

Structural Relationship between Sports Immersion, Achievement Goal Orientation, Positive Psychological Capital, and Subjective Happiness of College Students

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ABSTRACT

Background/Objectives: This study was conducted to identify the structural relationship between sports immersion, achievement goal orientation, positive psychological capital, and subjective happiness of sports major college students. **Methods/Statistical analysis:** The subjects of the study were sports major college students, and a survey was conducted. A total of 479 questionnaires were collected, excluding those with insufficient responses. The following results were obtained through frequency analysis, factor analysis, and path analysis. **Findings:** First, the results of analyzing the correlation between sports major college students' sports immersion, achievement goal orientation, positive psychological capital, and subjective happiness showed a positive correlation in all sub-variables. Second, the research model in this study satisfied the fit index and all the standard values were within the standard range, indicating that the measurement model was appropriate. Third, the results of the path analysis between variables of sports major college students showed that all hypotheses were statistically significant, and thus were accepted. **Improvements/Applications:** In conclusion, it was confirmed that the sports immersion of sports majors was a major variable affecting achievement goal orientation, positive psychological capital, and subjective happiness, and that achievement goal orientation was a major variable affecting subjective happiness. In addition, it was confirmed that positive psychological capital was a major variable affecting subjective happiness and achievement goal orientation.

Keywords: Exercise Immersion, Achievement Goal Orientation, Positive Psychological Capital, Subjective Happiness, College Students.

INTRODUCTION

In the sports field, elite athletes constantly train and work hard to achieve the best performance. Athletes focus on the functional aspects of exercise to achieve good performance in competition situations. However, there is not much information on social and psychological training, which is as important as exercise functional training, and so it is overlooked. One of the major factors that contributes to the improvement of the level of performance in individual match situations or training situations for athletes is sports immersion. Understanding the psychological characteristics of the process, principles, and obstacles through which athletes experience immersion in sports situations is an important help in understanding sports situations [1]. The study of exercise immersion targeting athletes began in earnest with the study of the positive performance state resulting from optimal performance [2]. In general, exercise immersion is actively being conducted among elite athletes in various sports such as golf [3], dance sports [4], taekwondo [5], and soccer [6].

In general, sports majors try to achieve the internal achievement goals required by internal and external environments. To this end, they are subject to competitive practice and competition, and their life opportunities are regulated by themselves or others after the competition. Ultimately, they have the characteristic of continuously repeating the institutional life in which their lifestyle is determined. This characteristic of sports majors generally limits the achievement goals for sports to improving athletic performance, winning, and

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success. In the process of acquiring the achievement goals themselves, the continuation and abandonment of exercise are related to the achievement goals. Therefore, the achievement goal orientation is inevitably experienced in connection with various psychological factors. Depending on individual differences, the achievement goal orientation is related to different motivational processes or situational factors have a greater influence. In other words, the sports field is a place where motivational atmospheres coexist due to the emphasis on environmental factors.

Recently, the field of sports psychology has been paying much attention to the application of positive psychology and exercise, which are disciplines that help increase human happiness and growth [7]. Positive psychology is a scientific study that focuses on human strengths and positive aspects and can help achieve the best performance in various areas of life by cultivating them [8]. This interest in positive psychology has been introduced to the sports field, and many studies are being conducted on the relationship between physical activity and positive psychological variables such as self-efficacy, hope, optimism, and resilience, including positive emotions such as self-esteem and vitality [9]. Positive psychological capital was developed by advancing this positive psychological capital [10].

Even though sports majors are characterized by a positive psychological state [11], which is a characteristic of successfully completing personal challenging tasks or being optimistic about future success, research on sports majors is not actively being conducted. Factors that help understand the psychosocial characteristics of sports majors and improve training and exercise performance include positive psychological capital and subjective happiness. Subjective happiness refers to a positive cognitive and emotional state that appears through a combination of various factors.

