

## The Effects of Middle School Students' Participation Motivation in Judo as a Recreational Sport Activity on Exercise Flow and Psychological Happiness

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### [Abstract]

The purpose of this study is to define how middle school students' motivation of participation in Judo as a recreational sport activity influences their exercise flow and psychological happiness. To achieve that, this researcher conducted a questionnaire survey with middle school students who participated in 2020 National Amateur Judo Event held in Donghae-si, Gangwon-do from Jan. 18 to 20, 2020, for three days. Of the collected questionnaire copies, the questionnaire copies with insincere or insufficient answers were excluded, and 253 copies were used for data analysis. The results of the study are presented as follows: Firstly, middle school students' participation motivation in Judo as a recreational sport activity positively influenced their exercise flow. Secondly, participation motivation in Judo as recreational sport activity positively affected psychological happiness. Thirdly, middle school students' exercise flow to Judo as a recreational sport activity positively influenced their psychological happiness. Therefore, instructors for the recreational sport activity need to develop detailed methods or programs to improve students' personality and leadership beyond Judo skills in order to achieve positive and smooth communication with participants.

▶ **Key words:** Judo, recreational sports, participation motivation, exercise flow, psychological happiness

### [요 약]

본 연구는 중학생의 유도 생활체육 참여동기가 운동몰입 및 심리적 행복감에 미치는 영향을 규명하기 위한 목적이 있다. 본 연구의 목적을 규명하기 위하여 2020년 1월 18일~20일(3일간) 강원도 동해시에서 열리는 2020년 생활체육 전국유도대회에 참여한 중학생 270명을 대상으로 하였으며 내용이 부실하거나 신뢰성이 없다고 판단되는 설문지를 제외한 총 253부를 사용하였다. 본 연구의 결과를 제시하면 다음과 같다. 첫째, 중학생의 유도 생활체육 참여동기는 운동몰입에 정(+)의 영향을 미치는 것으로 나타났다. 둘째, 중학생의 유도 생활체육 참여동기는 심리적 행복감에 정(+)의 영향을 미치는 것으로 나타났다. 셋째, 중학생의 유도 생활체육에 따른 운동몰입은 심리적 행복감에 정(+)의 영향을 미치는 것으로 나타났다. 따라서 일선 현장의 생활체육지도자들은 단순 유도기술 뿐만 아니라 학생들의 인성과 리더십을 향상 시킬 수 있는 구체적인 방법이나 프로그램을 개발하여 서로 간의 의사소통이 긍정적이고 원활하게 이루어질 수 있도록 노력을 해야 할 것으로 사료된다.

▶ **주제어:** 유도, 생활체육, 참여동기, 운동몰입, 심리적 행복감

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## I. Introduction

In adolescence, teenagers experience large physical and psychological changes. Therefore, it is necessary to pay much heed attention to them in order to achieve their balance growth and development and make them mature. School and home have played crucial roles in adolescents' growth and development, and their socialization. [1] In today's society, as the ills of individualism get worse, adolescents' deviant behaviors reach a dangerous level and lead to school violence, bullying, and others.[2] In these circumstances, there are strong opinions that it will be necessary to encourage adolescents' physical activities actively and continuously so as to improve their personality and sociality, and thereby to help them grow in a desirable direction.[3]

In order to develop adolescents' personality in a positive direction, it is necessary to let them have experiences of making personal and social attitudes. These experiences can be improved through Judo training activities. Judo training not only helps them improve their health and learn leadership and communities, but serve as the roles and functions for leisure and cultural activities. Therefore, Judo is judged to contribute to active school life and good peer relationship.

Judo, which is a sport of respecting manners highly, has an opponent knocked down with the use of the opponent's power and central force. It is much related to the art of self-defence. By learning breakfall of Judo, it is possible to have the ability to protect the body. [4] For the purpose of securing private sports facilities for improving the quality of life of the people, or for improving the country' standing in the world by obtaining more medals in international sports events, it is necessary to promote Judo actively.[5]

Unfortunately, Korean adolescents, or middle school students have difficulty participating in Judo or other sports activities under the current entrance examination-oriented educational system

In addition, there is not much research on their psychological happiness that arise through rule compliance, competitiveness, cooperation, and sportsmanship [6] that they find through the direct experience of sports activities.

