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Effects of Taekwondo Athlete's Winning Attitude on Exercise Immersion and Exercise Passion

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Abstract: The objective of this study was to identify the effects of winning attitude of Taekwondo athletes on exercise immersion and passion. In order to achieve the objective, a survey was conducted on 223 Taekwondo athletes playing for college and business teams. Frequency analysis, exploratory factor analysis, reliability analysis and multiple regression analysis were performed with conclusions being withdrawn. First, the winning attitude of Taekwondo athletes positively affected exercise immersion. Specifically, fighting spirit had a positive effect on cognitive and behavioral immersion. Secondly, the winning attitude of Taekwondo athletes positively affected exercise passion. In detail, fighting spirit had a positive effect on harmonious and compulsive passion. In conclusion, the results of the study showed that the winning attitude of Taekwondo athletes significantly and positively influenced exercise immersion and passion. Specifically, fighting spirit affected all sub-factors of exercise immersion and passion. Likewise, it would be desirable to increase mental power will power and fighting spirit which help an athlete to demonstrate ambition and spirit in order to promote the exercise immersion and passion of Taekwondo athletes.

Key words: Taekwondo athletes, winning attitude, cognitive immersion, behavioral immersion, harmonious passion, compulsive passion

INTRODUCTION

Professional athletes can only deliver their best performance when physical strength, technical prowess, psychological skills and so-called willpower are well-harmonized (Kim, 2010). While playing sports, the psychological skills and mental strength of professional athletes are important factors, in addition to technical skills and physical strength. Particularly, psychological skills enable an athlete to exert the best performance while facing certain obstacles such as, a changing environment, unfair judgment, stress due to the importance of a game or severe competition (Gardner and Moore, 2006). Physical functions as well as psychological factors should be maintained or controlled to exert the best performance in sports. It is due to the differences in psychological skills, rather than physical skills that often determines the result of a match when athletes at the similar level of athletic performance compete. The improvement of athletic performance is not only affected by a scientific training regimen but also self-control and self-management capabilities. The self-management of an athlete is the most fundamental behavior to pursue and attain a specific goal (You, 2012). Taekwondo is one of the sports where South Korean athletes have demonstrated excellence, competing in the Asian Games and Summer Olympics. Taekwondo athletes who participate in the international games have to win the qualifiers to compete in the finals. Due to the nature of combative sports, athletes often experience numerous injuries and difficulties in the process of reaching the finals. Mr. Gyung-Sun Hwang won a gold medal at the 2008 Beijing Olympic Games with an indomitable fighting spirit, despite a recurring ligament injury. In the 2016 Rio Olympic Games, Dae-Hoon Lee won a bronze medal by winning a consolation match in spite of a left knee injury. As shown, South Korean athletes have made great achievements based on their strong winning attitude and their eagerness to win (Kim and Han, 2013).

The desire to win a match, indicative of endurance, fighting spirit not giving up in difficult situations (e.g., injury) and the strong will to overcome extreme pain encompass the unique willpower of South Korean athletes (Kim, 2014a, b; Shin *et al*., 2009). These characteristics are distinctive, made by the social, athletic life and the match culture of South Korea (Gauvin and Russell, 1993). This is the best psychological strength of South Korean athletes. The winning attitude of professional athletes is a desire to

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win a match. It is a goal for a person to attain that requires constant effort until the goal is achieved. Particularly, it represents a psychological characteristic to do one's best by immersing in the game and amplifying confidence even in a difficult and painful situation (Jones *et al*., 2002; Han, 2013). Specifically, the expectation of coaches and spectators in South Korean society is the foundation of the winning attitude. Various studies have been made to explore, conceptualize and measure the winning attitude of South Korean athletes (Kim, 2014a, b; Csikszentmihalyi, 1990). The results of previous studies showed that a winning attitude was the psychological strategy of South Korean professional athletes. Therefore, the winning attitude of Taekwondo athletes was considered as a potential variable that has the theoretical relationship with exercise immersion and passion which were set in this study.

