



The Perception of the Unified South-North Korean Women's Ice Hockey Team for the 2018 PyeongChang Winter Olympic Games among Young Adults in South Korea

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Abstract

The purpose of this study was to investigate Korean young adults' perceptions about the formation process of North and South Korean unified women's ice hockey team for 2018 PyeongChang Winter Olympic Games in South Korea. Q-method was used to analyze perceptions about the formation process of the unified ice hockey team. Q-statements were distributed to 42 people in their 20s and 30s in Seoul, South Korea. Distribution of Q-statements was analyzed using Qnal program. We found three types of perception: 1) athletic sacrifice forcing type, a recognition that the formation process of the unified ice hockey team was used for political purpose and a promotional tool for the Olympic Games; 2) inter-Korean exchange development type, a conception that the unified ice hockey team positively contributed to the promotion of exchange of North and South Korea, economic cooperation, peace, and harmony; and 3) political purposes pursuit type, a perception that the formation of the unified ice hockey team was primarily used to achieve political and diplomatic goals and that the media mainly conveyed positive aspect of the unified team for this purpose. The use of sports for political and diplomatic purpose is likely to increase in the future. Perception types among Korean adults in their 20s and 30s are likely to be mixed in the future. Therefore, it is important to promote consensus among Koreans regarding the formation of a South and North Korean unified team in the future.

Key words: PyeongChang Winter Olympic Games, unified South-North Korea Team, attitude toward South-North Korea unified team, Q-method, subjective perception

Introduction

The 2018 PyeongChang Winter Olympic Games is important for South Korea as the country has been finally selected after losing three consecutive

competitions for hosting the winter Olympics to other countries (Rowe, 2019). Therefore, South Korean people are excited for the 2018 PyeongChang Winter Olympic Games following the 1988 Seoul Summer Olympics, the 2002 Korea-Japan World Cup, and the 2011 Daegu World Championships in Athletics (Do et al., 2021).

However, South Korea's domestic and international politics were in turmoil while preparing for the PyeongChang Winter Olympics. President Guen-Hye Park was impeached for corruption and the Korean peninsula was unstable due to North Korea's continued nuclear provocation. The South Korean government and the PyeongChang Olympic Committee had to make extra efforts to meet such challenges (Yoon & Wilson, 2019). On the other hand, North Korea has decided to participate in the Olympic Games to find its breakthrough to relieve US President Donald Trump's economic sanctions on North Korea which has originated from North Korea's nuclear threat to the world (Lee, 2019).

Newly elected South Korean President Jae-In Moon in such a domestic and international situation proposed a unified South-North Korean team for the PyeongChang Winter Olympics during his speech at the opening ceremony of the World Taekwondo Championships in Muju, South Korea. President Moon's proposal to form the unified team was an attractive card for North Korea as the country might find a way to slow down the pressure from the US because North Korea needed a way to communicate with the US (Rowe, 2019). Therefore, North Korea tried to take advantage of President Moon's proposal and agreed to form the unified team. South and North Korean governments selected women's ice hockey for the unified team. Furthermore, the Olympic host, the International Olympic Committee (IOC), had no reason to refuse the proposal for the unified team. IOC believed that the unified team might fill the vacuum left by North American professional ice hockey team, National Hockey League (NHL), which decided not to complete

in the PyeongChang Olympic Games (Lee & Tan, 2021).

However, some people in South Korea had negative opinions toward forming the unified team (Lee, 2021). They expressed anger and irrationality because some South Korean hockey players were limited in the opportunity to compete in the Olympics (English & Murray, 2021). The critics believed that the South Korean government's such decision was based on political consideration rather than purely athletic competition which raised the issue of fair competition (Choi et al., 2021). In other words, a conflict of values arises among South Korean people about whether political concern of the government or individual player shall be the priority.

These negative perceptions were particularly intense among young adults in their 20s and 30s in South Korea. As mentioned earlier, the Pyeongchang Winter Olympics was the time when President Moon Jae In took power after the impeachment of President Park Geun Hye, and the generation in their 20s and 30s who played the biggest role in the election of President Moon Jae In (Kim & Lee, 2019). Park Geun Hye The issue of the entrance examination corruption of Jung Yoo-ra, one of the main agents of Choi Soon-sil's gate during the presidential election, was a huge disappointment for those in their 20s and 30s and threw fairness as a social topic (Tac, 2018). However, he thought that this problem would be repeated even after the new president of Moon Jae In took power. For example, polls that showed the sharpest drop in approval ratings among those in their 20s and 30s, which were overwhelming supporters of President Moon Jae In after the announcement of the unified inter-Korean ice hockey team media (Seo & Lee, 2018). In addition, this is the reason why this study focused on the perception of people in their 20s and 30s and also excluded those in their 40s and 50s.

As a result, the unified team formation was considered as ignoring fair procedure by young adults. Thus, it lacked support from the young adults. Suddenly

the Olympic became an event designed to achieve political and diplomatic goal. The formation of the unified team triggered young adults' discourses of topics such as absurdity and unfairness of Korean society. Consequently, these young adults have criticism for the Olympics by seeing that Olympics is used as a political tool (Tae, 2018). Therefore, this study attempted to classify perception of the formation of the unified women's hockey team hockey in the PyeongChang Winter Olympics among South Korean young adults in their 20s and 30s. In other words, we examined characteristics of each type according to the perception of fairness, political ideology, and Korean identity in the process of forming the unified team. We have the following research questions:

Research Question 1: What are perceptions about the unified women's ice hockey team for the 2018 PyeongChang Winter Olympic Games among young adults in their 20s and 30s in South Korea?