The physical education field has conducted many studies to identify factors that enhance psychological well-being in humans [12]. Participants with a high level of positive psychological capital are more optimistic and hopeful about the future and have confidence that they can overcome difficulties, so they think more positively about life and work and feel subjectively happy [13]. Therefore, this study aims to identify the structural relationship among sports major college students' exercise immersion, achievement goal orientation, positive psychological capital, and subjective well-being, thereby providing basic data that can help maximize the performance ability of sports major college students in the field.

The athletic performance of sports majors is determined by the complex interaction of physical, physiological, mechanical, emotional, and psychological factors as a total athletic performance ability [14]. The best athletic performance of sports majors is demonstrated when physical, mechanical, socio-physical, and psychological factors are appropriately harmonized [15]. Therefore, the purpose and necessity of this study is to provide basic data that will help maximize the performance of sports majors in the field by clarifying the structural relationship among sports majors' exercise immersion, achievement goal orientation, positive psychological capital, and subjective happiness.

Research Methods

Subject of the Study

This study selected sports major college students attending four-year universities in Gyeonggi, Incheon, Gwangju, Jeonbuk, Chungnam, and Gyeongnam as the population. The sample was selected using convenience sampling. Data that were judged to have inappropriate responses among the sampled questionnaires were excluded. A total of 479 copies were finally selected and analyzed. The general characteristics of the research subjects are as shown in <Table 1>.

Table 1. General Characteristics of Study Subjects

| Variable | Category | Number (n) | Percentage (%) |
|-------------|-----------|------------|----------------|
| Gender | Male | 329 | 68.7 |
| | Female | 150 | 31.3 |
| School year | 1st grade | 137 | 28.6 |
| | 2nd grade | 123 | 25.7 |
| | 3rd grade | 114 | 23.8 |
| | 4th grade | 105 | 21.9 |

| | | | |
|-----------------|------------------|-----|------|
| Local | Gyeonggi | 119 | 24.8 |
| | Incheon | 79 | 16.5 |
| | Gwangju | 64 | 13.4 |
| | Jeonbuk | 67 | 14.0 |
| | Chungnam | 93 | 19.4 |
| | Gyeongnam | 57 | 11.9 |
| Sports category | Individual event | 212 | 44.3 |
| | Team event | 267 | 55.7 |
| Total | | 479 | 100 |

Survey Tools

This study used a questionnaire as a research tool to investigate the relationship between sports majors and college students. The questionnaire used in this study was modified to fit this study based on a questionnaire verified through a previous study. The questionnaire consisted of 4 items questions on demographic characteristics, 8 items questions on the independent variable, exercise immersion, 8 items questions on the mediating variable, achievement goal orientation, 9 items questions on positive psychological capital, and 3 items questions on the dependent variable, subjective happiness. The survey was conducted on a 5-point Likert scale, with responses ranging from “1 point for very dissatisfied to 5 points for very much so.”

1) Exercise Immersion

The questionnaire on exercise engagement was developed by Scanlan, Carpenter, Schmidt & Simons [16], and was used for the purpose of this study as a questionnaire on exercise engagement of adult elite athletes [17], and exercise engagement of student athletes and sports club participants [18]. The sub-variable of exercise engagement consisted of two factors: cognitive engagement (4 items) and behavioral engagement (4 items).

2) Achievement Goal Orientation

The questionnaire on achievement goal orientation was developed by Duda & Nicholls [19], and was used for the purpose of this study as a questionnaire on the achievement goal orientation of middle and high school basketball players [20] and the resilience and achievement goal orientation of elite college athletes [21]. The sub-variable of achievement goal orientation consisted of two factors: task-oriented (4 items) and self-oriented (4 items).

3) Positive Psychological Capital

The questionnaire on positive psychological capital was developed by Luthans & Youssef[10] and used in the relationship between grit and positive psychological capital of professional golfers[22] and the effect of psychological techniques and positive psychological capital of athletes[23], etc., to fit the purpose of this study. The sub-variables of positive psychological capital consisted of three factors: self-efficacy (3 items), hope (3 items), and resilience (3 items).