Exercise immersion is the desire of a professional athlete to achieve a goal that is considered pleasurable and rewarding, along with the expectation of a realizable possibility in the process of setting a goal and practicing it (Choi *et al*., 2012). The exercise immersion of a professional athlete is a status that makes an athlete participate in a sport continuously while having the emotion and motivation satisfied and it has the characteristic of being maintained until the person is satisfied with the goal and results (Choi *et al*., 2012). When an athlete is immersed in a sport, the motivation of the athlete is psychologically stimulated and the sports performance becomes the purpose of the athlete because the values of life are integrated (Privette and Bundrick, 1987). While playing a sport, an athlete can feel the achievement just by immersing himself or herself in it because it makes the athlete feel satisfied. Consequently, experiencing immersion has a positive effect on sports performance (Cronin, 1991).

Winning attitude and exercise immersion are important factors enhancing the willpower and athletic performance, respectively. Exercise passion is a factor regarding the desire for training, practice and competition. Peterson (Peterson and Seliman, 2004) defined the passion as an attitude to pursue a goal with a strong impetus. For Taekwondo athletes, participating in activities associated with exercise performance other than the prescribed training time is also a part of exercise passion (Choi, 2014). Exercise passion can be divided into compulsive passion and harmonious passion. Compulsive passion refers to participation in activities due to the power and pressure for controlling one self (Vallerand *et al*., 2007). On the other hand, harmonious passion means participation in preferred activities voluntarily (Yoo *et al*., 2009). If passion is considered as the power of motivation to achieve a goal, it can be related to the winning attitude of an individual. The winning attitude which is the Korean style willpower was verified as a positive factor through the sports psychological theoretical model. However, there are not enough studies evaluating the effects of athlete's winning attitudes on exercise immersion and passion. Therefore, this study aimed to verify the effects of Taekwondo athlete's winning attitudes on exercise immersion and passion as well as provide baseline data for Taekwondo athlete's psychological skill training.

MATERIALS AND METHODS

Study subjects: This study selected college and business team affiliated Taekwondo athletes who were registered in the Korea Taekwondo Association as of 2017 as a population. Samples were selected by the convenience sampling method and a survey was conducted on them. A total of 250 questionnaires were distributed and 27 copies were excluded from the analysis because they were deemed to be unreliable. Therefore, 223 questionnaires were used for the final analysis. The general characteristics of the study subjects are shown in Table 1.

Investigative tools: Questionnaires were used in this study. The questionnaire used the self-administration method. The questionnaire consisted of three questions about the general characteristics of a study subject, 13 questions about the winning attitude of the study subject, 15 questions about exercise immersion and 12 questions about exercise passion. These questionnaires measured these criteria by using Likert 5 scale: 'strongly agree (5 points)', 'agree (4 points)', 'not agree or disagree (3 points)', 'disagree (2 points)' and 'strongly disagree (1 point)'. Winning attitude, an independent variable was tested by modifying Kim and Park (2014) questionnaire which reconstructed the winning attitude questionnaire for athletes developed by Shin *et al*. (2009). The sub-factors of winning attitude consisted of fighting spirit, the desire for winning and confidence. Exercise immersion, a dependent variable, modified the

Table 1: General characteristics of subjects

Variables	Frequency (n)	Percentage
Gender		
Male	150	67.3
Female	73	32.7
Groups		
College team	129	57.9
Unemployment team	94	42.1
A day exercise time		
3 h under	83	37.3
3 h over-5 h under	69	30.9
5 h over	71	31.8

questionnaire translated Chung and Yoo (2012) with reference to the sport immersion developed by Scanlan and Simon (1992). The sub-factors of exercise immersion were cognitive immersion and behavior immersion. Moreover, exercise passion modified the questionnaire translated by Song *et al*. (2012) with reference to exercise passion developed by Vallerand *et al*. (2003). The sub-factors of exercise passion were compulsive and harmonious passion.

Exploratory factor analysis and reliability analysis

Winning attitude: The factor analysis results of winning attitude showed that the Bartlett unit matrix of winning attitude was 1036.292 (Sig. = 0.001) and KMO index was 0.814. Based on the results three factors were extracted after analyzing 13 items and they explained 59.654% of total variance. The factor loadings ranged 0.618~0.802, 0.448~0.831 and 0.573~0.806 for fighting spirit, the desire for winning and confidence, respectively. The reliability were 0.719, 0.781 and 0.747 for fighting spirit, the desire for winning and confidence, respectively.