Therefore, it is necessary to find middle school students' participation motivation in Judo as a recreational sport activity, and analyze the effects of the participation motivation on exercise flow and psychological happiness. Th study aims to analyze relations between variables and look into the development of Korean Judo sport industry and its educational value in detail.

To achieve that, this researcher tries to examine the following hypotheses: <Hypothesis 1> middle school students' participation motivation in Judo as a recreational sport activity will positively influences their exercise flow.

<Hypothesis 2> middle school students' participation motivation in Judo as a recreational sport activity will positively influences their psychological happiness.

<Hypothesis 3> middle school students' exercise flow to their Judo as a recreational sport activity will positively influence psychological happiness.

## II. Theoretical background

### 1. Participation motivation

Recent studies on the motivation related to sports were based on theoretical frame and classified human behaviors into intrinsic motivation and extrinsic motivation. Up to now, intrinsic motivation of sports behaviors has been focused on in the sports psychology field. Since the instrument to measure intrinsic motivation, extrinsic motivation, and amotivation was developed, the three aspects of sports participation motivation have been applied. [7]

### 2. Exercise flow

Mihaly Csikszentmihalyi is credited with having popularized the concept of flow. He defined flow as

'the physical and mental state in which a person is engaged in an activity where they are fully immersed with a feeling of energized focus, involvement, and success in the process of the activity'. Flow is a positive sense like concentration, a sense of control or clear consciousness that a person feels in everyday life as well as in a particular situation. It is a state in which a person highly concentrates on an activity without being conscious of surroundings.[8]

### 3. Psychological happiness

Psychological happiness is defined as a feeling of giving a positive value to life through a pleasure, enjoyment or happiness in everyday life and of keeping a certain emotion or attitude. It has the meaning of the improvement in social skills for increasing individuals' quality of life. It is referred to as a feeling of keeping the state in which there is no social problem in line with surroundings and of following individuals' various desires.[9]

## III. Study Methods

### 1. Study subject

The subjects of this study were 270 middle school students who participated in 2020 National Amateur Judo Event held in Donghae-si, Gangwon-do from Jan. 18 to 20, 2020, for three days. With the cooperation of their instructors and parents, the purpose of this study was explained and the students filled in a questionnaire in a form of self-evaluation. The questionnaire copies with insincere and insufficient answers were excluded. Finally, 253 copies were used. According to sociodemographic characteristics, regarding gender, male students numbered 223(88.1%), and female students numbered 30(11.9); regarding a training period, 12 students were trained one year (4.7%), 48 were trained during the period between one and two years (18.9%), 55 were trained during the period between two and three years (21.8%),

102 were trained during the period between three and four years (40.4%), and 36 were trained more than our years (14.2%); regarding a degree of Judo, 38 students had no degree(15.0%), 152 had first degree(60.0%), and 63 (25.0%) had second degree.

### 2. Measurement instrument

In this study, a questionnaire was applied to measure the relations between middle school students' participation motivation in Judo as a recreational sport activity, exercise flow and psychological happiness. The questionnaire was modified and redesigned in line with the purpose and procedure of the study. All the items of participation motivation, exercise flow, and psychological happiness were based on five-point Likert scale (very unlikely: 1 point, very likely: 5 points).

Firstly, regarding the items of participation motivation, the measurement scale used in the research by Kim Moo-jin (2004)[10], Jeong Hoon-in(2013)[11], et al., was modified and improved. As a result, twenty three items related to 'attraction of Judo', 'mental exercise', 'enjoyment', 'the body/physical strength', and 'social gathering' were designed.

Secondly, regarding the items of exercise flow, the measurement scale translated by Jeong Yong-ghak(1997)[12], which was used by Lee Jae-yong (2017)[13], etc., was modified and improved. As a result, seventeen items related to 'cognitive flow', and 'behavioral flow' were designed.