4) Subjective Happiness

The questionnaire on subjective happiness was used in accordance with the purpose of this study, including the questionnaire of Watson, Clark & Tellegen [24], the structural relationship between social support, resilience, and subjective happiness in college athletes [25], and the subjective happiness according to the level of performance and perceived performance in golfers [26]. Subjective happiness consisted of a single factor (3 items).

Validity and Reliability

In order to verify the validity of the survey instrument, principal component analysis of exploratory factor analysis was used, and varimax among the orthogonal rotation methods 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 items with a value of .50 or higher. To verify the reliability of the survey instrument, Cronbach's α coefficient according to the internal consistency standard was used.

1) Exercise Immersion

Table 2. Validity and Reliability of Exercise Immersion

| Items | Cognitive Immersion | Behavioral Immersion | h ² |
|-------------|---------------------|----------------------|----------------|
| Item02 | .871 | .047 | .758 |
| Item03 | .848 | .183 | .752 |
| Item04 | .788 | .133 | .638 |
| Item01 | .697 | .186 | .519 |
| Item06 | .081 | .817 | .673 |
| Item07 | .091 | .798 | .645 |
| Item08 | .189 | .793 | .663 |
| Item05 | .174 | .699 | .519 |
| Eigenvalue | 2.661 | 2.504 | |
| Variance% | 33.252 | 31.292 | |
| Cumulative% | 33.252 | 64.543 | |
| Reliability | .849 | .848 | |

Kaiser-Meyer-Olkin=.808

Bartlett's Test of Sphericity($\chi^2=1274.809$, df=28, p=.000)

As shown in <Table 2>, the Bartlett unit matrix of exercise immersion was 1274.809, the significance probability was .001, and the KMO index was .808, indicating that the selection of variables was appropriate. As a result of factor analysis of the 8 items of exercise immersion, 2 factors were extracted, explaining approximately 64.5% of the total variance. The loading value of cognitive immersion, a sub-factor of exercise immersion, was .697~.871. The loading value of behavioral immersion was .699~.817. The reliability of cognitive immersion (.849) and behavioral immersion (.848), sub-variables of exercise immersion, was verified.

2) Achievement Goal Orientation

Table 3. Validity and Reliability of Achievement Goal Orientation

| Items | Task-Oriented | Self- Oriented | h ² |
|-------------|---------------|----------------|----------------|
| Item01 | .846 | .214 | .759 |
| Item03 | .833 | .162 | .718 |
| Item02 | .831 | .178 | .723 |
| Item04 | .828 | .194 | .726 |
| Item05 | .243 | .778 | .663 |
| Item08 | .154 | .754 | .592 |
| Item07 | .106 | .748 | .574 |
| Item06 | .194 | .739 | .582 |
| Eigenvalue | 2.915 | 2.418 | |
| Variance% | 36.432 | 30.208 | |
| Cumulative% | 36.432 | 66.638 | |
| Reliability | .893 | .891 | |

Kaiser-Meyer-Olkin=.857

Bartlett's Test of Sphericity($\chi^2=1431.172$, df=28, p=.000)

As shown in <Table 3>, the Bartlett unit matrix of achievement goal orientation was 1431.172, the significance probability was .001, and the KMO index was .857, indicating that the selection of variables was appropriate. As a result of factor analysis of 8 items of achievement goal orientation, 2 factors were extracted, which explained approximately 66.6% of the total variance. The loading value of task-oriented type, a sub-factor of achievement goal orientation, was .828~.846. The loading value of self-oriented type was .739~.778. The reliability of task-oriented type (.893) and self-oriented type (.891), which are sub-variables of achievement goal orientation, was verified.