Exercise immersion: Factor analysis showed that the Bartlett unit matrix of exercise immersion was 1772.865 (Sig. = 0.001) and KMO index was 0.908. Based on the results, factor analysis results extracted two factors from 15 items and they explained 67.109% of total variance. Factor loadings were 0.587~0.877 and 0.694~0.892 for cognitive immersion and behavioral immersion, respectively.

Exercise passion: Factor analysis results of exercise passion showed that the Bartlett unit matrix of exercise passion was 2033.385 (Sig. = 0.001) and KMO index was 0.911. Based on the results, factor analysis extracted two factors out of twelve and they explained 61.835% of total variance. The factor loadings ranged from 0.697-0.833 for harmonious passion and 0.647-0.761 for compulsive passion. The reliability was 0.705 for harmonious passion and 0.692 for compulsive passion.

Data processing: All questionnaire data collated for the study was analyzed by using SPSS Version 21.0. Frequency analysis, exploratory factor analysis, reliability analysis and multiple regression analysis were performed. All statistical differences were determined at $p<0.05$ unless stated otherwise.

RESULTS AND DISCUSSION

Effects of winning attitude on cognitive immersion: The Winning attitude had a significant effect on cognitive immersion (Table 2). The significance of the total regression equation was F = 5.094 ($p<0.01$) and the explanatory power was approximately 6.5% ($R^2 = 0.065$) of the total variance. Regarding the beta value which is the relative influence of winning attitude on cognitive immersion, fighting spirit affected it ($\beta = 0.229$, $p<0.01$).

Table 2: Effects of winning attitude on cognitive immersion

Variables	B	SE	β	t-values
Constant	3.076	0.320	-	9.618***
Fighting spirit	0.237	0.082	0.229	2.896**
Competitive	-0.043	0.069	-0.043	-0.629
Confidence	0.062	0.085	0.057	0.735

$R^2 = 0.065$, F = 5.094***, **p<0.01, ***p<0.001

Table 3: Effects of winning attitude on behavioral immersion

Variables	B	SE	β	t-values
Constant	2.416	0.288	-	8.380***
Fighting spirit	0.273	0.074	0.285	3.708***
Competitive	0.108	0.062	0.115	1.743
Confidence	0.016	0.077	0.016	00215

$R^2 = 0.118$, F = 9.749***, ***p<0.001

Table 4: Effects winning attitude on harmonious passion

Variables	B	SE	β	t-values
Constant	2.787	0.320		8.710***
Fighting spirit	0.278	0.082	0.268	3.407***
Competitive	0.013	0.069	0.012	0.183
Confidence	0.007	0.085	0.006	0.082

$R^2 = 0.076$, F = 5.972***, ***p<0.001

Effects of winning attitude on behavioral immersion: Winning attitude significantly affected behavioral immersion (Table 3). The significance of the total regression equation was F = 9.749 ($p<0.001$) and the explanatory power was approximately 11.8% ($R^2 = 0.118$) of the total variance. Regarding the beta value which is the relative influence of winning attitude on behavioral immersion, fighting spirit influenced it ($\beta = 0.285$, $p<0.001$).

Effects of winning attitude on harmonious passion: Winning attitude significantly affected harmonious passion (Table 4). The significance of the total regression equation was F = 5.972 ($p<0.001$) and the explanatory power was 7.6% ($R^2 = 0.076$) of the total variance. Regarding the beta value which is the relative influence of winning attitude on harmonious passion, fighting spirit affected it ($\beta = 0.268$, $p<0.001$).

Effects of winning attitude on compulsive passion: Winning attitude significantly affected compulsive passion Table 5. The significance of the total regression equation was F = 3.941 ($p<0.01$) and the explanatory power was approximately 5.1% ($R^2 = 0.051$). Regarding the beta value which means a relative influence on the compulsive passion, fighting spirit affected it ($\beta = 0.186$, $p<0.05$).

