**Social Behavior and Personality: an international journal**

Analysis of the Participation Intention of Korea Fencing Club Members



--Manuscript Draft--

|  |  |
| --- | --- |
| Mayuscript Number: |  |
| Full Title: | Analysis of the Participation Intention of Korea Fencing Club Members |
| article Type: | Original Article |
| Abstract: | The popularity of fencing has surged in South Korea since the nation’s unexpected gold medal victory in the sport in the 2016 Rio de Janeiro Summer Olympics. This study was conducted to identify how Korean fencing club members’ participation intention is affected by the Theory of Planned Behavior’s sub-constructs: attitude, subjective norms, and perceived behavioral control. The data of a questionnaire survey of 233 Korean fencing club members were used to perform a frequency analysis, exploratory factor analysis, reliability analysis, correlation analysis, and a multiple regression analysis. The results indicate that among the three components of the Theory of Planned Behavior, attitude and subjective norms demonstrated significant positive effects on fencing club members’ intention to participate in the sport. The findings will be useful for understanding how to further popularize fencing in Korea and for encouraging current club members to maintain or increase their participation levels. |
| Author Comments: |  |
| Order of Authors Secondary information |  |
| Key words: | Fencing Club;  Theory of Planned behavior;  Participation Intention;  Korea;  Sport Psychology |

Abstract

The popularity of fencing has surged in South Korea since the nation’s unexpected gold medal victory in the sport in the 2016 Rio de Janeiro Summer Olympics. This study was conducted to identify how Korean fencing club members’ participation intention is affected by the Theory of Planned Behavior’s sub-constructs: attitude, subjective norms, and perceived behavioral control. The data of a questionnaire survey of 233 Korean fencing club members were used to perform a frequency analysis, exploratory factor analysis, reliability analysis, correlation analysis, and a multiple regression analysis. The results indicate that among the three components of the Theory of Planned Behavior, attitude and subjective norms demonstrated significant positive effects on fencing club members’ intention to participate in the sport. The findings will be useful for understanding how to further popularize fencing in Korea and for encouraging current club members to maintain or increase their participation levels.

**Key words**: Fencing Club; Theory of Planned behavior; Participation Intention; Korea; Sport Psychology

INTRODUCTION

In South Korea, fencing is emerging as a popular form of leisure sport (Jeon, 2017). Its popularity was sparked by a South Korean fencer, Park Sang-young, who won a gold medal by reversing an almost certain defeat with a strong “I can” attitude during the men’s épée final of the 2016 Rio de Janeiro Summer Olympics. This glorious victory was broadcast to the whole country, and ever since, South Koreans’ interest in fencing has been on the rise (Kim, 2018). Since then, Korean athletes have continued to achieve great results in international fencing competitions, and the general public has also increased their interest and participation in fencing as a leisure activity (Choi, 2019).

Until just a few years ago, fencing was perceived as an aristocratic sport by the public, which made it difficult for fencing to establish itself as a leisure sport (Yoon, 2017). Korean fencing participant often took advantage of the sport as a means to get accepted at a prestigious university abroad (Kwon, 2016). Even in the United States, where leisure sports established a strong foothold, fencing distinguishes itself from American football or basketball, which are widely accessible to the public. Fencing requires a considerable amount of money for buying equipment and entry into domestic and international competitions. Also, it is mainly enjoyed as an aristocratic sport (Kwon, 2017) by affluent white people rather than black people, South Americans, or Asian people (Emmerick & Adair, 2010).

According to Choi (2018), three to four small scale fencing academies, which were initially centered in Seoul, expanded to a membership of 800 enrolled with the Korea Sports Association following the London Olympics in 2012. Jeon (2019) also presents the case that the membership may need to be divided into demographic characteristic (e.g., the twenties, thirties, and forties) as the year on year growth in membership exceeds 100. Of course, an increase in membership does not represent all the elements of fencing’s growing popularity. Hence, there is a need for research on intention and the subsequent adherence behavior, which partially accounts for the continued growth in participation.

Primarily, it is important to identify the intention of fencing club members who enjoy the sport as a leisure activity. Kim (2008) claims that the members’ dispositions are the key and that their intention to display a specific behavior determines the execution of the behavior. The higher their intention to display a certain behavior, the higher the chance of taking action.

The best theory to comprehend the reason why South Korean fencing club members select and participate in fencing and to investigate their intention is the one devised by Ajzen (1985, 1991), known as the Theory of Planned Behavior (TPB). Courneya (1995) argued that the TPB is an effective model for understanding why people engage in sports, and Hagger, Chatzisarantis, Barkoukis, Wang, and Baranowski (2005) verified this model to be an appropriate tool to anticipate intention and actual behavior for sports participation.

The TPB extended from the Theory of Reasoned Action – initially proposed by Ajzen and Fishbein (1980) – with the addition of the Perceived Behavioral Control (Perceived behavioral control) variable (Ajzen, 1985, 1991). According to the TPB, intention triggers a specific behavior as a direct determinant and the participants’ intentions are determined by three variables: attitudes, subjective norms, and Perceived behavioral control (Ajzen, 1985, 1991).

