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Achievement Motivation, Exercise Immersion, and Exercise Continuation Behavior of Marine Leisure Sports Participants

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Abstract : The purpose of this study was to provide basic data that can contribute to the popularization of marine leisure sports based on the results derived from the study of achievement motivation, exercise immersion, and exercise continuation behavior of marine leisure sports participants.

Methods/Statistical analysis: The subjects of this study were selected as the population among adults 18 years of age or older who participate in marine leisure sports, and who are active in the metropolitan area (Seoul, Gyeonggi, and Incheon). Convenience sampling method was used for the sampling. A total of 284 responses were analyzed for marine leisure sports participants who understood the purpose of the survey and of the study.

Findings: The results of this study are as follows. First, as a result of examining the correlation between the achievement motivation, exercise immersion, and exercise continuation behavior of marine leisure sports participants, both achievement motivation and exercise immersion showed a positive correlation. On the other hand, achievement motivation showed a positive correlation with tendency and possibility among the sub-variables of exercise continuation behavior. Second, it was found that all of the sub-variables of the achievement motivation of marine leisure sports participants had a positive effect on cognitive immersion, while confidence and task orientation had a positive effect on behavior immersion. Third, among the sub-variables of the achievement motivation of marine leisure sports participants, it was found that adventurous spirit and future orientation had positive effects on tendency; and confidence, adventurous spirit, and future orientation were found to have positive effects on possibility.

Improvements/Applications: Thus the achievement motivation of marine leisure sports participants is a factor that has a positive effect on cognitive and behavioral immersion. Therefore, it was found that the achievement motivation of marine leisure sports participants positively influences exercise immersion and exercise continuation behavior. In addition, while in this study only the factors of exercise immersion and exercise continuation behavior were analyzed, in future research more diverse variables should be studied in conjunction.

Keywords: Confidence, Adventurous spirit, Future-orientation, Exercise immersion, Exercise continuation behavior.

I. Introduction

In Korea, experience orientation and nature-friendly leisure sports with strong psychological stimulation are rapidly becoming established, due to the demands of modern people to satisfy their inner desires for experiencing harmony with nature in the natural environment. Leisure sports provide a sense of accomplishment and satisfaction that are difficult to experience in other leisure activities, by providing an environment that can satisfy various curiosities through the various mysteries and providences of nature, as well as satisfy mental health [1]. In particular, since marine leisure sports are nature-friendly and adventurous, their value is also recognized in terms of leisure culture, including social, economic, and educational aspects.

Participation in marine leisure sports satisfies the needs for nature, adventurous spirit, and challenge, including the emotional, social, and physical effects of athletic sports. In addition, complex equipment and techniques for stability improve intellectual abilities. Since marine leisure sports are sports activities that exploit water, there is always a high risk of safety accidents, so it is not easy to access by anyone. Therefore, in marine sports, education on swimming ability to adapt to the water and skills to handle various equipment must precede marine activity, and therefore, in addition to swimming education, systematic technical guidance of marine leisure sports is required [2].

In general, marine leisure sports are commonly referred to in various ways, such as marine leisure, marine sports, and water leisure sports. Based on sports, they are divided into two categories: elite sports and daily sports, according to the degree of competition. Marine sports are also classified into competitive sport type and non-competitive leisure sport type, because such activity falls into the middle category among the major categories of physical exercise. Marine sports can be divided into space location for water sports, such as windsurfing, water skiing, yachting, and surfing. Depending on the use of various equipment, the type of boat, and the presence or absence of a power device, such sports may be classified into power, non-power, and towing events [3].

The increase of Korea's advanced base for marine sports has improved the opportunity for hobbyists and individuals who enjoy marine sports to enjoy leisure activities. In addition, the population of marine sports is continuously increasing due to opportunities to participate directly by ordinary people who have not previously been exposed to marine sports. However, simple participation inevitably appears to be a limit to the growth of the marine leisure sports population. It is necessary to increase the number of people participating in marine leisure sports continuously by proposing more active measures, such as providing achievement motivation for marine leisure sports to the general public.