3) Positive Psychological Capital

Table 4. Validity and Reliability of Positive Psychological Capital

| Items | Self-Efficacy | Hope | Resilience | h ² |
|-------------|---------------|-------------|-------------|----------------|
| Item01 | .849 | .099 | .088 | .737 |
| Item03 | .818 | .074 | .045 | .676 |
| Item02 | .784 | .252 | .194 | .714 |
| Item05 | .143 | .799 | .079 | .664 |
| Item04 | .069 | .797 | .055 | .642 |
| Item06 | .161 | .787 | .134 | .662 |
| Item07 | .028 | .121 | .806 | .664 |
| Item09 | .078 | .038 | .739 | .554 |
| Item08 | .283 | .103 | .678 | .552 |
| Eigenvalue | 2.137 | 1.993 | 1.728 | |
| Variance% | 23.739 | 22.135 | 19.199 | |
| Cumulative% | 23.739 | 45.873 | 65.161 | |
| Reliability | .872 | .865 | .876 | |

Kaiser-Meyer-Olkin=.752

Bartlett's Test of Sphericity($\chi^2=985.722$, df=36, p=.000)

As shown in <Table 4>, the Bartlett unit matrix of positive psychological capital was 985.722, the significance probability was .001, and the KMO index was .752, indicating that the selection of variables was appropriate. As a result of factor analysis of 9 items of positive psychological capital, 3 factors were extracted, explaining approximately 65.2% of the total variance. The loading value of self-efficacy, a sub-factor of positive psychological capital, was .784~.849. The loading value of hope was .787~.799. The loading value of resilience was .678~.806. The reliability of self-efficacy (.872), hope (.865), and resilience (.876), which are sub-variables of resilience, was verified.

4) Subjective Happiness

Table 5. Validity and Reliability of Subjective Happiness

| Items | Subjective Happiness | h ² |
|-------------|----------------------|----------------|
| Item01 | .811 | .657 |
| Item03 | .786 | .617 |
| Item02 | .752 | .565 |
| Eigenvalue | 1.837 | |
| Variance% | 61.218 | |
| Cumulative% | 61.218 | |
| Reliability | .915 | |

Kaiser-Meyer-Olkin=.661

Bartlett's Test of Sphericity($\chi^2=210.234$, df=3, p=.000)

As shown in <Table 5>, the Bartlett unit matrix of subjective happiness was 210.234, the significance probability was .001, and the KMO index was .661, indicating that the selection of variables was appropriate. Subjective happiness was found to be a single item in the factor analysis of three items, explaining approximately 61.2% of the total variance. The loading of subjective happiness was .752~.811. The reliability of subjective happiness (.915) was verified.

Data Processing

The data processing of this study was conducted using SPSS (26.0 Ver.) and AMOS (24.0 Ver.) to verify the relationship between sports major college students' exercise immersion, achievement goal orientation, positive psychological capital, and subjective happiness. Specific data processing included frequency analysis to identify demographic characteristics, exploratory factor analysis to identify the validity and reliability of the survey instrument, and reliability verification. Correlation analysis was conducted for correlation between variables, and path analysis was conducted for structural equation model analysis between each variable.

Research Results

Correlation between exercise immersion, achievement goal orientation, positive psychological capital, and subjective happiness

To find out the relationship among sports immersion, achievement goal orientation, positive psychological capital, and subjective happiness of sports major college students, a correlation analysis was conducted, and the results are shown in <Table 6>.

Table 6. Correlation between exercise immersion, achievement goal orientation, positive psychological capital, and subjective happiness

| Variable | Cognitive Immersion | Behavioral Immersion | Task-Oriented | Self-Oriented | Self-Efficacy | Hope | Resilience | Subjective Happiness |
|----------------------|---------------------|----------------------|---------------|---------------|---------------|---------|------------|----------------------|
| Cognitive Immersion | - | | | | | | | |
| Behavioral Immersion | .248*** | - | | | | | | |
| Task-Oriented | .188*** | .779*** | - | | | | | |
| Self-Oriented | .167*** | .492*** | .557*** | - | | | | |
| Self-Efficacy | .191*** | .618*** | .691*** | .688*** | - | | | |
| Hope | .154*** | .184*** | .215*** | .112*** | .247*** | - | | |
| Resilience | .165*** | .581*** | .638*** | .596*** | .734*** | .198*** | - | |
| Subjective Happiness | .312*** | .365*** | .358*** | .124*** | .298*** | .162*** | .341*** | - |