By applying the TPB, existing studies have empirically investigated adults who participate in sports or physical activities (Rhodes & Courneya, 2005; Kosma, Cardner, Cardinal, Bauer, & McCubbin, 2007; Scott, Eves, Hoppé, & French, 2010; Prapavessis, Gaston, & Dejesus, 2015; Rhodes et al., 2014). Despite the growing exposure to fencing through various media channels, which resulted in increased interest and participation, no study using the TPB has been presented for fencing in South korea and international. By understanding the psychology behind the fencing club members’ behavior, it becomes possible to establish the intention for their involvement.

Most of the fencing research in South Korea catered to elite athletes only (Choi, Lee, & Cheon, 2005; Lee, 2011; Yeo & Kim, 2011; Lee, 2017; Kim, Lee, & Kim, 2017; Kim & Im, 2018). In other words, research on fencing for the general public had been scarce. Kim Yong Su’s (2015) research argues that more studies on various fencing participants could contribute to the spread of fencing in South Korea. Thus, establishing the social and psychological factors of fencing club members’ participation via the application of the TPB could produce a foundational resource to expand and solidify fencing clubs in South Korea. In order to understand the fencing club members’ disposition, this research has reviewed the subjects (club members) based on basic demographic characteristics such as gender, age, and participation rate.

Nigg, Lippke, and Maddock's (2009) research indicates that gender differences do not demonstrate any discrepancy with regard to attitudes, subject norms, or Perceived behavioral control when engaging in physical activities. The research adds that the younger the age, the lower the correlations between the intention and the behavior. Also, Kim (2005) defines exercising less than three times a week as a preparatory level and exercising for more than six months as a sustained level. Thompson, Arena, Riebe, and Pescatello (2013) categorize people who engage in a 30-minute workout three times a week as regular exercisers. Hence, this research attempts to investigate what the implications of fencing club members’ attitudes, subjective norms, and Perceived behavioral control are in connection with their demographic attributes. To accomplish the aims of this research, the following hypotheses were established.

Hypothesis 1: The TPB factors of fencing club members will have a significant impact on their intention.

Hypothesis 2: Depending on the demographic and other attributes of the fencing club members, the impact of the TPB factors on their intention will vary.

METHOD

Participants

The subjects of this study and survey were people of the age of twenty or above who are members of fencing clubs in four cities (Seoul, Incheon, Daegu, and Busan) and Gyeonggi province in Korea. Sampling was conducted using the convenience sampling method, which is one of the non-probability sampling methods. Questionnaires were designed with the self-assessment method. From January 19 to September 1, 2019, this researcher distributed the questionnaire and collected it. A total of 300 questionnaires were distributed for this study, and 261 copies were collected. Only the trustworthy data from 233 copies were used for this study after excluding 28 copies with unsatisfactory or unresponsive data. The specific characteristics of the research participants are shown in Table 1.

-Table 1-

**Research tools**

In this study, a questionnaire was constructed as described below to find out the intention of fencing club members. On average, 10 minutes were needed to complete the questionnaire. Also, a structural validity and reliability test were carried out to verify the content of the questionnaires.

**Measurement**

The measurement of the TPB was first developed by Ajzen and Fishbein (2000), and to be more accommodating to this study, questionnaires used by Kim (2001) and Kim and Won (2014) were revised and supplemented to be appropriate for measuring intention to continue fencing. All the questions were written in the Korean language and responses were rated on a 5-point Likert scale (1 = not at all, 5 = very much). Four items were used to measure intention to continue exercising at the fencing club. Example items were “I intend to continue exercising at this fencing club,” and “I like to do this sport at this fencing club whenever I have time.” Attitude was assessed with seven items (e.g., “It is beneficial to use this fencing club,” and “It is good to exercise at this fencing club”). Subjective norms were assessed with four items (e.g., “People who are important to me expect me to use this fencing club,” and “People who influence me think positively about me fencing at this fencing club”). Four items were used to measure Perceived behavioral control (e.g., “It is easy to use this fencing club,” and “I know how to use this fencing club well”).

**Procedure and Data Analysis**

Data analysis in this study was performed using Windows SPSS 25.0. First, a frequency analysis (descriptive statistics) was conducted to investigate the demographic characteristics of the study subjects. Second, an exploratory factor analysis was performed, which verified the structural validity and factorized the questionnaire by common factors. Also, a reliability analysis using Cronbach’s α coefficient resulted in confirmed reliability. Third, a correlation analysis was conducted to identify multicollinearity between sub-variables. Finally, a multiple regression analysis was performed to test the research hypotheses.

**Validity and Reliability of the TPB**

To establish the validity of the TPB questionnaire, an exploratory factor analysis was performed. Reliability was confirmed because Cronbach’s α value – the result of the reliability analysis – presented the figures of .947 for intention, .899 for attitude, .867 for subjective norms, and .708 for Perceived behavioral control (see Table 2). Following the factor analysis, four sub-factors were classified, and to secure the validity of each factor, two factor questions which did not meet the standard of 0.5 above factor loadings were deleted (Thorndike, 1995).

-Table 2-

**RESULTS**

**Correlation Analysis Between the Factors of the TPB**

In this study, a correlation analysis between factors was conducted to verify the degree of discriminant validity of factors identified through the exploratory factor analysis. As shown in Table 3, the relationship between the factors of the TPB showed a positive correlation, and the correlation value between variables was lower than .800, indicating that the criteria of multicollinearity were sufficiently met and that no issues occurred (Challagalla & Shervani, 1996).