Thirdly, regarding the items of psychological happiness, the measurement scale translated and modified by Yang Myeong-hwan (1998)[14] in line with Korean people's emotions, which was used by Kim Young-dong (2016[15]), etc., was modified and improved. As a result, twenty items related to 'self-actualization', 'pleasure', 'self-esteem', and 'engagement' were designed.

Lastly, regarding sociodemographic characteristics, three items related to gender, a training period, a degree of Judo were designed. The measurement instruments used in this study

were reviewed and discussed by a group of experts, and the problems found in this process were rechecked and corrected before the measurement scales were applied.

### 3. Data analysis

For data analysis, SPSS 22.0 was used. To make the consistency of conceptual definitions of variables as analysis content, Content Validity was conducted. For the analysis of reliability of validity, exploratory factor analysis was conducted and Cronbach's  $\alpha$  in internal consistency method was drawn. For the analysis of sociodemographic characteristics of samples, frequency analysis was conducted. For the analysis of correlations between measurement variables, correlation analysis was conducted. To measure influential relations between variables, multiple regression analysis was conducted.

### 4. Reliability and validity analysis

In this study, in order to secure the validity and reliability of measurement instruments, exploratory factor analysis was conducted and a reliability coefficient was calculated with the use of Cronbach's  $\alpha$ . In exploratory factor analysis, the factors that interfere in redundancy of questions and complete inter-factor independence were removed, and reference factor loading was set to 0.7. In reliability analysis, relevance between questions was verified with the use of Cronbach's  $\alpha$ .

According to the reliability and validity analysis, the factor loading of participation motivation was .756~.897, and its Cronbach's  $\alpha$  was .845; the factor loading of exercise flow was .826~.887, and its Cronbach's  $\alpha$  was .843; the factor loading of psychological happiness was .726~.853, and its Cronbach's  $\alpha$  was .853. As a result, the questionnaire used in this study met reliability and validity evaluation criteria.

## IV. Study Results

### 1. Correlation between variables

In this study, correlation analysis was conducted to find correlations between measurement variables. As a result, correlations between all the variables were significant. The result is shown in <Table 1>.

### 2. The influence of participation motivation on exercise flow

The influence of participation motivation on exercise flow was analyzed. As a result, the explanatory power  $R^2$  was .724. Regarding influential relations of variables, attraction of Judo ( $\beta=.198$ ), mental exercise( $\beta=.234$ ), enjoyment ( $\beta=.227$ ), the body/physical strength( $\beta=.310$ ), and social gathering( $\beta=.254$ ) significantly and positively influenced exercise flow.

Table 1. Analysis of correlations between variables

Category	1	2	3	4	5	6	7	8	9	10	11
1. Attraction of Judo	1										
2. Mental exercise	427**	1									
3. Enjoyment	435**	565**	1								
4. The body/physical strength	528**	627**	724**	1							
5. Social gathering	443**	541**	679**	754**	1						
6. Cognitive flow	344**	433**	511**	576**	519**	1					
7. Behavioral flow	456**	554**	627**	632**	613**	589**	1				
8. Self-actualization	532**	645**	692**	614**	574**	516**	498**	1			
9. Pleasure	546**	522**	569**	612**	645**	616**	633**	576**	1		
10. Self-esteem	476**	566**	702**	643**	454**	423**	606**	658**	621**	1	
11. Engagement	517**	536**	511**	562**	464**	432**	398**	439**	535**	628**	1

\*\*p<.01

Table 2. The influence of participation motivation on exercise flow

Dependent variable	Independent variable	$\beta$	SE	Beta	t	Sig
Exercise flow	(Constant)	1.264	.131		8.513	.015
	Attraction of Judo	.198	.020	.270	4.844	.007
	Mental exercise	.234	.047	.273	5.662	.001
	Enjoyment	.227	.039	.334	5.672	.001
	The body/physical strength	.310	.026	.261	3.961	.001
	Social gathering	.254	.027	.387	5.872	.001
$R^2 = .724$ , F-value = 265.228 * * *						