***p<.001

As shown in <Table 6>, cognitive immersion showed a positive correlation with task-oriented (r=.188), ego-oriented (r=.167), self-efficacy (r=.191), hope (r=.154), resilience (r=.165), and subjective happiness (r=.312). Behavioral immersion showed a positive correlation with task-oriented (r=.779), ego-oriented (r=.492), self-efficacy (r=.618), hope (r=.184), resilience (r=.581), and subjective happiness (r=.365). Task-oriented type showed a positive correlation with self-efficacy (r=.691), hope (r=.215), resilience (r=.638), and subjective happiness (r=.358). Self-oriented type showed positive correlations with self-efficacy (r=.688), hope (r=.112), resilience (r=.596), and subjective happiness (r=.124). Self-efficacy showed positive correlations with subjective happiness (r=.298). Hope showed positive correlations with subjective happiness (r=.162). Resilience showed positive correlations with subjective happiness (r=.341).

Measurement Model and Fit Assessment

The χ^2 test can be used to analyze how well the research model fits. In the case of the χ^2 test, there is a problem that the research model can be rejected as the size of the sample selected for parameter estimation increases because the sensitivity tends to be relatively large according to the sample size (Bae Jeong-seop, 2014). To solve the error problem due to rejection, the statistical criteria used in this study were the absolute fit index and the intermediate fit index, and the CFI, TLI, and RMSEA values were used. The CFI value, an index developed from NFI, is one of the indices used in many previous studies, and if the standard value is .90 or higher, there is no problem with the model fit (Bentler 1990). It was also explained that if the TLI is .90 or higher, the model fit is satisfied (Tucker & Lewis, 1973). In the case of the RMSEA value, it was explained that if it is less than .08, it can be judged as a suitable model (Hong Se-hee, 2000). The RMSEA value is a value that adjusts the χ^2 value by the degree of freedom and the sample size, and is used as an excellent fit index as an indicator that complements the limitations of χ^2 , which is sensitive to the sample size.

Table 7. Fits of Research Model

| | Fit Index | Index Value | Verification Results |
|------------------------|-----------|-------------|----------------------|
| Absolute Fit Index | CMIN/DF | 6.496 | 적합 |
| | GFI | .935 | |
| | AGFI | .926 | 적합 |
| | RMSEA | .074 | 적합 |
| Intermediate Fit Index | NFI | .938 | 적합 |
| | IFI | .949 | 적합 |
| | TLI | .925 | 적합 |
| | CFI | .949 | 적합 |

The results of the research model fit test for this study were $\chi^2=282.588$, $df=28$, $TLI=.925$, $CFI=.949$, $RMSEA=.074$. Therefore, it is judged that the research model of this study satisfies the fit index. The fit index of the measurement model used in this study, such as CFI, TLI, and RMSEA, all showed values within the standard value range, indicating that the measurement model used in the study had an appropriate level of fit.

Research Model Hypothesis Testing

After confirming that the research model established in this study was appropriate, structural equation modeling was used to verify the hypothesis. The results are shown in <Table 8>.