Research Question 2: What characteristics are similarities and differences among these classified types?

Methods

Research Method

Types of perception of the unified team were measured through the Q-Methodology. Q-Methodology starts from the actor's point of view. It is possible to understand and explain different types of perception for each individual (Molenveld, 2020). Q-Methodology also uses in-depth survey questionnaires through statements of various opinions on a topic or problem (Ramlo, 2020). In particular, Q-Methodology measures an individual's perception, values, beliefs, and attitudes, all of which are supposed to be self-centered (Rhoads et al., 2021; Rost, 2021). The Q methodology was used to assess perception type about the unified team in the 2018 PyeongChang Winter Olympic Games. To do this,

we proceeded by classifying perception types in the form of statements. The question statement, Q-statement, constituted a Q-population (concourse) that was based on domestic literature and preliminary interviews with young adults in their 20s and 30s. Q-statement was then developed based on the result.

This study collected online news articles and columns using the news big data analysis system in BIG KINDS from January 2018 to May 2019 when a single team issue first appeared, and based on this, basic data of statements were collected with one researcher, one sports sociology professor, and one political diplomacy professor. Q-factor analysis of Q-sort that appeared as a result of collecting and sorting P-sample was performed using QUANL program for PCs.

Research Design

Q-Sample

Q-sample refers to a statement of value for the type of perception related to the research topic. The Q-sample for this study consisted of 23 statements of value system for types of perception about the inter-Korean unified team among adults in their 20s and 30s. To collect general ideas, feelings, opinions, and values of these adults, we enrolled 74 Q-population (concourse) through in-depth interviews with both students and general populations as well as literature review. In-depth interviews were conducted from June 2021 to December 2021, with a total of 15 students and graduate students participating in liberal arts classes at three universities in Seoul, and faculty members in their 30s. Students and graduate students in liberal arts classes were recruited after class for voluntary participants, and in the case of faculty members, they were introduced to faculty in their 30s through the staff of the Ministry of Education, and through them, they recruited research participants using Snowball Sampling. Afterward, 23 statements of Q-population that were considered to have the greatest relevance to the issue with the unified hockey Olympic team were

finally selected to represent fairness of team formation, political ideology, and identity of Korea by reflecting expert opinions. These 23 statements were structured to balance all opinions, including negative, neutral, and positive ones. Based on this procedure, a standardized Z score for each type was derived. The standardized

Z score indicates the position of a score in relation to the average distribution using standard deviation. Therefore, Z score makes it possible to compare a score drawn from different distribution. Standard score for each type of Q-statement is shown in Table 1.

Table 1. Typical array Z's

Q-Statements	Z Scores		
	Type 1 (n=27)	Type 2 (n=11)	Type 3 (n=4)
1. The formation of the unified Olympic ice hockey team helps to enhance national identity.	-.2	.4	.6
2. I prefer to organize the unified inter-Korean team rather than the one with naturalized players from other countries.	-.5	.0	-1.4
3. I am proud that the unified hockey team represents the identity of the Korean people.	-.7	-.0	-.7
4. South and North Koreas consist of one ethnic group that shares the same inherited blood.	.4	1.6	-.7
5. The formation of the unified team helps the cooperation between South and North Korea in culture and sports.	.6	1.7	1.4
6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-1.9	-1.9	-.4
7. The formation of the unified team was led by politicians rather than athletic organizations.	2.0	.4	1.7
8. The standards for the formation of the unified team were inconsistent and unclear.	1.3	-.6	.2
9. South Korean hockey players were well informed about the procedure and contents of the formation of the unified team.	-.9	1.2	.2
10. The South Korean government provided reasonable compensation for South Korean players who were eliminated due to the formation of the unified team.	-1.1	-.6	.3
11. The inter-Korean unified team was formed through a fair process.	-1.2	-1.2	.8
12. The inter-Korean unified team ensured equal opportunities for all players.	-1.3	-1.2	.2
13. The South Korean government provided a complementary measure for players who were affected by the formation of the unified team.	-.9	-1.1	-1.0
14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	-1.0	.8	-1.3
15. The formation of the unified team helps political reconciliation and economic cooperation between the two Koreas.	.9	1.7	.5
16. The formation of the unified team corresponds to Olympic spirit of peace and harmony.	.8	1.3	1.0
17. The unified team was used as a promotional tool for the Olympic Games.	1.5	-1.1	1.2
18. The unified team led to political confusion in South Korean society.	.7	-.4	-2.1
19. The unified team will have a positive impact on a possible peaceful unification of the Korean peninsula.	.3	.5	.0
20. The news media coverage of the formation of the team conveyed positive factors for the formation of the team.	.8	.6	1.4
21. The unified team will have a positive impact on the resolution of North Korean nuclear issue.	-.0	.6	-.0
22. The finances of sports organizations in South Korea will be deteriorated due to the expenditure on the formation of the unified team.	.3	-.1	-.7
23. The unified team is highly likely to be exploited for promoting North Korean propaganda.	.2	-.3	-1.2

P-Sample

P-sample refers to sample of the current work. A large number of subjects are likely to be classified as one type of response when P-sample size becomes too big, so that typology may not be clear statistically. Moreover, in the case of QUANL a tool of Q methodology, the program is designed so that the maximum number of P samples cannot exceed 100. Therefore, the P-sample size of 40±20 is appropriate for the current analysis (Jang, 2021; Ramlo, 2021).