-Table 3-

**Influence of the TPB Factors on the Intention of Fencing Club Members**

Table 4 shows the results of the multiple regression analysis to determine which of the TPB sub-constructs affects the intention of fencing club members. As a result of the analysis, the explanatory power of the TPB factors stood at 21.6%, and attitude, (β = .38, p <.000) followed subjective norms (β = .28, p <.000), were determined to have a significant effect on the intention.

-Table 4-

**Effects of the TPB Factors on Intention in Connection with Demographic Characteristics**

The effect of the TPB Factors on intention in connection with the gender of fencing club members is shown in Table 5. The explanatory power for predicting the TPB factors of male club members was 41.2%, and attitude (β = .40, p <.000), followed by subjective norms (β = .26, p <.001), were determined to have a significant effect on the intention. The explanatory power for predicting the TPB factors of female club members was 40.9% and attitude (β = .35, p <.001), followed by subjective norms (β = .33, p <.002), were identified to have a significant effect on the intention.

The effect of the TPB factors on intention in connection with the age of fencing club members is shown in Table 6. The explanatory power for predicting the TPB factors of club members in their twenties was 35.2% and subjective norms (β = .35, p <.000), followed by attitude (β = .29, p <.002), were determined to have a significant effect on the intention.

-Table 5-

The explanatory power for predicting the TPB factors of the 20s club members in their 20s was 35.2% and subjective norms (β = .35, p <.000) followed by attitude (β = .29, p <.002) were identified to have a significant effect on intention. Secondly, explanatory power for predicting the TPB factors of the 30s club members of 30s was 48.2% and attitude (β = .55, p <.000) factors were determined to have a significant effect on intention. Lastly, the explanatory power for predicting the TPB factors of the 40s club members of 40 years and older was 47.2%, and subjective norms (β = .42, p <.002) followed by attitude (β = .34, p <.015) were identified to have a significant effect on intention.

-Table 6-

The influence of the TPB factors on intention in connection with the number of weekly participations of fencing club members is shown in Table 7. The explanatory power for predicting the TPB factors of club members who participated 1-2 times a week was 39.6%, and attitude (β=.43, p <.000), followed by subjective norms (β=.28, p <.001), were determined to have a significant effect on intention. The explanatory power for predicting the TPB factors of club members who participated at least three times a week was 42.7%, and subjective norms(β=.27, p <.006), followed by attitude(β=.27, p <.017), followed by Perceived behavioral control(β=.26, p <.016), were identified to have a significant effect on intention.

-Table 7-

Discussion

First, among attitudes, subjective norms, and Perceived behavioral control, it was found that attitudes and subjective norms had a significant impact on intention. Previously in South Korea and International, there were not studies on fencing club members with the application of the TPB model. Thus, the predictions and explanations of these studies were built upon preceding studies on other leisure sports.

Research conducted by Park, Han, and Kim (2012) showed that the attitudes and subjective norms of Taekwondo Participants had a positive impact on the participants’ intention, and this finding corresponds to the findings of this study. It signifies that the stronger the attitude is toward fencing, the more likely it is for members to regularly participate in it. What is also noteworthy is that subjective norms had a positive influence on intention. Fencing club members’ experience also showed that their subjective norm could be influenced by other members. Moreover, according to Kim and Kim’s research (2019), social support, including material and emotional support, directed at elderly swimmers generates motivation and the desire to exercise. Their finding supports this study’s finding, in which the fencing club members’ subjective norms had a significant influence. In a study by Yoon (2017), he researched whether the service quality of fencing clubs towards their members had an impact on customer satisfaction, re-enrollment, and recommendation rate. His study revealed that the satisfaction level with facilities had a significant impact on the recommendation rate. This suggests that fencing club members recommend their clubs when they are satisfied with facilities that feel comfortable and convenient.

Moreover, the participation level of the fencing club members increased when they received encouragement from other members, and they subsequently joined in promoting other people’s participation (Yoon, 2017). Hosting various events to emphasize the fun aspect of fencing could ignite interest among club members. Also, to sustain the positive effects of hosting such events, continued management of facilities, programs, and advertisement should ensue.

Secondly, the impact of attitudes, subjective norms, and Perceived behavioral control on intention remained positive for both male and female fencing club members. A positive attitude toward fencing for both genders resulted in an escalated level of participation. Thus, to continue to invite further participation, it is important to underscore Thus, to continue to invite further participation, it is important to underscore aspects of fencing such positive as gentleness, sportsmanship, agility, and quickness (Jin, 2017). Such originality and rare experiences which other sports do not provide should be highlighted to bolster its appeal (Shim, 2019). Providing equal opportunities to both genders in terms of marketing and promotion could create fencing clubs that meet the needs of both genders. Beville et al.’s (2014) research analyzed university students’ level of physical activity based on gender, and the result exhibited a significant impact of attitude on intentions, which again corroborates the results found in this research.

In Nigg et al.’s findings (2009), both male and female genders’ attitudes and subjective norms displayed significant impact, and no difference in physical activity between the genders was detected. This translates to the fact that females care about their health as much as males, and such a result is in line with this paper’s findings, which manifests that the level of physical activity remains the same for both genders.