Table 8. Results of Path Analysis Between Variables

| Path | Path coefficient | Standard Error | t | Adoption status |
|---|------------------|----------------|----------|-----------------|
| Exercise Immersion → Achievement Goal Orientation | .755 | .416 | 6.066*** | Adoption |
| Exercise Immersion → Positive Psychological Capital | .498 | .406 | 3.925*** | Adoption |
| Exercise Immersion → Subjective Happiness | .429 | .404 | 3.128*** | Adoption |
| Achievement Goal Orientation → Subjective Happiness | .625 | .105 | 5.582*** | Adoption |
| Positive Psychological Capital → Subjective Happiness | .592 | .375 | 2.257** | Adoption |
| Positive Psychological Capital → Achievement Goal Orientation | .542 | .598 | 2.061** | Adoption |

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

Hypothesis 1. “Sports majors’ sports immersion will affect their achievement goal orientation” The empirical analysis results showed that the path coefficient between the two variables was .755 ($t=6.066$, $p<.001$), which was statistically significant, and thus Hypothesis 1 was accepted.

Hypothesis 2. “Sports majors’ sports immersion will affect their positive psychological capital” The empirical analysis results showed that the path coefficient between the two variables was .498 ($t=3.925$, $p<.001$), which was statistically significant, and thus Hypothesis 2 was accepted.

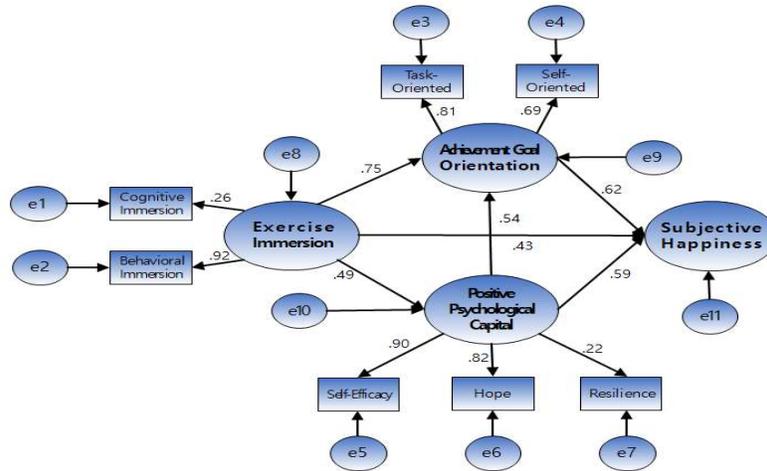
Hypothesis 3. “Sports majors’ sports immersion will affect their subjective happiness” The empirical analysis results showed that the path coefficient between the two variables was .429 ($t=3.128$, $p<.001$), which was statistically significant, and thus Hypothesis 3 was

accepted.

Hypothesis 4. The empirical analysis results of “Sports majors’ achievement goal orientation will affect subjective happiness” showed that the path coefficient between the two variables was .625 ($t=5.582, p<.001$), which was statistically significant, and thus Hypothesis 4 was accepted.

Hypothesis 5. The empirical analysis results of “Sports majors’ positive psychological capital will affect achievement goal orientation” showed that the path coefficient between the two variables was .592 ($t=2.257, p<.01$), which was statistically significant, and thus Hypothesis 5 was accepted.

Hypothesis 6. The empirical analysis results of “Sports majors’ positive psychological capital will affect subjective happiness” showed that the path coefficient between the two variables was .541 ($t=2.061, p<.01$), which was statistically significant, and thus Hypothesis 6 was accepted.



VI. DISCUSSION

This study was conducted to verify the structural relationship among sports major college students exercise immersion, achievement goal orientation, positive psychological capital, and subjective happiness. The correlation among sports major college students' sports immersion, achievement goal orientation, positive psychological capital, and subjective happiness showed a positive correlation in all sub-variables. The results of the path analysis between variables also showed a positive effect between variables, so all research hypotheses were accepted.

The antecedents of exercise immersion are reported to be five factors: sports enjoyment, selective involvement, personal investment, social constraints, and opportunities for involvement [16]. Exercise immersion focused on spontaneity leads to greater immersion in exercise as the enjoyment and benefits of exercise are felt. In addition, social support, social constraints, motivation, and training behavior affect exercise immersion [27]. This study showed that exercise immersion of sports major college students had a positive effect on achievement goal orientation. These results show that all sub-variables of exercise immersion are major variables that affect achievement goal orientation. This means that sports major college students have achievement goal orientation when they act with the will to improve their athletic performance.