Since the Q methodology deals with differences in importance within individuals, not between individuals, there is no limit to the number of P samples, and there were cases in which Stevenson conducted a study with one P sample (Kim, 2008).

The selection of P-sample does not follow probabilistic sampling method as the purpose of Q-Methodology is not to find characteristics of the population from the sample (Rost, 2021).

Therefore, this study selected 42 P-samples from young adults in their 20s and 30s as they were the most sensitive populations to formation of the unified team.

Q-Sorting

Q-sorting is the process that classifies each respondent (Q-sorter) by a predesigned method when Q- and P-samples are selected (Jang, 2021). Q classification task is a self-modeling of one's attitude toward a complex subject, issue, or situation. Respondents were classified into a certain distribution based on their responses to statements (Stenner & Capdevila, 2020). A subject's response to a statement was classified as negative (-), neutral (0), or positive (+). We used a method to classify the most positive items from the outside to the inside. Through such procedure, neutral position was sought (Molenveld, 2020). After classifying negative statements in the same

way, we performed in-depth interviews for each of these statements that were classified at both ends. Such procedures provided useful information for the analysis of the highest level of both agreement and disagreement to a statement.

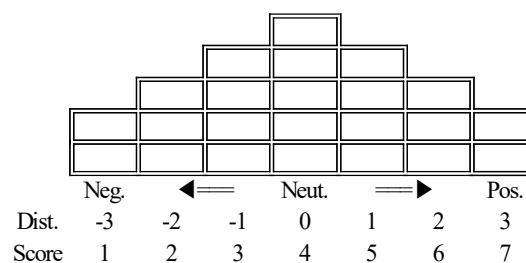


Figure 1. Q sorting chart

Results

Q-factor analysis presented three types of perception about the unified women's ice hockey team for the 2018 PyeongChang Olympic Winter Games among young adults in South Korea. These Q-factors accounted for about 54.03% of the total variance. Twenty-seven, 11, and four people were identified in Type 1, Type 2, and Type 3, respectively. According to Lee (2012) and Molenveld (2020), the number of people in each type does not have much meaning. Type 1 was the largest factor among P-sample as Type 1 had 23 samples with a factor weight of 1.0 or higher. The other two factors had only one sample with a factor weight of 1.0 or higher in each type. As shown in Table 3, eigenvalues were 17.292, 2.940, and 2.461 for Types 1, 2, and 3, respectively.

Table 4 shows zero-order correlation between types. Correlation coefficient between Type1 and Type 2 was .489. It was .371 between Type 1 and Type 3 and .172 between Type 2 and Type 3.

Table 2. Demographic characteristics and factor weights by type

Type	ID	Sex	Age	Occupation	Factor weight
Type 1 (n=27)	2	M	29	College Student	.8261
	3	F	27	College Student	2.0391
	7	M	35	Researcher	2.3964
	9	F	26	Unemployed	1.4597
	13	M	34	Professional	2.3540
	14	F	24	Housewife	.6750
	16	F	24	College student	1.7204
	18	M	36	Researcher	2.3896
	21	M	24	Unemployed	1.2126
	22	M	22	College student	2.1059
	23	M	23	Unemployed	1.8043
	24	M	26	College student	2.2601
	25	M	25	College student	.5928
	26	M	26	Office Worker	1.6061
	27	F	24	College student	.4243
	28	M	26	Office Worker	1.7368
	29	F	26	College student	1.3883
	30	M	27	Office Worker	1.7135
	31	F	24	College student	1.1634
	34	M	25	College student	1.0034
	35	F	24	College student	2.1022
	36	M	26	College student	4.0534
	37	M	27	Salesman	1.8360
	38	M	25	College student	1.2230
	39	M	24	College student	1.4259
	41	F	23	College student	2.1832
	42	M	26	Graduate student	1.2147
Type 2 (n=11)	1	M	33	College student	.5207
	4	M	28	Technician	.6748
	5	M	29	technician	.8759
	8	F	38	Office worker	1.5196
	11	M	31	Office worker	.5779
	12	F	27	Other occupation	.6172
	17	M	25	College student	.8087
	19	M	27	Office worker	.2989
	32	F	23	College student	.7586
	33	M	26	Graduate student	.8756
	40	M	25	College student	.7615
Type 3 (n=4)	6	M	33	Researcher	1.5891
	10	F	28	Office worker	.9291
	15	F	23	College student	.4845
	20	F	26	College student	.4005

Table 3. Eigenvalues and percentage of variance

	Type 1	Type 2	Type 3
Eigenvalue	17.2920	2.9409	2.4613
Percentage of total variance	.4117	.0700	.0586
Cumulative percentage of variance	.4117	.4817	.5403