Achievement motivation can be said to be the motivation to work hard, swiftly, and as consistently as possible at performing good and difficult tasks. Achievement motivation can also be said to be a desire to achieve difficult things, a desire to overcome obstacles and achieve a high level of achievement, a desire to compete with and surpass others, and a desire to surpass oneself through talent training. In other words, the process of accomplishing a great job and satisfaction with the process itself are elements of achievement motivation. Achievement motivation not only plays an important role in sports participation, but also positively affects immersion, so it can be said to be a necessary element for marine leisure sports research.

Exercise immersion is a state of immersion in sports activities, not being influenced by external stimuli, and focusing on one activity without other thoughts. The reason why people who participate in life sports in leisure activities are immersed in life sports without any compensation is clearly because they feel strong and high positive emotions related to happiness in sports itself. Therefore, a high level of exercise immersion allows long-lasting participation in exercise to be maintained [4]. Research on achievement motivation, exercise immersion, and exercise performance behavior acts as an important variable that induces the general public's interest and participation in sports.

In particular, research on achievement motivation, exercise immersion, and exercise performance behavior related to marine leisure sports is expected to provide empirical data that suggests the direction of marine leisure sports activity policy.

Therefore, through the marine leisure sports experience of participants in this study, it was confirmed whether achievement motivation had a significant effect on exercise immersion and exercise continuation behavior, and based on the results, it is necessary to provide basic data to help revitalize marine leisure sports. The purpose of this study is to provide basic data that can contribute to the activation of marine leisure sports based on the results derived from the study of the achievement motivation, exercise immersion, and exercise continuation behavior of marine leisure sports participants.

II. Study Methods

1. Subjects

The subjects of this study were selected as the population of adults 18 years of age or older who participate in marine leisure sports, who are active in the metropolitan area (Seoul, Gyeonggi, and Incheon). The convenience sampling method was used for sampling. A total of 300 marine leisure sports participants who understood the purpose of the survey and of the study were surveyed, and a total of 284 copies of the data were utilized, after excluding 16 that were judged to have poor or unreliable responses to the test results.

2. Study tool

The background variable questions consisted of 5 questions based on gender, age, final academic background, occupation, and participating events. In specific details, gender was divided into male or female, while age was divided into 20s, 30s, 40s, 50s, or older. The final academic background was divided into high school graduation, university attendance, or university graduation; and occupation was divided into professional/managerial, office/service, self-employed, work/production, or student (college student). Participating events were divided into windsurfing, water skiing, scuba diving, or yachting. The scale of the questionnaire was measured in the form of responses, such as 1 point "strongly disagree", 2 points "disagree", 3 points "neutral", 4 points "agree", and 5 points "strongly agree" on a Likert 5-point scale. The measurement tool for achievement motivation was based on the achievement motivation presented by Lim & Kang [5], and the items used in the studies of Kim, Cha, & Choi [6], and Lee [7] were used after revision and supplementation to fit this study. The sub-variables of achievement motivation used in this study consisted of a total of 17 questions: confidence (5 questions), adventurous spirit (5 questions), future orientation (4 questions), and task orientation (3 questions). The measurement tool for exercise immersion was based on the exercise immersion scale suggested by Jeong [8], and the items used in the studies of Jung & Lee [9], Jeon & Hwang [10], and others were used, after revision and supplementation to fit this study. The sub-variables of exercise immersion used in this study consisted of a total of 8 questions: cognitive immersion (4 questions), and behavioral immersion (4 questions). The measurement tool for exercise continuation behavior was based on the exercise continuation suggested by Corbin, Welk, Lindsey, & Corbin [11], and the items used in the studies of Kim & Choi [12], Jung, Kim, & Son [13], and others were modified and supplemented to suit this study. The sub-variables of exercise continuation behavior used in this study consisted of a total of 9 questions: tendency (3 questions), possibility (3 questions), and reinforcement (3 questions).

3. Validity and reliability

The principal component analysis method of exploratory factor analysis was used to verify the validity of the research tool. Among the orthogonal methods, varimax was used to simplify the factor structure. The common factor extraction method was based on an

eigenvalue of 1.0 or higher, and the factor loading was limited to questions of .50 or higher. In addition, Cronbach's α coefficient according to the internal consistency criterion was used to verify the reliability of the survey tool.