Thirdly, when the impact of attitudes, subjective norms, and Perceived behavioral control on intention was measured against age, there was a positive influence of attitudes and subjective norms for fencing club members in their twenties. This shows that when there is a psychological expectation of positive results such as a renewed mood, diet control, and enjoyment in the process of exercise, plans and determination for participation heighten. Their participation was also enhanced when they received encouragement from others, including friends and family. It can be inferred that this result is in agreement with the nature of people in their twenties, who prefer to pursue new things and welcome challenges.

For club members in their thirties, their attitude displayed a positive impact. This indicates that the participants are positively influenced by participating in fencing club activities. Salmon, Owen, Crawford, Bauman, and Sallis’s (2003) research discovered that the younger the age of people involved in physical activity, the higher the interest and control of the people around them, suggesting that subjective norms are less related to intention. This outcome is contradictory to our research. Interestingly, subjective norms showed a higher impact on people in their twenties than on people in the thirties, indicating that those in their twenties prefer to be around others while those in their thirties simply seek self-satisfaction. twenties prefer to be around others while tude and subjective norms presented a significant influence on Intention people in their forties and older. This resonates with the fact that this group thinks positively about their fencing activity and that their health, financial standing, and time are sufficient to enjoy the sport. The common thread among the twenties, thirties, and forties and older age groups was that all of them thought of fencing as a positive and great sport.

In Morris, Venkatesh, and Ackerman’s study (2005), gender and age mitigated the relationship between the TPB’s sub-constructs, and therefore, a difference between genders became apparent. Specifically, as age increased, attitude had more impact on the males than on the females. On the contrary, subjective norms had more impact on the females than on the males. Additionally, as the age increased, Perceived behavioral control became a more important factor for males than for females, which is harmonious with the research in this paper. As this study demonstrated a significant influence of attitudes, the number of participants is likely to increase if constructive feedback from educators is delivered to each age group separately, and professionalism is reinforced.

Fourthly, when the impact of attitudes, subjective norms, and Perceived behavioral control on intention was gauged based on the number of participations, there was a positive influence of attitudes and subjective norms. As for the members who participated more than three times a week, all of the three components – attitudes, subjective norms, and Perceived behavioral control – had a significant impact on intention.

Lee, Kim, and Park (2009) proposed a progressively transformed model, in which the changes occur as per an individual’s series of behaviors. They referred to people who exercise three times a week as regular exercisers. Despite some slight differences depending on the length of exercise, people in this study who regularly exercised experienced or are currently experiencing various forms of physical and psychological benefits.

This research is partially in keeping with the study conducted by Myers and Roth (1997). They suggested time, personal physique, social factors, and environmental factors as workout benefits and barriers that could influence workout behaviors. As found in this research, people who participated three times or more per week enjoyed fencing more than the people who participated only one or two times a week. Park’s (2019) study shows that a growing number of South Koreans are spending more money in their free time, and that leisure activities equally increased.

In South Korea, fencing has yet to become a universal sport, partly due to its limited availability. Thus, to allow fencing to become more accessible and attract more participation, issues relating to geographical access, transportation, and distance have to be resolved. Also, to enhance a positive and favorable psychological attitude among participants, marketing strategies have to be formulated from various angles. High-quality facilities and service will lead to satisfied participants, and additionally, sustainability in their participation.

Limitations and Directions for Future Research

In the wake of a multiple regression analysis, attitudes and subjective norms of fencing club members were found to be the most influential predictors of intention. This indicates that any fencing club member could easily participate in the sport. Due to the nature of martial arts, there are various risks, leading to high male participation. However, fencing does not show such a gender discrepancy. Reflecting a variety of social characteristics, fostering a variety of events to meet the needs of everyone regardless of gender, providing varied feedback through the establishment of educator expertise, and presenting a positive appearance of fencing while the sport takes place will raise the number of fencing participants. To conclude, members of fencing clubs will view these activities as positive, and the people around them will also show support by encouraging participation. By promoting a positive image through diverse fencing club events, and by creating more programs and managing them consistently, fencing club members will enjoy the sport even more, and this, in turn, will expand the base of fencing clubs.

Firstly, some participants start involving themselves in fencing as a leisure sport due to such external elements as the public recognition of the sport as aristocratic, its fancy movements, the use of French terminologies, and so on (Shin, Choi & Jeon, 2008). Thus, follow-up research should be conducted on external factors, such as how people would like to present themselves to others, which motivate people to take up fencing.

Secondly, this study conducted a quantitative study using a questionnaire. Unfortunately, there is a limit to in-depth analysis with a quantitative research method. Thus, an in-depth analysis through qualitative research is necessary to identify the reasons for participation in fencing. Thirdly, insufficient previous studies on fencing as a leisure sport presented a barrier while carrying out and discussing this research. Hence, if more follow-up studies are conducted on not only the elite athletes but also on people who enjoy fencing as a leisure sport, research will yield more meaningful outcomes.

References

Ajzen, I. (1985). *From Intentions to Actions: A Theory of Planned Behavior*. Action Control, 11–39. doi:10.1007/978-3-642-69746-3\_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. doi:10.1016/0749-5978(91)90020-t

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, New Jersey : Prentice-Hall.

