to the poomsae competition experience in positive ways.

## CONCLUSIONS

This study examined current ATU poomsae competitors, coaches, and referees' perceptions on four areas of their sport: poomsae competition rules, poomsae competition field of play, the official poomsae used in competition, and the new competition poomsae (i.e., Himchari, Saebyeol, Bigak, and Nareusya). It was intended to assist WT, the Kukkiwon, the ATU, and other Taekwondo governing bodies in establishing practical strategies for future poomsae competitions. Results indicate very positive perceptions in all areas surveyed.

Although the current study showed ATU poomsae athletes, coaches, and referees perceive the poomsae rules mostly positively, there still remains a significant population of those surveyed who do not. For instance, Ahn, Kim, and An [14] found poomsae athletes were plagued by unclear rules [14]. Although the rules have since been amended [6], confusion may still exist, especially since the rules are generally published in English and Korean only. Also, Kang [8] and others [14,15,16] address the necessity of scoring poomsae competition fairly and according to the competition rules. While the questionnaire used in our study did not ascertain respondents' reasons for their negative perceptions, it goes without saying that subjectivity is always the bane of aesthetic competitions like poomsae and mitigating it must be a priority. Therefore, the ATU, WT, and other Taekwondo governing bodies should examine whether reliability in scoring caused these negative perceptions and develop referee training programs to maintain scoring consistency in poomsae competition.

While this study found the majority of respondents have a positive perception of the poomsae field of play, 25.4% (n=49) of them responded either negatively or with an "undecided" answer. This indicates that some problems may exist in the poomsae field of play, but again this survey did not allow for detailed responses. Future studies should therefore examine what competitors, coaches, and referees view as merits and demerits of the poomsae field of play.

In the wake of the current changes in poomsae rules, the addition of the freestyle poomsae division, the deletion of Taeguk Poomsae 4 and 5, and the introduction of the three Bee-gak poomsae, this study found a strong support for the official poomsae used in competition today (e.g., Taeguk Poomsae 1-7, Koryo, Keumgang, Taebaek, etc.). While the new poomsae Bee-gak and Nareusya (now

called Bee-gak Poomsae 2 and Bee-gak Poomsae 3, respectfully) offer new levels of difficulty and some much needed variance from the 16 official poomsae, there is strong support for the official poomsae among current ATU competitors, coaches, and referees. Alongside the findings that the poomsae rules and field of play are positively perceived, this indicates that little adjustment to the actual competition format and performance criteria is desired.

This study has four main limitations stemming from the population questioned. First, English was the not respondents' first language, so a possibility exists that the respondents had difficulty understanding the questions, which may askew this research's results. Later researchers should therefore consider translating questionnaires into the survey populations' native tongues. Second, only 193 ATU poomsae competitors, coaches, and referees took part in the survey, which is a very small number of all individuals in the ATU and the world of poomsae competition. The idea that some dissatisfaction with the official poomsae being used in competition and the competition rules is supported by the fact that some of the official poomsae are now excluded from competition and slight modifications to the rules have been made. Third, the population was limited to one of WT's five regions (i.e., ATU), so the perspectives of the competitors, coaches, and referees from other regions were not included in our discussions and conclusions. Thus, future studies should survey a broader population that includes a more diverse international population to determine the overall perspective on the four research objectives. The fourth and final limitation concerns the population surveyed itself. It consisted of the individuals most closely related to poomsae competition; in other words, the individuals surveyed have already expressed positive perceptions of the sport by participating in it. The current study did not consequently measure the perceptions of individuals who are uninterested in poomsae competition. In order to create more interest, future studies should focus on the perceptions of non-poomsae competitors to determine the reasons of their disinterest. This alternative research focus may identify other factors that would allow Taekwondo organizations to improve the image of and interest in poomsae competition.

As the official and newly introduced poomsae are viewed positively, it can be concluded that athletes, coaches, and referees had little problem with the "old" poomsae but also welcome the new ones. Dissatisfaction may be due to boredom with the same 16 poomsae that have been practiced and competed with for nearly five decades. However, our results also suggest the respondents understand the value of the original official poomsae while appreciating the challenges the new poomsae offer. Nevertheless, we can extrapolate from our results that competitive poomsae is very strong in the perspectives of all connected to its actual play.

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