Table 4. Zero-order correlation between types

Type	Type 1	Type 2	Type 3
Type 1	1.000	-	-
Type 2	.489	1.000	-
Type 3	.371	.172	1.000

Type 1 (n = 27): Player Sacrifice Push Type

Table 5 shows positive and negative statements in Type 1 having higher than ± 1.0 standard score. Statements 7 (1.99), 17 (1.53), and 8 (1.30) were positively linked to Type 1. Negative ones were

Table 5. Type 1 standard scores (Statement showing score of more than ± 1.00)

	Q-Statement	Stand. score
Positive	7. The formation of the unified team was led by politicians rather than athletic organizations.	1.99
	17. The unified team was used as a promotional tool for the Olympic Games.	1.53
	8. The standards for the formation of the unified team were inconsistent and unclear.	1.30
Negative	14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	-1.01
	10. The South Korean government provided reasonable compensation for South Korean players who were eliminated due to the formation of the unified team.	-1.14
	11. The inter-Korean unified team was formed through a fair process.	-1.24
	12. The inter-Korean unified team ensured equal opportunities for all players.	-1.31
	6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-1.90

Table 6. Statements in Type 1 that are higher or lower than those in other types

Q-Statements	Stand. score	The average score of other types	Difference
Statements in Type 1 that are higher than other types			
18. The unified team led to political confusion in South Korean society.	.732	-1.260	1.991
8. The standards for the formation of the unified team were inconsistent and unclear.	1.304	-.197	1.501
17. The unified team was used as a promotional tool for the Olympic Games.	1.534	.060	1.475
Statements in Type 1 that are lower than other types			
10. The South Korean government provided reasonable compensation for South Korean players who were eliminated due to the formation of the unified team.	-1.138	-.122	-1.017
11. The inter-Korean unified team was formed through a fair process.	-1.235	-.200	-1.035

statements 14 (-1.01), 10 (-1.14), 11 (-1.24), 12 (-1.31), and 6 (-1.90). This result can be said to be a “player sacrifice push type” which shows a negative attitude toward forcing South Korean ice hockey athletes to concede without a step-by-step procedure of selecting players for the unified team. In-depth interviews revealed that the formation of the unified team was the government’s demand with sacrifice of South Korean players to improve inter-Korean relations. In short, respondents with Type 1 believed that formation of the unified team damaged the Olympic spirit.

Table 6 displays statements with standard scores higher than ± 1.0 in difference between Type 1 and other types. On the other hand, statements that best explained Type 1 among positive and negative ones were the statements 18 (difference: 1.99) and 11 (difference: -1.035), respectively.

Type 2 (n = 11): Improvement of South-North Korean Relation by the Unified Team

Table 7 shows standard scores for Type 2. Statements 5 (1.71), 15 (1.67), 4 (1.56), and 16 (1.25) were strongly and positively related to Type 2. By contrast, statements 17 (-1.07), 13 (-1.07), 9 (-1.22), 11 (-1.22), 12 (-1.23), and 6 (-1.89) were negatively related to Type 2. Respondents with Type 2 believed that the unified team would contribute to improvement of inter-Korean

exchange and relation. In-depth interviews revealed that respondents with Type 2 conceived that the unified team would contribute to the exchange of culture and sports between South and North Korea. Respondents with Type 2 also believed that the exchange of political and economic matters would be improved via the unified team. However, it was only an expectation effect through the unified team. Most of them still perceived that fairness and equal opportunity were not given to South Korean players.

Table 7. Standard scores of Type 2 (Statement showing score of more than ± 1.00)

	Q-Statement	Stand. score
Positive	5. The formation of the unified team helps the cooperation between South and North Korea in culture and sports.	1.71
	15. The formation of the unified team helps political reconciliation and economic cooperation between the two Koreas.	1.67
	4. South and North Koreas consist of one ethnic group that shares the same inherited blood.	1.56
	16. The formation of the unified team corresponds to Olympic spirit of peace and harmony.	1.25
Negative	17. The unified team was used as a promotional tool for the Olympic Games.	-1.07
	13. The South Korean government provided a complementary measure for players who were affected by the formation of the unified team.	-1.07
	9. South Korean hockey players were well informed about the procedure and contents of the formation of the unified team.	-1.22
	11. The inter-Korean unified team was formed through a fair process.	-1.22
	12. The inter-Korean unified team ensured equal opportunities for all players.	-1.23
	6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-1.89

Table 8. Statements in Type 2 that are higher or lower than those in other types

Q-Statement	Stand. score	The average score of other types	Difference
Statements in Type 2 that are higher than other types			
14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	.831	-1.154	1.985
4. South and North Koreas consist of one ethnic group that shares the same inherited blood.	1.561	-.162	1.724
Statements in Type 2 that are lower than other types			
8. The standards for the formation of the unified team were inconsistent and unclear.	-.604	.758	1.362
7. The formation of the unified team was led by politicians rather than athletic organizations.	.411	1.84	-1.433
17. The unified team was used as a promotional tool for the Olympic Games.	-1.071	1.362	-2.433

Statement 14 (difference: 1.985) was positively related to Type 2 the most strongly and statement 17 (difference: -2.433) was negatively associated with Type 2 the most strongly (see Table 8).