Table 5: Effects of winning attitude on compulsive passion

Variables	B	SE	β	t-values
Constant	3.186	0.320		9.943***
Fighting spirit	0.191	0.082	0.186	2.331*
Competitive	-0.032	0.069	-0.031	-0.458
Confidence	0.080	0.085	0.073	0.938

$R^2 = 0.051$, $F = 3.941^{***}$, $^{*}p<0.05$, $^{***}p<0.001$

The objectives of this study were to verify the effects of Taekwondo athlete's winning attitudes on exercise immersion and passion as well as provide the academic basis for the psychological skills training of Taekwondo athletes. The verification results were discussed.

Winning attitude means the tenacity of winning. It means the high obsessive behavior of athletes toward victory with strong willpower in a competitive sport (Kim and Park, 2014). Winning attitude in sports indicates that an athlete has a strong desire for winning and he or she tries not to lose to his or her opponent in a match. Immersion comes from the internal motivation of an individual. If immersion is considered as the status of fully submersing into a certain activity, exercise immersion means the focus on an exercise with clear goal awareness beyond time and space (Song *et al*., 2012). Moreover, exercise passion is the appearance of immersion and striving to exercise voluntarily and actively even though it is not mandatory. This includes the extra training and training related activities of athletes in addition to the prescribed training time.

In this study, the winning attitude of Taekwondo athletes significantly and positively influenced exercise immersion and passion. Particularly, fighting spirit, a sub-factor of winning attitude, significantly and positively affected exercise immersion and sub-factors of exercise passion (i.e., cognitive and behavioral immersion as well as harmonious and compulsive passion). Fighting spirit can be defined as the energy of fighting back until the end. For Taekwondo athletes, it is a willingness to fight against their opponents in order to achieve their goals. For professional combat (e.g., Taekwondo) athletes, fighting spirit is a psychological factor enabling them to overcome physical limitations when they cannot show the best performance due to an injury.

Lee (2015) argued that winning attitude which is the unique willpower of South Korean athletes, encouraged them to win a match by increasing motivation level, goal consciousness and leading them to exercise immersion which helps them to show the best performance. Kim and Han (2013) reported that the winning attitude of college athletes significantly affected exercise immersion and his results agreed with our results. Cornelius (2002) showed that elite athletes exhibited good winning attitudes and successful immersion experience positively influenced the performance. Moreover, a winning attitude can help Taekwondo athletes achieve goals and master high-level techniques. It is believed that it will generate interest and a strong desire for achievement. Consequently, it will improve exercise immersion. Fighting spirit means excellent mental power, willpower to achieve one's goal and the power to exert ambition and spirit. Therefore, it could influence harmonious passion which promotes the concentration on a task as well as a positive psychological state by providing flexibility for individual activities. Moreover, it would affect compulsive passion which causes a person to conduct something due to the internal pressure or condition of an individual about a certain activity.

CONCLUSION

This objective of this study was to identify how the winning attitude of Taekwondo athletes affects exercise immersion and passion. In order to achieve the objective a survey was conducted on 223 Taekwondo athletes playing for college and business teams and the following conclusions were withdrawn.

First, the winning attitude of Taekwondo athletes positively affected exercise immersion. In detail, fighting spirit had a positive effect on cognitive and behavioral immersion. Secondly, the winning attitude of Taekwondo athletes positively affected exercise passion. In detail, fighting spirit had a positive effect on harmonious and compulsive passion. In conclusion, the results of the study showed that the winning attitude of Taekwondo athletes significantly and positively influenced exercise immersion and passion. Specifically, fighting spirit affected all sub-factors of exercise immersion and exercise passion. Consequently, it would be desirable to increase mental power, willpower to achieve one's goal and fighting spirit, traits that allow an athlete to demonstrate ambition and spirit in order to promote the exercise immersion and passion of Taekwondo athletes.

REFERENCES

Choi, J., 2014. Structural relationship among passion, basic psychological needs and subjective well-being in athletes. Korean J. Sports Sci., 23: 599-614.

Choi, S.H., J.H. Kim and S.H. Seol, 2012. The relationship among exercise flow, team cohesion, exercise satisfaction of the Korea national representative players. J. Coaching Dev., 14: 53-60.

Chung, K.N. and J. Yoo, 2012. A test of dualistic passion model in sport. Korean J. phys. Educ., 51: 137-147.