Ajzen, I., & Fishbein, M. (2000). Attitudes and the Attitude-Behavior Relation: Reasoned and Automatic Processes. *European Review of Social Psychology, 11*(1), 1–33. doi:10.1080/14792779943000116

Beville, J. M., Umstattd Meyer, M. R., Usdan, S. L., Turner, L. W., Jackson, J. C., & Lian, B. E. (2014). Gender Differences in College Leisure Time Physical Activity: Application of the Theory of Planned Behavior and Integrated Behavioral Model. *Journal of American College Health, 62*(3), 173–184. doi:10.1080/07448481.2013.872648

Choi, D. Y. (2019.04.07)."Winning and accepting attitude, strategic judgment, emotion control. I learned from fencing". Asia Economy. <https://bit.ly/2uq72Yf>

Choi, T. S., Lee, G. B., & Cheon, Y. Ho. (2005). A comparative Study on Leisure Activity Patterns of University Students Between Fencing Athletes and Students of Department in Physical Education. [In Korean]. *Korea sport research, 16*(4), 785-796. <https://bit.ly/2OjfWNO>

Choi, Y. T. (2018.11.15.). *Countrywide Fencing Club Members Enjoy a Match in Incheon*. Giho Ilbo. <https://bit.ly/36LyUTK>

Courneya, K. S. (1995). Understanding readiness for regular physical activity in older individuals: An application of the theory of planned behavior. *Health Psychology, 14*(1), 80–87. doi:10.1037/0278-6133.14.1.80

Emmerick, R., & Adair, D. (2010). Prestige, privilege and polite society: The origins of fencing in New South Wales, 1800 to 1939. *Sporting Traditions, 27*(1), 67.

Hagger, M. S., Chatzisarantis, N. L. D., Barkoukis, V., Wang, C. K. J., & Baranowski, J. (2005). Perceived Autonomy Support in Physical Education and Leisure-Time Physical Activity: A Cross-Cultural Evaluation of the Trans-Contextual Model. *Journal of Educational Psychology, 97*(3), 376–390. doi:10.1037/0022-0663.97.3.376

Hausenblas, H. A., Carron, A. V., & Mack, D. E. (1997). Application of the Theories of Reasoned Action and Planned Behavior to Exercise Behavior: A Meta-Analysis. *Journal of Sport and Exercise Psychology, 19*(1), 36–51. doi:10.1123/jsep.19.1.36

Jeon, S. W. (2017.05.11.). *[Lesson Interview] Choi Byung Chul Fencer “Rejection of Naturalization Request as a Player.” I will walk doe Korean Fencing*. Yonhap news. <https://bit.ly/31k4Ddz>

Jeon, Y. J. (2019.11.04*.). [Win-Win Sports] ‘London Bronze Medalist Jung Jin Sun’ speaks of Fencing Club Members. Fencing is now ‘national sport.’ [Fencing Club Member Championship].* Sports Chosun <https://bit.ly/36XSQ65>

Jin, Y. H. (2017.12.13). *A Former National Fencer Couple Pioneers the Second Life in Jeju*. Jeju Ilbo. <https://bit.ly/2RSysPi>

Kim B. S., Lee, S. K., & Kim, J. Yo. (2017). The Effect of Fencing athletes’s Self-management on Exercise Flow and Concentration. [In Korean] *Korean Journal of Sports Science, 15*(3), 785-794. <https://bit.ly/2udtLqf>

Kim, B. H., & Kim, S. Y. (2019). The Relationship between Social Support, Exercise Passion and Intention of Exercise Adherence in Senior Women Swimming. [In Korean*]. Journal of Korean Association of Physical Education and Sport for Girls and Women 33*(1), 1-13. <https://bit.ly/2RT7sPR>

Kim, Y. H. (2005). Integration of the Theory of Planned Behavior with Processes and Stages of Change to Explaining Exercise Behavior Change. [In Korean]. *Korean Society of Sport Psychology****,*** *16*(2), 205-221. <https://bit.ly/2Oosvrj>

Kim, Y. J. (2001). *Validation of Leisure Sport’s Sustainable Behavior Model*. [In Korean] (Unpublished doctoral dissertation). Chung-Ang National University, Seoul, South Korea, Retrieved from <https://bit.ly/2Olf6j>

Kim, Y. J. (2008). Relationships among sports fun elements and behavior predicted factors based on the degree of intention in water-leisure sports participation. [In Korean]. *Korean Journal of Physical Education, 47*(4), 283-292. <https://bit.ly/2u4sWAc>

Kim, Y. J. (2012). A Study on the Sports for All Leaders Intention to Participate in Active Sport: Based on the Theory of Planned Behavior. [In Korean]. *Journal of Sport and Leisure Studies, 48*(1), 471-482. <https://bit.ly/2GM33aL>

Kim, Y. J., & Won, S. Y. (2014). A Study on Influence of Life Sports Trainer's Perfectionism for Intention to exercise-adherence: Based on the Theory of Planned Behavior. [In Korean]. *Korean Journal of Physical Education, 53*(3), 259-268. <https://bit.ly/2OkNPO8>

Kim, Y. S., & Im, S. Y. (2018). Preparation of fencer before competition. [In Korean]. *Sports Science, 35*(2), 161-169. <https://bit.ly/2UfZxO5>

Kim, Y. S., (2015). Study on the Activating Schemes for Fencing Development in Korea. [In Korean]. *The Korean Journal of Sport, 13*(4), 161-171. <https://bit.ly/2OmssvQ>

Kim. H. K. (2018.03.30.). *On the way to an advanced sports country, there is a variety of sports that are not popular*. Sports seoul. <https://bit.ly/37TgLEV>