As a result of conducting exploratory factor analysis for 7 items, 4 factors were derived: confidence, adventurous spirit, future orientation, and task orientation. The common variance of the four factors was about 70.7 %. The loading value of confidence was found to be (0.650 – 0.837). The loading value of adventurous spirit was found to be (.730 – .881). The loading value of future-orientation was found to be (0.690 – 0.747). The loading value of task orientation was found to be (0.516 – 0.725). The KMO standard fit in this study was .880, and Bartlett's sphericity verification also showed a significant difference ($\chi2$=2,875.617, df=136, p<.001), indicating that it was suitable for the sample suitability. Reliability was verified as the reliability coefficient of achievement motivation was confidence .820, adventurous spirit .813, future orientation 0.828, and task orientation 0.831. As a result of conducting exploratory factor analysis for 8 items, two factors were derived: cognitive immersion, and behavioral immersion. The common variance of the two factors was about 76.7 %. The loading value of cognitive immersion was (.904 – .939), and the loading value of behavioral immersion was (.742 – .856). The KMO standard fit in this study was .846, and Bartlett's sphericity verification also showed a significant difference ($\chi2$=1,689.422, df=28, p<.001), indicating that it was suitable for the sample suitability. The reliability coefficient of exercise immersion was .808 for cognitive immersion and .825 for behavioral immersion, and the reliability was verified. As a result of conducting exploratory factor analysis for 9 items, three factors were derived: tendency, possibility, and reinforcement. The common variance of the three factors was about 81.0 %. The loading value of tendency was found to be (.931 – .947). The loading value of possibility was found to be (.889 – .914). The loading value of reinforcement was found to be (.730 – .835). The KMO standard fit in this study was .792, and Bartlett's sphericity verification also showed a significant difference ($\chi2$=1,653.200, df=36, p<.001), indicating that it was suitable for the sample suitability. The reliability coefficients of exercise continuation behavior showed tendency of .804, possibility of .815, and reinforcement of .892, and the reliability was verified.

4. Data processing

In this study, after collecting the data containing the results of the questionnaire survey, data that were judged to be inadequate or difficult to secure reliability for were excluded from the analysis, the data that could be used were analyzed, and SPSS 24.0 statistical program was used. To verify the validity, exploratory factor analysis was performed, and Cronbach's α coefficient was calculated to verify the reliability of factors separated into the same group. Correlation Analysis and Multiple Regression Analysis were conducted for achievement motivation, exercise immersion, and exercise continuation behavior of the marine leisure sports participants. At this time, the significance level of all statistical values was set to p<.05, and the post-verification of the significance level was performed by the Scheffé method.

III. Results

1. Results of the correlation analysis

Table 1 shows the results that were obtained from the analysis of the correlation between the achievement motivation, exercise immersion, and exercise continuation behavior of the marine leisure sports participants.

Table 1. Results of correlation analysis between achievement motivation, exercise immersion, and exercise continuation behavior.

	A	B	C	D	E	F	G	H	I
A	-								
B	.357***	-							
C	.495***	.336***	-						
D	.602***	.277***	.447***	-					
E	.405***	.890***	.438***	.273***	-				
F	.733***	.348***	.441**	.683***	.329***	-			
G	.427***	.870***	.407***	.353***	.883***	.425***	-		
H	.722***	.404***	.711***	.554***	.523***	.571***	.500***	-	
I	.009	.027	.068	-.014	.010	-.029	.026	.063	-

***p<.001.

A, Confidence; B, Adventurous spirit; C: Future-orientation; D: Task orientation; E, Cognitive immersion; F, Behavioral immersion; G: Tendency; H: Possibility; I: Reinforcement.

As a result of analyzing the correlation between variables, confidence was positively correlated with cognitive immersion (r=.405), behavioral immersion (r=.733), tendency (r=.427), and possibility (r=.722) (p<.001). Adventurous spirit showed a positive correlation with cognitive immersion (r=.890), behavioral immersion (r=.348), tendency (r=.870), and possibility (r=.404) (p<.001). Future orientation showed positive correlations with cognitive immersion (r=.438), behavior immersion (r=.441), tendency (r=.407), and possibility (r=.711) (p<.001). Task orientation was positively correlated with cognitive immersion (r=.273), behavior immersion (r=.683), tendency (r=.353), and possibility (r=.554) (p<.001).

2. The effect of achievement motivation on exercise immersion

Multiple regression analysis was conducted to investigate the effect of achievement motivation of the marine leisure sports participants on exercise immersion.