In this regard, the results of analyzing the relationship between sports immersion and achievement goal orientation for high school basketball players showed a positive effect between variables [28], supporting this research result. In the case of baseball players in society, the results of verifying the relationship between sports immersion and achievement goal orientation showed that sports immersion had a positive effect on achievement goal orientation [29]. As can be seen from these previous research results, sports immersion in college students majoring in sports helps them have an achievement goal orientation to achieve the direction of the goal they set or the goal they pursue. However, the subjects of the previous research were participants in recreational sports who participate in sports, and they have different characteristics from sports major college students. In other words, while recreational sports participants enjoy participation itself and continue through the enjoyment, sports major college students may have different achievement goal orientations because they undergo long-term, high-intensity training to improve their skills. Therefore, coaches need to induce players to have interest, fun, and a mindset to set clear goals in the process of achieving the direction of the goal they set or the goal they pursue

and provide ways to experience this.

In this study, it was found that sports immersion of college students majoring in sports had a positive effect on their positive psychological capital. This means that sports immersion is a major variable affecting positive psychological capital. Sports major college students' immersion in training and games means that they can have the belief that they can solve problems through appropriate behavior in certain situations. The fact that sports immersion has a positive effect on positive psychological capital can be seen because of the hope that their performance is improving and the belief that they can overcome difficulties. In relation to this, a study on team ball sports players found that sports immersion of college team sports players had a positive effect on their psychological capital [15], which supports this research result.

In sports situations, athletes often experience the phenomenon of focusing and immersing themselves in their sports behavior based on various internal psychological factors in fiercely competitive situations [30]. This can be called sports immersion, and student athletes experience positive psychological capital that allows them to continue to advance while successfully completing the tasks given to them [31].

In this study, sports immersion in college students was found to have a positive effect on subjective happiness. This result confirms that sports immersion is a major variable affecting subjective happiness. In relation to this, the result that immersion experience through yoga practice affects subjective happiness shows that the longer the experience, the higher the degree of behavioral immersion, which affects life satisfaction [32].

Accordingly, happiness varies depending on the values and perceptions of the society or culture to which an individual belongs and can increase when the state of consciousness and emotion of an individual is led in a desirable and positive way. Immersion is a subjective satisfaction that the participant's ability interacts optimally with the level of activity, and positive emotions are increased. In addition, if the leisure activity that an individual is satisfied with is accompanied by an appropriate level of arousal, subjective happiness through immersion increases [33]. For college athletes, high-quality skills cannot be used without concentration. Experiencing mental stability through immersion experience while performing skills can be a way to increase subjective happiness.

In this study, the achievement goal orientation of sports majors was found to have a positive effect on subjective happiness. This result confirms that achievement goal orientation is a major variable affecting subjective happiness. In relation to this, a study that investigated the effect of happiness on the achievement goal orientation of college students participating in sports clubs in Gangwon and Gyeonggi regions showed that both the task-oriented and self-oriented types of achievement goal orientation had a significant effect on happiness [34]. A study that analyzed the relationship between achievement goal orientation and happiness targeting dance majors claimed that task orientation had a significant effect on happiness [35]. A study targeting adult golf participants found that task orientation among achievement goal orientations had a positive effect on psychological happiness [36], supporting this research result. As can be seen in previous studies, achievement goal orientation affects subjective happiness regardless of the target of sports participation, and the subjective happiness felt by an individual varies depending on the achievement goal orientation. In the end, it is thought that it would be possible to create a good environment for sports majors by finding out how to manage and guide achievement goal orientation to maintain the subjective happiness of college students in a positive way, and conversely, how to train and prepare achievement goal orientation to maintain a positive position in subjective happiness. In this way, understanding the goal orientation of each individual sports major is a very important part of maintaining the happiness of sports majors.