Type 3 (n = 4): Political Purpose-Pursuit

Table 9 exhibits standard scores for Type 3. Statements 7 (1.70), 20 (1.40), 5 (1.38), and 17 (1.19) were positively linked to Type 3. On the other hand, statements 23 (-1.24), 14 (-1.29), 2 (-1.37), and 18 (-2.15) were strongly and negatively related to Type 3. This result can be said to be a “political purpose pursuit type”. These respondents believed that the unified team was a symbolic tool for achieving political goals. They also perceived that formation of the unified team was initiated by politicians for political reconciliation between South and North Korea. However, they conceived that formation of the unified team would not influence political identity of South Korean society as South Korean society was not shaken by political propaganda of North Korea.

Table 10 shows statements with standard scores higher than ± 1.0 in difference between Type 3 and other types. In addition, statement 11 (difference: 2.045) was positively related to Type 3 the most strongly and statement 18 (2.329) was negatively associated with Type 3 the most.

Analysis of Difference between Types

Analysis of difference between types was designed to test the difference between positive and negative opinions. The larger the value of the difference, the more representative of the statement for a specific type. Therefore, we determined characteristics of each type by comparing different types.

Difference between Type 1 and Type 2

Among positive statements, statements 17 (difference = 2.605), 8 (difference = 1.909), 7 (difference = 1.581), and 18 (difference = 1.102) displayed high levels of difference. Similarly, among negative statements, statements 5 (-1.108), 4 (-1.200), and 14 (-1.845) showed high levels of difference between Type 1 and Type 2 (see Table 11).

Difference between Type 1 and Type 3

Table 12 shows difference between Type 1 and Type 3. A high level of difference among positive statements was found for statements 18 (2.880), 23 (1.482), 8 (1.093), 22 (1.059), and 4 (-1.127). Among negative statements, statements 10 (-1.451), 6 (-1.499), 12 (-1.535), and 11 (-2.054) showed high levels of difference.

Table 9. Type 3 standard scores (Statement showing score of more than ± 1.00)

	Q-Statement	Stand. score
Positive	7. The formation of the unified team was led by politicians rather than athletic organizations.	1.70
	20. The news media coverage of the formation of the team conveyed positive factors for the formation of the team.	1.40
	5. The formation of the unified team helps the cooperation between South and North Korea in culture and sports.	1.38
	17. The unified team was used as a promotional tool for the Olympic Games.	1.19
Negative	23. The unified team is highly likely to be exploited for promoting North Korean propaganda.	-1.24
	14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	-1.29
	2. I prefer to organize the unified inter-Korean team rather than the one with naturalized players from other countries.	-1.37
	18. The unified team led to political confusion in South Korean society.	-2.15

Table 10. Statements in Type 3 that are higher or lower than those in other types

Q-Statement	Stand. score	The average score of other types	Difference
Statements in Type 3 that are higher than other types			
11. The inter-Korean unified team was formed through a fair process.	.819	-1.227	2.045
6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-.401	-1.895	1.493
12. The inter-Korean unified team ensured equal opportunities for all players.	.222	-1.270	1.492
9. South Korean hockey players were well informed about the procedure and contents of the formation of the unified team.	.221	-1.061	1.282
10. The South Korean government provided reasonable compensation for South Korean players who were eliminated due to the formation of the unified team.	.313	-.848	1.160
Statements in Type 3 that are lower than other types			
2. I prefer to organize the unified inter-Korean team rather than the one with naturalized players from other countries.	-1.372	-.273	-1.099
14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	-1.293	-.092	-1.201
23. The unified team is highly likely to be exploited for promoting North Korean propaganda.	-1.243	-.018	-1.226
4. South and North Korea consist of one ethnic group that shares the same inherited blood.	-.686	.961	-1.647
18. The unified team led to political confusion in South Korean society	-2.149	.180	-2.329

Table 11. Difference between Type 1 and Type 2 (Statement showing difference of more than ± 1.00)

Q-Statement	Type 1	Type 2	Difference	
Positive	17. The unified team was used as a promotional tool for the Olympic Games.	1.534	-1.071	2.605
	8. The standards for the formation of the unified team were inconsistent and unclear.	1.304	-.604	1.909
	7. The formation of the unified team was led by politicians rather than athletic organizations.	1.992	.411	1.581
	18. The unified team led to political confusion in South Korean society.	.732	-.371	1.102
Negative	5. The formation of the unified team helps the cooperation between South and North Korea in culture and sports.	.602	1.709	-1.108
	4. South and North Korea consist of one ethnic group that shares the same inherited blood.	.361	1.561	-1.200
	14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	-1.015	.831	-1.845

Table 12. Difference between Type 1 and Type 3 (Statement showing difference of more than ± 1.00)