### 3. The influence of participation motivation on psychological happiness

Table 3. The influence of participation on psychological happiness

Dependent variable	Independent variable	$\beta$	SE	Beta	t	Sig
Psychological happiness	(Constant)	1.475	.126		9.362	.015
	Attraction of Judo	.270	.017	.258	5.371	.007
	Mental exercise	.184	.043	.232	4.564	.001
	Enjoyment	.243	.035	.319	5.443	.006
	The body/physical strength	.355	.022	.271	4.226	.001
	Social gathering	.297	.021	.354	4.632	.001
$R^2 = .523$ , F-value = 331.254 * * *						

The influence of participation motivation on psychological happiness was analyzed. As a result, the explanatory power  $R^2$  was .523. Regarding influential relations of variables, attraction of Judo ( $\beta=.270$ ), mental exercise( $\beta=.184$ ), enjoyment ( $\beta=.243$ ), the body/physical strength( $\beta=.355$ ), and social gathering( $\beta=.297$ ) significantly and positively influenced psychological happiness.

### 4. The influence of exercise flow on psychological happiness

Table 4. The influence of exercise flow on psychological happiness

Dependent variable	Independent variable	$\beta$	SE	Beta	t	Sig
Psychological happiness	(Constant)	1.372	.124		8.542	.011
	Cognitive flow	.270	.029	.170	5.371	.001
	Behavioral flow	.223	.045	.273	4.774	.001
$R^2 = .471$ , F-value = 207.416 * * *						

The influence of exercise flow on psychological happiness was analyzed. As a result, the explanatory power  $R^2$  was .471. Regarding influential relations of variables, cognitive flow( $\beta=.270$ ) and behavioral flow( $\beta=.223$ ) significantly and positively influenced psychological happiness.

## V. Conclusion

The main purpose of this study is to define the influential relations between middle school students' participation motivation in Judo as a recreational sport activity, exercise flow and psychological happiness. Another one is to analyze the relevance of variables and thereby to provide a educationally useful material for developing Korean Judo sport industry and promoting recreational sports.

Firstly, middle school students' participation motivation in Judo as a recreational sport activity significantly and positively influenced exercise flow. It means that the more the students have participation motivation, the more they have exercise flow. The motivation factors of participants seem to work as important leading variables that enhance exercise flow. Lee Gwang-woo(2019) also reported that sports participation motivation positively influenced exercise flow. The result is consistent with the result of this study. Therefore, it is necessary to develop Judo skills and various programs in line

with adolescents and middle school students in order to make Judo as a joyful and helpful recreational sport activity.

Secondly, middle school students' participation motivation in Judo as a recreational sport activity significantly and positively influenced psychological happiness. According to the research on a club of badminton as a recreational sport activity, which was conducted by Choi Jin-ah(2019), participation motivation significantly and positively affected psychological happiness. The result is also consistent with the result of this study. Given that, Judo is judged to be a critical factor to improve concentration and self-esteem. The students seem to have psychological happiness in the way of recognizing their ability, drawing others' attention, and establishing various interpersonal relationships through Judo training. Enjoyment, the body/physical strength improvement, and a diversity of Judo skills are factors that help middle school students perceive their exercise flow and competency. Therefore, it is necessary to provide environments and situations to promote recreational sport activities and maximize middle school students' satisfaction with sport activities.

Thirdly, middle school students' exercise flow to participation in Judo as a recreational sport activity significantly and positively influenced psychological happiness. The result means that their pleasure arising in a variety of physical activities plays a critical role to improve psychological happiness. In addition, in order to make Judo as a critical mean to keep their healthy through training and to help them participate in the sport, it is necessary to consider the factors triggering interest in Judo, which are developed from positive psychological factors like pleasure and interest that help them feel various aspects of Judo. Since the students feel psychological happiness through their positive emotional experiences of happiness, they seem to have flow to Judo as a recreational sport activity.

Lastly, given the results of this study, middle school students' participation motivation in Judo as a recreational sport activity was the critical factor

that improved their exercise flow and psychological happiness. Therefore, instructors for the recreational sport activity need to develop detailed methods or programs to improve students' personality and leadership beyond Judo skills in order to achieve positive and smooth communication with participants.

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