Kosma, M., Ellis, R., Cardinal, B. J., Bauer, J. J., & McCubbin, J. A. (2007). The Mediating Role of Intention and Stages of Change in Physical Activity among Adults with Physical Disabilities: An Integrative Framework. *Journal of Sport and Exercise Psychology, 29*(1), 21–38. doi:10.1123/jsep.29.1.21

Kwon S. W. (2016.01.23.). [Why] *Sending my child to the top universities of the United States as a Special Admission Applicant*. International School’s ‘fencing mom’ frenzy. Chosunilbo <https://bit.ly/391XRvx>

Kwon, S.-H. (2017). Possibility, Limitation and Ethics of Admission Officer System. [In Korean]. *Korean Society for Social Philosophy*. (33), 129-156. <https://bit.ly/36OF8SJ>

Lee H. K., Kim, Y. H., & Park, S. R., (2009). Relationships of Psychological Variables with the Stages of Exercise Behavior Based on Transtheoreticcal Model: Comparison of Three Age Groups. [In Korean]. *Journal of Sport and Leisure Studies, 38*(2), 867-878. <https://bit.ly/390b48f>

Lee, S. G. (2011). The Relationship between Self-management and Sport Burn-out on Fencers. [In Korean]. *The Korean Journal of Sport, 9*(3), 129-137. <https://bit.ly/2ScivT9>

Lee, W. M. (2017). Effects of Psychological Skills Training on a National Fencing Player. [In Korean]. *Korean society for Wellness, 12*(2), 207-216. <https://bit.ly/2UkeSgA>

Lee. D. S. (2017.06.14). *“I can do it, I can do it” Fencing’s transformation into Leisure Spirts*. MBNNews. <https://bit.ly/2GNeBKS>

Morris, M. G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and Age Differences in Employee Decisions

About New Technology: An Extension to the Theory of Planned Behavior. *IEEE Transactions on Engineering Management, 52*(1), 69–84. doi:10.1109/tem.2004.839967

Myers, R. S., & Roth, D. L. (1997). Perceived benefits of and barriers to exercise and stage of exercise adoption in young adults. *Health Psychology, 16*(3), 277–283. doi:10.1037/0278-6133.16.3.277

Nigg, C. R., Lippke, S., & Maddock, J. E. (2009). Factorial invariance of the theory of planned behavior applied to physical activity across gender, age, and ethnic groups. *Psychology of Sport and Exercise, 10*(2), 219–225. doi:10.1016/j.psychsport.2008.09.005

Park, E. H. (2019.01.29.). *Leisure time and Expenditure increased compared to two years ago. Announcement of ‘2018 National Leisure Activity Survey’ by Ministry of Culture and Sports*. Eyenews 24. <https://bit.ly/2RSZSVl>

Park, Y. S., Han, J. W., & Kim, M. S. (2012). Analyzing Behavioral Intention to Visit the Muju Taekwondo Park: Applying Extended Theory of Planned Behavior. [In Korean]. *Journal of Sport and Leisure Studies. 48*(1), 195-204. <https://bit.ly/2RQlce6>

Parrott, M. W., Tennant, L. K., Olejnik, S., & Poudevigne, M. S. (2008). Theory of Planned Behavior: Implications for an email-based physical activity intervention. *Psychology of Sport and Exercise, 9*(4), 511–526. doi:10.1016/j.psychsport.2007.07.002

Prapavessis, H., Gaston, A., & DeJesus, S. (2015). The Theory of Planned Behavior as a model for understanding sedentary behavior. *Psychology of Sport and Exercise, 19*, 23–32. doi:10.1016/j.psychsport.2015.02.001

Rhodes, R. E., & Courneya, K. S. (2005). Threshold assessment of attitude, subjective norm, and perceived behavioral control for predicting exercise intention and behavior. *Psychology of Sport and Exercise, 6*(3), 349–361. doi:10.1016/j.psychsport.2004.04.002

Rhodes, R. E., Blanchard, C. M., Benoit, C., Levy-Milne, R., Naylor, P.-J., Symons Downs, D., & Warburton, D. E. R. (2014). Social cognitive correlates of physical activity across 12 months in cohort samples of couples without children, expecting their first child, and expecting their second child. *Health Psychology, 33*(8), 792–802. doi:10.1037/a0033755

Salmon, J., Owen, N., Crawford, D., Bauman, A., & Sallis, J. F. (2003). Physical activity and sedentary behavior: A population-based study of barriers, enjoyment, and preference. *Health Psychology, 22*(2), 178–188. doi:10.1037/0278-6133.22.2.178

Scott, E. J., Eves, F. F., Hoppé, R., & French, D. P. (2010). Dancing to a different tune: The predictive utility of the theory of planned behaviour when the behaviour is constrained.