	Q-Statement	Type 1	Type 3	Difference
Positive	18. The unified team led to political confusion in South Korean society.	.732	-2.149	2.880
	23. The unified team is highly likely to be exploited for promoting North Korean propaganda.	.238	-1.243	1.482
	8. The standards for the formation of the unified team were inconsistent and unclear.	1.304	.211	1.093
	22. The finances of sports organizations in South Korea will be deteriorated due to the expenditure on the formation of the unified team.	.324	-.735	1.059
	4. South and North Korea consist of one ethnic group that shares the same inherited blood.	.361	-.686	1.047
Negative	9. South Korean hockey players were well informed about the procedure and contents of the formation of the unified team.	-.905	.221	-1.126
	10. The South Korean government provided reasonable compensation for South Korean players who were eliminated due to the formation of the unified team.	-1.138	.313	-1.451
	6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-1.901	-.401	-1.499
	12. The inter-Korean unified team ensured equal opportunities for all players.	-1.313	.222	-1.535
	11. The inter-Korean unified team was formed through a fair process.	-1.235	.819	-2.054

Table 13. Difference between Type 2 and Type 3 (Statements showing difference of more than ± 1.00)

	Q-Statement	Type 2	Type 3	Difference
Positive	4. South and North Korea consist of one ethnic group that shares the same inherited blood.	1.561	-.686	2.247
	14. The formation of the unified team will have a positive effect on the improvement of the women's ice hockey team performance in the Olympic Games.	.831	-1.293	2.124
	18. The unified team led to political confusion in South Korean society.	-.371	-2.149	1.778
	2. I prefer to organize the unified inter-Korean team rather than the one with naturalized players from other countries.	-.007	-1.372	1.365
	15. The formation of the unified team helps political reconciliation and economic cooperation between the two Korea.	1.669	.484	1.186
Negative	7. The formation of the unified team was led by politicians rather than athletic organizations.	.411	1.696	-1.285
	9. South Korean hockey players were well informed about the procedure and contents of the formation of the unified team.	-1.217	.221	-1.438
	12. The inter-Korean unified team ensured equal opportunities for all players.	-1.226	.222	-1.449
	6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	-1.889	-.401	-1.488
	11. The inter-Korean unified team was formed through a fair process.	-1.219	.819	-2.037
17. The unified team was used as a promotional tool for the Olympic Games.	-1.071	1.190	-2.262	

Table 14. Analysis of consistent items

	Q-Statement	Stand. score
Positive	6. The formation of the unified team reflects opinions of all players who played in the Olympic Games.	1.00
	20. The news media coverage of the formation of the team conveyed positive factors for the formation of the team.	.95
Negative	13. The South Korean government provided a complementary measure for players who were affected by the formation of the unified team.	-.98

Difference between Type 2 and Type 3

For difference between Type 2 and Type 3, a high level of difference among positive statements was found for statements 4 (difference = 2.247), 14 (difference = 2.124), 18 (difference = 1.778), 2 (difference = 1.365), and 15 (difference = 1.186). High level of difference among negative statements was also found for statement 7 (difference = -1.285), 9 (difference = -1.438), 12 (difference = -1.449), 6 (difference = -1.488) 2.037), and 17 (difference = -2.262) (see Table 13).

Analysis of Consistent Items

A total of three Q statements were consistent across three types, including two positive statements and one negative statement. In detail, standard scores of positive statements 16 (1.00) and 20 (0.95) and negative statement 13 (-0.98) were consistent (see Table 14).

Discussion

The purpose of this study was to determine types of perception about the unified women's ice hockey team for the 2018 PyeongChang Winter Olympic Games by applying Q-Methodology. Specifically, three types of Q-factors were analyzed. They explained about 54 percent of the total variance. These three types derived from the Q-Methodology were: 'player sacrifice push type,' 'inter-Korean exchange development type,' and 'political purpose pursuit type.' Results obtained for each type through Q-Methodology were as follows.

First, respondents with Type 1 of 'player sacrifice

push type' recognized that the formation of the unified team was dominated by political purpose and the team was used for this purpose. The majority of these respondents also indicated that there was inconsistency of the criteria used for player selection, leading to chaos among South Korean women ice hockey players. Twenty-three South Korean hockey players who had prepared for the Olympic Games were eliminated due to participation of North Korean players. The decision on the formation of unified hockey team was suddenly made on January 9, 2018 at a meeting between high-level South and North Korean officials a month ahead of the openings of the PyeongChang Winter Olympics (Yoon & Wilson, 2019). Play tactics and teamwork of players are the most important things for ice hockey competition as ice hockey is a team sport. However, player composition for the team had been hastily made without sufficient time for building teamwork between South and North Korean players (Lee, 2021). Moreover, entries for the unified team became more and more confused as the Switzerland team in the same group opposed expansion of the unified team entry by including North Korean players. Additionally, South Korean athletes were unable to find sufficient time to practice even after the unified team was formed as the team had to focus on unifying play call terminology for South and North Korean players. The team also had to work to get acquainted with each other rather than focusing on building play tactics. Some South Koreans criticized the formation of the unified team as it obstructed play tactics and teamwork that

South Korean players had worked on for a long time. Some South Korean players were also forced to sacrifice themselves to comply with the government's demand to form the unified team (Noh & Kim, 2020).