Cornelius, A., 2002. Introduction of Sport Psychology Intervention. In: Psychological Foundations of Sport, Silva, J.M. and D.E. Stevens (Eds.). Allyn & Bacon, Boston, Massachusetts, ISBN:9780205331444, pp: 177-196.

Cronin, C., 1991. Sensation seeking among mountain climbers. Personality Individual Differences, 12: 653-654.

Csikszentmihalyi, M., 1990. Flow the Psychology of Optimal Experience. Harper, Manhattan, New York, ISBN:9780060162535, Pages: 303.

Gardner, F. and Z. Moore, 2006. Clinical Sport Psychology. Human Kinetics Publisher, Champaign, Illinois, USA., ISBN:9780736053051, Pages: 283.

Gauvin, L. and S.J. Russell, 1993. Sport-Specific and Culturally Adapted Measures in Sport and Exercise Psychology Research: Issues and Strategies. In: Handbook of Research on Psychology, Singer, R.N., M. Murphey and L.K. Tennant (Eds.). Macmillan Publishers, Basingstoke, UK., pp: 891-900.

Han, S.Y., 2013. The influence of self-management strategy and tenacity upon athletic performance in university taekwondo players. Ph.D Thesis, Seonam University, Namwon, South Korea.

Jones, G., S. Hanton and D. Connaughton, 2002. What is this thing called mental toughness? An investigation of elite sport performers. J. Applied Sport Psychol., 14: 205-218.

Kim, A.R., 2014. The effects of sport achievement goal orientation on tenacity and athletic performance among women taekwondo sparring. Master's Thesis, Chosun University, Gwangju, South Korea.

Kim, H.W., 2014. The relationship among athletic ability beliefs, tenacity and educational achievement of college athletes. Korean J. Sports Sci., 23: 325-336.

Kim, M.H. and J.Y. Park, 2014. Effects of multidimensional perfectionism and tenacity on the self-management in a junior golf player. Korean J. Sports Sci., 23: 569-578.

Kim, Y.M. and H.W. Han, 2013. The relationship among tenacity, self management, sports commitment and performance in university athletes. J. Korean Phys. Educ. Assoc. Girls Women, 27: 163-177.

Kim, Y.W., 2010. An effect of hockey player's self-management on confidence and performance. J. Sport Leisure Stud., 40: 853-861.

Lee, J.K., 2015. The relationship among the coaching leadership, tenacity and athletics outcomes of athletes players. Korean Sport Soc., 13: 29-40.

Peterson, C. and M.E.P. Seliman, 2004. Character Stengrth and Virlues: A Handbook and Classification. Oxford University Press, Oxford, England, UK., Pages: 800.

Privette, G. and C.M. Bundrick, 1987. Measurement of experience: Construct and content validity of the experience questionnaire. Perceptual Motor Skills, 65: 315-332.

Scanlan, T.K. and J.P. Simons, 1992. The construct of sport enjoyment. In: Motivation in Sport and Exercise, Roberts, G.C. (Ed.). Human Kinetics, Champaign, Illinois, USA., pp: 199-215.

Shin, J.T., S.H. Kim and Y.S. Park, 2009. Development of a questionnaire for assessing tenacity of internal top level athletes. J. Sport Leisure Stud., 36: 755-772.

Song, M.K., S.Y. Jang, D.H. Jeong and B.J. Choi, 2012. The effects of passion on sport emotion and perceived performance among Korean taekwondo players. Korean Alliance Martial Arts, 14: 99-110.

Vallerand, R.J., C. Blanchard, G.A. Mageau, R. Koestner and C. Ratelle *et al*., 2003. Les passions de l'ame: On obsessive and harmonious passion. J. Personality Soc. Psychol., 85: 756-767.

Vallerand, R.J., S.J. Salvy, G.A. Mageau, A.J. Elliot and P.L. Denis *et al*., 2007. On the role of passion in performance. J. Personality, 75: 505-534.

Yoo, J., H.K. Kim and K.N. Jung, 2009. A study on the dance passion-oriented change of affect in the university students majoring in dance. Off. J. Korean Soc. Dance Sci., 19: 1-15.

You, K.W., 2012. The effect of self-management of the professional soccer players on confidence and competency in games. Korean Sport Soc., 10: 117-131.