Shim, J. H. (2019.03.03.). *2019 Seoul International Leisure Sports Exhibition, Top 10 Trends*. Korean Sports Economy. <https://bit.ly/393z62d>

Shin, J. T., Choi, H. G., & Jeon, Y. H. (2008). *The Full Fencing Equipment well Exceeds 2 million won. Foil Sword is the Shortest and Cheapest*. Sports Dong-A. <https://bit.ly/3b7S5dS>

Sniehotta, F. F., Scholz, U., & Schwarzer, R. (2005). Bridging the intention–behaviour gap: Planning, self-efficacy, and action control in the adoption and maintenance of physical exercise. *Psychology & Health, 20*(2), 143–160. doi:10.1080/08870440512331317670

Thompson, P. D., Arena, R., Riebe, D., & Pescatello, L. S. (2013). ACSM’s New Preparticipation Health Screening Recommendations from ACSM’s Guidelines for Exercise Testing and Prescription, Ninth Edition. *Current Sports Medicine Reports, 12*(4), 215–217. doi:10.1249/jsr.0b013e31829a68cf

Thorndike, R. M. (1995). Book Review : Psychometric Theory (3rd ed.) by Jum Nunnally and Ira Bernstein New York: McGraw-Hill, 1994, xxiv + 752 pp. *Applied Psychological Measurement, 19*(3), 303–305. doi:10.1177/014662169501900308

Warburton, J., & Terry, D. J. (2000). Volunteer Decision Making By Older People: A Test of a Revised Theory of Planned Behavior. *Basic and Applied Social Psychology, 22*(3), 245–257. doi:10.1207/s15324834basp2203\_11

Won, H. S., & Park, D. C. (2017). The Influence of Participation Motivation on Exercise Commitment and Life Satisfaction of Kendo Apprentices. [In Korean]. *Korean Society of Kendo Journal, 28*(1), 63-82. <https://bit.ly/3b8wSAg>

Yeo, Y. G., & Kim, Y. K. (2011). The relationships among degree of maturation, self-management and sport coping of fencers. [In Korean]. *The Korean Journal of Sport, 9*(4), 113-122. <https://bit.ly/2RPJ01F>

Yoon, Y. S. (2017). *Affect of fencing club service quality on customer satisfaction and re-registration*. [In Korean] (Unpublished master’s thesis). Korea National Sport University, Seoul, South Korea, Retrieved from <https://bit.ly/2GR1ybz>

*[Please insert Table 1 here.] Characteristics of Research Participants*

|  |  |  |
| --- | --- | --- |
| Fencing club members (N=233) | | |
| **Variable** | **classification** | **n (%)** |
| gender | man | 149 (63.9) |
| women | 84 (36.1) |
| Age | 20s | 132 (56.7) |
| 30s | 56 (24.0) |
| 40s or older | 45 (19.3) |
| Occupation | student | 92 (39.5) |
| self-employment | 24 (10.3) |
| employee | 57 (24.5) |
| service job | 14 (6.0) |
| public official | 20 (8.6) |
| others | 26 (11.2) |
| Average monthly income | Less than 1.5 million won | 92 (39.5) |
| 1.5 million won or over - less than 2.5 million won | 40 (17.2) |
| 2.5 million won or over - less than 3.5 million won | 53 (22.7) |
| 3.5 million won or over | 46 (20.6) |
| number of weekly participations | Once a week-twice a week | 143 (61.4) |
| At least 3 times a week | 90 (38.6) |
| participation time per session | Less than one hour and a half | 99 (42.5) |
| Less than one hour and a half hour or over | 134 (57.5) |
| fencing experience | Less than two years | 113 (48.5) |
| 2years or over | 120 (51.5) |
| total | | 233 (100.0) |

*[Please insert Table 2 here.] Validity and Reliability of the TPB Qusetionnaire*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| fencing club members(N=233) | | | | | | |
|  | | Items | 1 | 2 | 3 | 4 |
| intention  α=.95 | 4. I am willing to spend time and money to keep fencing in the future | | .86 |  |  |  |
| 3. I am willing to keep fencing in the future | | .85 |  |  |  |
| 2. I intend to do keep fencing in the future | | .84 |  |  |  |
| 7. I will do fencing on a regular basis even after a year | | .83 |  |  |  |
| 6. I will do fencing on a regular basis even after six months | | .79 |  |  |  |
| 1. I will try to keep fencing in the future | | .78 |  |  |  |
| 5. I will do fencing on a regular basis next month as well | | .74 |  |  |  |
| Attitude  α=90 | 2. Fencing is a worthwhile activity | |  | .83 |  |  |
| 3. Fencing is a beneficial activity | |  | .80 |  |  |
| 1. Fencing is a positive activity | |  | .76 |  |  |
| 7. Fencing is a meaningful activity for me | |  | .76 |  |  |
| 6. Fencing is a dynamic activity for me | |  | .74 |  |  |
| 4. Fencing is a necessary activity for me | |  | .70 |  |  |
| 5. Fencing is a social activity for me | |  | .54 |  |  |
| Subjective norms  α=87 | 1. My friends or family members think that it is good for me to do fencing club activities | |  |  | .83 |  |
| 2. My friends or family members support me in fencing club activities | |  |  | .81 |  |
| 3. People that I think are valuable are in favor of what I join a fencing club | |  |  | .76 |  |
| Perceived behavioral control  α=71 | 1. I can join a fencing club anytime I want | |  |  |  | .84 |
| 2. Whether I join a fencing club or not depends on myself | |  |  |  | .75 |
| 4. I have time to do fencing club activities | |  |  |  | .61 |
| eigenvalue | | | 5.377 | 4.527 | 2.474 | 1.975 |
| CUM% | | | 26.884 | 49.517 | 61.888 | 71.766 |

*Note.* 1=Intention; 2=Attitude; 3= Subjective norms; 4=Perceived behavioral control

Factor loadings below .50 have been removed. CUM % = cumulative percentage in extraction sums of squared loadings; KMO = Kaiser–Meyer–Olkin

*[Please insert Table 3 here.] Correlation, Means, and Standard Analysis*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | *M* | *SD* | 1 | 2 | 3 | 4 |
| 1. Attitude | 4.44 | 0.53 | 1 |  |  |  |
| 2. Subjective norms | 4.22 | 0.64 | .52\*\* | 1 |  |  |
| 3. Perceived behavioral control | 4.20 | 0.73 | .49\*\* | .46\*\* | 1 |  |
| 4. Intention | 4.37 | 0.61 | .58\*\* | .52\*\* | .42\*\* | 1 |

*Note*. N = 233.

\* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001.

*[Please insert Table 4 here.] Results of Multiple Regression Analysis for Intention*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent variable: Intention |  | | | |
| Variable | B | SE | β | *t* |
| constant | 1.05 | .276 |  | 3.79\*\*\* |
| Attitude | .43 | .073 | .38 | 5.97\*\*\* |
| Subjective norms | .23 | .052 | .28 | 4.43\*\*\* |
| Perceived behavioral control | .10 | .057 | .11 | .073 |
| Δ*R2* | .216 | | | |
| *F* | 12.651\*\*\* | | | |

*Note.* N = 233.

\* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001.

*[Please insert Table 5 here.] Results of Multiple Regression Analysis for Gender*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variable: Intention | |  | | | | | | |
| Independent variable | Variable | B | | SE | | β | | *t* |
| Males | constant | 1.02 | | .34 | |  | | 3.01\*\* |
| Attitude | .45 | | .09 | | .40 | | 5.08\*\*\* |
| Subjective norms | .22 | | .07 | | .26 | | 3.38\*\*\* |
| Perceived behavioral control | .11 | | .07 | | .11 | | 1.46 |
| Δ*R2* | .41 | | | | | | |
| *F* | 35.59\*\*\* | | | | | | |
| Females | constant | 1.03 | .48 | |  | | 2.16\* | |
| Attitude | .42 | .13 | | .35 | | 3.31\*\*\* | |
| Subjective norms | .26 | .08 | | .33 | | 3.16\*\* | |
| Perceived behavioral control | .07 | .09 | | .06 | | .43 | |
| Δ*R2* | .41 | | | | | | |
| *F* | .18.28\*\*\* | | | | | | |

*Note.* N = 233.

\* *p* <.05, \*\* *p* <.01, \*\*\* *p* <.001.

*[Please insert Table 6 here.] Results of Multiple Regression analysis for Age Groups*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variable: Intention | |  | | | | | | |
| Independent variable | Variable | B | | SE | | β | | *t* |
| 20s | constant | 1.31 | | .37 | |  | | 3.55\*\*\* |
| Attitude | .32 | | .10 | | .29 | | 3.23\*\* |
| Subjective norms | .29 | | .08 | | .35 | | 3.91\*\*\* |
| Perceived behavioral control | .08 | | .09 | | .08 | | .38 |
| Δ*R2* | .35 | | | | | | |
| *F* | 24.68\*\*\* | | | | | | |
| 30s | constant | .57 | .53 | |  | | 1.07 | |
| Attitude | .66 | .14 | | .55 | | 4.59\*\*\* | |
| Subjective norms | .05 | .08 | | .06 | | .55 | |
| Perceived behavioral control | .18 | .09 | | .21 | | 1.89 | |
| Δ*R2* | .48 | | | | | | |
| *F* | 18.38\*\*\* | | | | | | |
| 40s or older | constant | .81 | .62 | |  | | 1.32 | |
| Attitude | .38 | .15 | | .34 | | 2.55\* | |
| Subjective norms | .36 | .11 | | .42 | | 3.25\*\* | |
| Perceived behavioral control | .11 | .11 | | .12 | | .35 | |
| Δ*R2* | .47 | | | | | | |
| *F* | 13.79\*\*\* | | | | | | |

*Note.* N = 233.

\* *p* <.05, \*\* *p* <.01, \*\*\* *p* <.001.

*[Please insert Table 7 here.] Results of Multiple Regression Analysis for Participation Frequency*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variable: Intention | |  | | | | | | |
| Independent variable | Variable | B | | SE | | β | | *t* |
| 1-2 times a week | constant | .82 | | .38 | |  | | 2.14\* |
| Attitude | .55 | | .10 | | .43 | | 5.49\*\*\* |
| Subjective norms | .23 | | .07 | | .28 | | 3.49\*\*\* |
| Perceived behavioral control | .02 | | .07 | | .02 | | .30 |
| Δ*R2* | .40 | | | | | | |
| *F* | 32.07\*\*\* | | | | | | |
| at least three  times a week | constant | 1.08 | .40 | |  | | 2.66\* | |
| Attitude | .28 | .11 | | .27 | | 2.44\* | |
| Subjective norms | .23 | .08 | | .27 | | 2.83\* | |
| Perceived behavioral control | .27 | .11 | | .26 | | 2.46\* | |
| Δ*R2* | .43 | | | | | | |
| *F* | 23.11\*\*\* | | | | | | |

*Note.* N = 233.

\* *p* <.05, \*\* *p* <.01, \*\*\* *p* <.001.