Another reason why the process of forming the unified team was named as player sacrifices push type was the social background of South Korea. South Koreans have eradicated authoritarianism by impeaching President Park a few months before the PyeongChang Winter Olympics. They have just elected a new president. The presidential impeachment was based on the former President Park's crimes against the Korean Constitution – corruption in the sports area and bribery between the President and large corporations. At the time of the impeachment, Korean people expressed their dissatisfaction with the government. The newly elected President Moon, with his slogan “making the country a better place,” tried to heal South Korean people's traumatic experience by promising fair procedures in his administration that the prior government had ignored (Choi et al., 2021).

President Moon and his political party's actions in preparations for the PyeongChang Winter Olympics were enough to lead to the public's disappointment. Fairness in the formation of the unified team was not guaranteed. Some South Korean hockey players were forced to be eliminated from the entry. By contrast, North Korean players joined the Olympic team without a competition. Such incidents led to disappointment of South Koreans who wanted to eradicate the unfairness of the former President Park and her government. Moreover, during a luncheon meeting with reporters, South Korean Prime Minister Lee said that South Korean women's ice hockey ranked the 22nd and North Korean team ranked the 25th in the world ranking, meaning that they were out of medal race. This made public opinion worse than before. Therefore, 'athlete sacrifice push type' is a type that reflects people's opinion that emphasizes fairness and authenticity of athleticism in the selection of players. Such opinion was based on the perception of South Korean players as a

powerless party.

Type 2 of 'inter-Korean exchange development type' reflected people's opinion that the formation of the unified team was done without fair procedure. Respondents with Type 2 also acknowledged that the unified hockey team would significantly contribute to peace and harmony between South and North Korea. South-North Korean sports exchanges started with the formation of a unified team at the 41st World PingPong Championships in 1991 and the 8th World Youth Soccer in 1991. In addition, South and North Korean teams marched together for the opening ceremony at the Sydney Olympics in 2000 and the two Korea teams participated in the Busan Asian Games in 2002. Sports exchanges between South and North Korea occurred in a few different ways such as friendly soccer and basketball exchange matches in South and North Korea and supplying sports equipment (English & Murray, 2021). The fundamental reason why the unified team would improve inter-Korean relations is a unique peculiarity of sports (Jung, 2017). For example, West and East Germany improved their relationship through sports exchanges (Fischer & Mohrman, 2021; Macintyre et al., 2021). However, there is also a negative view of sports exchanges as a tool for improving national relation with other countries. In other words, some people argued that the role of sports in improving relations between East and West Germany was not so great. They also believed that intended sports exchanges between East and West Germany were not achieved as the value and goals of sports between the two countries were different (Mountifield & Sharpe, 2020; Shimokubo, 2021).

Nevertheless, it is clear that sports exchanges between East and West Germany had contributed significantly more to political change for East and West Germany than any other fields (Hoekman & Scheerder, 2021). The formation of a South and North Korean unified team may also work in the same way as East and West sports exchanges. Sports exchanges through the formation of a unified inter-Korean team not only

can contribute to creating a peace and reconciliation atmosphere at this stage, but also can be an effective means of attracting international attention. Sports exchange between South and North Korea is not designed to show each country's sports competitiveness, but to create an exchange effect that other sectors hardly achieve. It can be achieved through the creation of Korean national unity and face-to-face contacts between people in two countries (Grix et al., 2021). Therefore, respondents with 'inter-Korean interchange development type' are those who value the positive effect of sports exchanges rather than procedural fairness of the unified inter-Korean team formation.

Third, respondents with Type 3 of 'Political purpose pursuit type' acknowledged that the unified team had been used to achieve the political goal and that the media had effectively conveyed positive factors for the unified team. In addition, they perceived that the formation of the unified team would help cultural and sports exchanges between the two Koreas. However, they also understood that the unified team was used as a promotional tool for the Olympic Games. In the past, sports have often been used to achieve political goals (Hoekman & Scheerder, 2021). For example, the United States and China handed out ping-pong diplomacy in 1979 and India and Pakistan avoided conflict through the Cricket World Cup in 1987 (Weng, 2021). By contrast, Honduras and El Salvador broke a war due to controversial results of the World Cup in North and Central America in 1969 (Pineda, 2021). In other incidences, the Olympic Games were tainted by terrorism. In addition, sometimes attendance of sports events had been separated by the communist bloc and the Western bloc. As such, sports have both positive and negative aspects as political tools. The same is true for the formation of the unified team for South and North Korea. The formation of the unified inter-Korean team has a positive effect on inter-Korean exchanges, including achievement of political objectives. Paradoxically, sports with neutrality without political interference could lead to achievement of political goals

(Gruneau, 2021). In other words, decision makers take accountability in their political activities. However, if decision-makers use sport as a tool for achieving political goals, they are subjected to a low level of accountability because of non-political character, neutrality, and weak accountability of sports (Hassan, 2021).

Sports exchanges are less subjected to the restriction of international law and international practice than formal diplomatic activities. Sports activities can bring similar political effects to formal diplomatic activities. Additionally, sports can be used as a tool as sports are free from the burden of armed conflicts such as war. Sikes et al. (2021) have suggested that sports can be mobilized as a diplomatic tool as sports diplomacy can achieve significant effect at low risk and cost. Two main effects can be gained from the formation of the unified team for the PyeongChang Winter Olympic Games considering political effects of sports, First, through formation of the unified inter-Korean team, Pyongyang has the opportunity to relax US President Trump's hard-line foreign policy toward North Korea, to create a dialogue with the US and South Korea, and to show North Korea's positive image to the international community. Second, through the formation of the unified inter-Korean team, South Korea can also ease tensions with North Korea and win the initiative in negotiations with the US and North Korea. In short, respondents with Type 3 recognized that the formation of the unified team could be a useful tool to improve inter-Korean relations and provide an opportunity to attract international attention.