In this study, the positive psychological capital of sports major college students was found to have a positive effect on subjective happiness. This result clarified that positive psychological capital is a major variable affecting subjective happiness. In relation to this, the results of analyzing the mediating effect of positive psychological capital on the happiness of college students' physical activity showed that positive psychological capital plays a mediating role in happiness [7]. A study that analyzed the relationship between the perceived health and subjective happiness of the elderly focusing on the mediating effect of positive psychological capital [37] also supports this result. In general, research results show that people with higher self-efficacy tend to perceive their subjective quality of life as higher [38], and among the sub-factors of positive psychological capital, self-efficacy and resilience factors were found to have a direct effect on psychological well-being, which is life satisfaction [39]. It was mentioned that an individual's positive emotions have a positive relationship with psychological well-being and physical well-being [40], and that positive emotions help build subjective happiness such as psychological strength, good thinking habits, social connectedness, and physical health [41]. In addition, the results showed that positive psychological capital has a positive effect on psychological well-being and stress [42]. It was argued that gratitude and life satisfaction and positive emotions are statistically significant, and the result that positive emotions have a partial mediating effect in the relationship between gratitude and life satisfaction [43] partially supports this research result. Furthermore, this study informs that self-efficacy and resilience are major variables in terms of positive psychological capital applied in games by sports major college students. Therefore, if you participate in training with high positive psychological capital, you can expect static subjective happiness.

In this study, the positive psychological capital of sports majors was found to have a positive effect on achievement goal orientation. This result clarified that positive psychological capital is a major variable affecting achievement goal orientation. Ultimately, in the case of sports majors, the expectation that individuals can achieve good game results by acting appropriately in a game situation affects both achievement goal orientation. The possibility of achieving the goals that individuals want to achieve in a sports game and the positive psychological state of being able to overcome negative situations and play the game in a stable state affect goal achievement orientation. In relation to this, a study that proved that psychological factors have a positive effect on achievement goal orientation for dance sports players [44] supports this research result. In a study of judo players, it was reported that efficacy had a statistically significant effect on achievement goal orientation [45]. It was reported that factors such as improving performance, promoting health, and relieving stress as achievement goals designated by the participants in social baseball, and the goal of achieving the achievement goal brought psychological satisfaction [29]. When athletes have the right achievement goals, they develop the desire and tendency to make their lives more satisfying [46]. Experiencing the process of self-realization that correctly expresses emotions, abilities, and thoughts can bring about positive changes in the individual's disposition. The will to achieve goals and the environmental understanding surrounding the will prove the potential for personal growth, acceptance of others, new relationships with others, and the possibility of positive interpretation. Therefore, in order to have high positive psychological capital in sports major college students, it is necessary to set appropriate and achievable goals and to enable individuals to achieve their goals through friendly competition among athletes or comparison with themselves.

VI. CONCLUSION

This study was conducted to identify the structural relationship among sports immersion, achievement orientation, positive psychological capital, and subjective happiness of sports major college students. The subjects of the study were sports major college students, and a survey was conducted. A total of 479 questionnaires were collected, excluding those with insufficient responses. The following results were obtained through frequency analysis, factor analysis, and path analysis.

First, the results of analyzing the correlation between sports major college students' sports immersion, achievement goal orientation, positive psychological capital, and subjective happiness showed a positive correlation in all sub-variables.

Second, the research model in this study satisfied the fit index and all the standard values were within the standard range, indicating that the measurement model was appropriate.

Third, the results of the path analysis between variables of sports major college students showed that all hypotheses were statistically significant, and thus were accepted. In conclusion, it was confirmed that the sports immersion of sports majors was a major variable affecting achievement goal orientation, positive psychological capital, and subjective happiness, and that achievement goal orientation was a major variable affecting subjective happiness. In addition, it was confirmed that positive psychological capital was a major variable affecting subjective happiness and achievement goal orientation.

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