1) The effect of achievement motivation on cognitive immersion

Table 2. Results of multiple regression analysis of achievement motivation and cognitive immersion.

	B	SE	Beta	t	Tolerance	VIF
Constant	-.696	.184		1.609		
Confidence	.108	.051	.073	-3.787***	.554	1.806
Adventurous spirit	.924	.031	.832	2.128*	.837	1.194
Future-orientation	.261	.052	.154	5.027***	.696	1.437
Task orientation	.091	.043	.069	2.125*	.607	1.647
R^2=.819, Corrected R^2=.816, F=315.046***						

*p<.05, ***p<.001.

As shown in table 2, analysis of the effect of the achievement motivation of marine leisure sports participants on cognitive immersion showed it to be F=315.046, the significance level p<.001 was found to have a significant effect, and the explanatory power of the regression equation was 81.9 % (R^2=.819).

The achievement motivation of marine leisure sports participants on cognitive immersion showed a positive effect on confidence (β=.073, p<.05), adventurous spirit (β=.832, p<.001), future orientation (β=.154, p<.001), and task orientation (β=.069, p<.05)

2) The effect of achievement motivation on behavioral immersion

Table 3. Results of the multiple regression analysis of achievement motivation and behavioral immersion.

	B	SE	Beta	t	Tolerance	VIF
Constant	.180	.175		1.028		
Confidence	.473	.048	.478	9.829***	.554	1.806
Adventurous spirit	.052	.029	.070	1.767	.837	1.194
Future-orientation	.019	.049	.016	.376	.696	1.437
Task orientation	.325	.041	.369	7.943***	.607	1.647
R^2=.634, Corrected R^2=.629, F=121.026***						

***p<.001.

As shown in table 3, analysis of the effect of achievement motivation of marine leisure sports participants on behavioral immersion showed it to be F=121.026, the significance level p<.001 was found to have a significant effect, and the explanatory power of the regression equation was 63.4 % (R^2=.634). The effect of achievement motivation of marine leisure sports participants on behavioral immersion showed a positive effect on self-confidence (β=.478, p<.001) and task orientation (β=.369, p<.001).

3. The effect of achievement motivation on exercise continuation behavior

Multiple regression analysis was conducted to investigate the effect of the achievement motivation of marine leisure sports participants on exercise continuation behavior.

1) The effect of achievement motivation on tendency

Table 4. Results of the multiple regression analysis of achievement motivation and tendency.

	B	SE	Beta	t	Tolerance	VIF
Constant	-.495	.185		-2.281**		
Confidence	.091	.051	.067	1.785	.554	1.806
Adventurous spirit	.816	.031	.804	26.234***	.837	1.194
Future-orientation	.123	.052	.080	2.365*	.696	1.437
Task orientation	.066	.043	.055	1.517	.607	1.647
R^2=.780, Corrected R^2=.777, F=247.841***						

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

As shown in table 4, analysis of the effect of achievement motivation of marine leisure sports participants on the tendency showed it to be F=247.841, the significance level p<.001 was found to have a significant effect, and the explanatory power of the regression equation was 78.0 % (R^2=.780). The influence of the achievement motivation of marine leisure sports participants on tendency was found to have a positive effect on adventurous spirit (β=.804, p<.001), and future orientation (β=.080, p<.05).

2) The effect of achievement motivation on possibility

Table 5. Results of the multiple regression analysis of achievement motivation and possibility.

	B	SE	Beta	t	Tolerance	VIF
Constant	.071	.153		.465		
Confidence	.409	.042	.430	9.710***	.554	1.806
Adventurous spirit	.059	.026	.083	2.298*	.837	1.194
Future-orientation	.475	.043	.435	11.000***	.696	1.437
Task orientation	.066	.036	.078	1.834	.607	1.647
R^2=.696, Corrected R^2=.692, F=159.993***						

*p<.05, ***p<.001.

As shown in table 5, analysis of the effect of the achievement motivation of marine leisure sports participants on the possibility showed it to be F=159.993, the significance level p<.001 was found to have a significant effect, and the explanatory power of the regression equation was 69.6 % (R^2=.696). The effects of achievement motivation of marine leisure sports participants on possibility showed that there was positive effect on self-confidence (β=.430, p<.001), adventurous spirit (β=.083, p<.05), and future orientation (β=.435, p<. 001).