The correlation between Type 1 and Type 2 was 48.9%. Difference between these two types implied that, although many respondents had positive opinion on the formation of South-North Korean unified team as a promotional tool for the Olympic Games, they also displayed differences in the perception that the composition of the unified team had a positive effect on the improvement of team's performance. The unified women's hockey team lost all matches in the

PyeongChang Winter Olympic. South Korean women's ice hockey team was qualified for the PyeongChang Winter Olympic. Although the South Korean team was ranked 22nd and North Korean team was ranked 25th in the world, their world rankings were lower than the other seven women's ice hockey teams who participated in the Olympics. In the Olympics, Switzerland, Sweden, and Japan ranked the sixth, fifth, and ninth, respectively. Also, teamwork is essential for a team sports like ice hockey. However, the unified team had no sufficient time to practice together. Therefore, many respondents did not seem to expect a positive effect of the unified team on the improvement of the team's performance. Instead, they perceived that the unified team was only used as a promotional tool for the Olympic Games.

The correlation between Types 1 and Type 3 was 37.1%, suggesting that respondents mostly agreed that the unified team created political confusion among South Korean people. Most respondents, however, disagreed that the formation of the team was done with a fair procedure. The unified team was hastily formed to improve frozen inter-Korean relations. In particular, South Koreans expressed concern about the possibility that North Korean hockey players who did not undergo a fair competition with South Korean athletes would take South Korean athletes' opportunity to play for the Olympic Games. Specifically, South Koreans were mostly disappointed at the lack of principles and fair procedures in the entry selection.

Finally, the correlation between Types 2 and Type 3 was 17.2%. Given the big difference between these two types, respondents mostly agreed that South and North Koreans had the same ethnic group. However, they showed disagreement on the use of the unified team as a promotional tool in the Olympic Games. The Winter Olympics is a mega event that attracts world attention and ice hockey is one of popular sports in the Olympic Games. However, the popularity of ice hockey in the Olympic Games was lowered by the absence of National Hockey League (HNL), the professional North American ice hockey team. Therefore, it seemed that

the unified South-Korean ice hockey team was important to promote ice hockey in the Olympic Games.

Conclusion

This study analyzed the perception about formation of the unified women's ice hockey team for the 2018 PyeongChang Winter Olympic Games among young adults in their 20s and 30s in South Korea by using Q-Methodology. Results displayed that 'player sacrifice push type' was the largest in number ($n = 27$), followed by 'North-South Korea exchange development type' ($n = 11$) and 'political purpose pursuit type' ($n = 4$). It might imply that young adults in South Korea were more concerned about fairness in the process of forming the unified team rather than supporting the team for improving inter-Korean relations. Currently, many South Koreans have to give up important goals in their lives such as marriage, childbirth, and other career opportunities due to social and economic inequality (Choe, 2020). For them, the issue of the formation of the unified team was a secondary problem not directly related to their lives such as eating and living. However, young adults in South Korea were angry at the fact that domestic players were deprived of an equal chance to play in the Olympics because of the formation of the unified team. They perceived that the situation was similar to their lives as they could not enjoy equal opportunity. Despite the above perception, these young adults still acknowledged that the unified team would work as a medium for relaxation of inter-Korean diplomatic and military tension.

Given discussion above, South and North Korean governments must make efforts to improve their relationship as currently Korean ethnic group is divided into countries. Therefore, unified South and North Korean teams must be continued in various mega sports events such as Olympic Games, Asian Games, and World Cup Soccer. In such efforts, unified South and North Korean teams have participated in a few different sporting events such as women's canoe and men's and

women's table tennis world competitions since the 2018 Winter Olympic Games.

Politics has a priority over sports (Gruneau, 2021; Hoekman & Scheerder, 2021; Rolf, 2021). Politics in sports generally means improving relation between countries. However, the original purpose of politics is to rule the country. Politicians shall play a role of reconciling conflicts between individuals and maintaining social order to guarantee happiness of the people. Politicians need to receive their people's support and rationally to run their countries. In other words, the unified inter-Korean team created for political purposes without people's support and cooperation will cause controversy.

This fact also has an important influence on the perspective of sports diplomacy. Sports diplomacy is an external policy that puts sports at the forefront and means that sports are used as a means of influencing political diplomacy between countries (Lee, 2021). However, if such noise continues from the inside when forming a unified team between the two Koreas, the formation of players will not be smooth, and it will be seen as a unified team as a political product that lacks sincerity externally. Therefore, in the future, the South Korean government must make effort to draw public support through formation of public discourse about the identity of the unified inter-Korean team. The government also needs to clearly explain benefits of the unified team to South Korean people. Finally, efforts should be made to establish a system in which North and South Korean players can be selected with fair competition.

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