4. Discussion

Reference [6] found through empirical research that individual achievement motivation greatly influences not only individual learning behavior, but also national economic development. It is said that achievement motivation gives individuals confidence that they will be able to find work worth challenging in the light of their abilities. Reference [7] also measured achievement motivation, and compared to those with high achievement motivation and those with low achievement motivation, and found that they showed different unique behavioral characteristics in the achievement state.

The correlation between achievement motivation and the exercise immersion of marine leisure sports participants showed that there

was positive correlation between achievement motivation and exercise immersion. Multiple regression analysis to investigate this in detail found that the effect of achievement motivation of the marine leisure sports participants on cognitive immersion had a positive effect in the order adventurous spirit, future orientation, confidence, and task orientation. The effect of achievement motivation on behavioral immersion was found to have a positive effect in the order confidence and task orientation. It can be seen that the higher the achievement motivation for adventurous spirit, future orientation, confidence, and task orientation, the deeper the cognitive immersion; and the higher the achievement motivation of the self-confidence and task orientation, the greater the immersion in action.

Studying the achievement motivation of participants in marine leisure sports not only helps to understand the direction and purpose of participation in sports, but is also important data for predicting future participatory behavior, and considering a method to further increase the achievement motivation level of marine leisure sports participants, it is necessary to promote continuing to participate without giving up exercise. In this regard, Ref. [14] reported that the higher the motivation of ski enthusiasts, the deeper the cognitive immersion and behavioral immersion, supporting the results of this study. Ref. [15] reported that the swimming participants' inner motivation, such as confidence and adventurous spirit, had a significant effect on cognitive and behavioral immersion. Therefore, it can be seen that as participation increases in marine leisure sports, task orientation tendency and confidence in marine leisure sports have effects on exercise immersion.

Achievement motivation is the motivation to pursue competence, achieve goals, solve difficult tasks, and pursue success. Because of achievement motivation, people try to succeed, and avoid failure. To be successful, there must be a goal, and the many hardships faced in reaching that goal must be overcome. Therefore, achievement motivation can be said to be a motive that sets a grand goal, and delays the fulfillment of current needs. As a result of examining the correlation between achievement motivation and exercise continuation behavior of marine leisure sports participants in this study, achievement motivation showed a positive correlation between tendency and possibility among the sub-variables of exercise continuation behavior.

Multiple regression analysis to investigate this in detail found that the effect of achievement motivation on tendency had a positive effect in the order adventurous spirit and future orientation. The effect of achievement motivation on the possibility was found to have a positive effect in the order future orientation, confidence, and adventurous spirit. It is clearly evident that appropriate motivation is needed for all learning and development. In order to develop and grow intellectually, a strong motivation to develop intellectually is needed. In particular, since intellectual development is closely related to the motivation to achieve, proper achievement motivation is needed to make the intellectual development flourish. In this regard, it was revealed that there is a very high relationship in the effect of motivation on continuing participation behavior through research on the relationship between the motivation and immersion of adventurous spirit sports participants and their behavior after participation.

5. Conclusion

This study investigated the achievement motivation, exercise immersion, and exercise continuation behavior of marine leisure sports participants through a survey conducted on 284 marine leisure sports participants active in the metropolitan area (Seoul, Gyeonggi, and Incheon), and the conclusions are as follows:

First, as a result of examining the correlation between the achievement motivation, exercise immersion, and exercise continuation behavior of marine leisure sports participants, both achievement motivation and exercise immersion showed a positive correlation.

On the other hand, achievement motivation showed a positive correlation with tendency and possibility among the sub-variables of exercise continuation behavior.

Second, it was found that all of the sub-variables of achievement motivation of marine leisure sports participants had positive effects on cognitive immersion, and confidence and task orientation had positive effects on behavior immersion.

Third, among the sub-variables of achievement motivation of marine leisure sports participants, it was found that adventurous spirit and future orientation had positive effects on tendency; while confidence, adventurous spirit, and future orientation were found to have positive effects on possibility.

In conclusion, the achievement motivation of marine leisure sports participants is a factor that has positive effects on cognitive and behavioral immersion. Therefore, it was found that the achievement motivation of participants in marine leisure sports is a factor that positively influences exercise immersion and exercise continuation behavior.

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