

# A Preliminary study for Developing Gambling Preventive Education for College Students

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**Abstract: Background/Objectives:** Gambling of college students have become a social issue in Korea. However, a support of universities are lacking. This study aims to develop an effective program to prevent gambling addiction. **Methods/Statistical analysis:** Data were collected from 43 college freshmen in N university ranged from 18 to 26 years old. One group pretest-posttest design was used in this study. To find out a difference of gambling knowledge and gambling awareness between pretest and posttest, 10 questions for gambling knowledge and 13 questions for gambling awareness were utilized. Each item was evaluated with the Likert scale from 1 to 5 points. **Findings:** Among 43 participants in this study, 18 students (41.9%) answered that they had gambling experience and 13 students (30.2%) answered that they received a kind of gambling prevention education before this study. After the gambling addiction prevention education, the student's gambling knowledge was significantly increased from  $7.07 \pm 2.29$  to  $8.40 \pm 1.92$  points ( $t = -2.91$ ,  $p = .005$ ). In the three subcategories of gambling awareness, only 'the extent to which gambling is prohibited' was significantly increased from  $3.28 \pm .57$  to  $3.68 \pm .55$  points ( $t = -3.28$ ,  $p = .002$ ), 'legal prohibition and treatment of gambling' and 'responsible gambling' were not significantly increased. In the estimation of the gambling education program, overall satisfaction with education, relevance of subject and clarity of subject were evaluated as  $4.54 \pm 0.69$ ,  $4.48 \pm 0.55$  and  $4.52 \pm 0.55$  respectively. The results show that gambling knowledge can be increased by preventive education of 3 sessions. **Improvements/Applications:** The experimental group was very positive to this education program. It suggests that the program can be used effectively to increase college students' gambling knowledge as education of 3 sessions.

**Keywords:** gambling, preventive education, gambling knowledge, college students, Korea

## I. INTRODUCTION

The Korean government approved to the Kangwon Land a small casino in 2000 and a main casino in 2003. The government introduced the Lottery in 2001 and the Sports Toto in 2002. They opened the Changwon Velodrome in 2001, the Busan Velodrome in 2003 and the Busan-Gyeongnam Racecourse Park in 2004[1]. Since that early 2000's, The Korean government has allowed the expansion of gambling industry and as a result of that expansion, the size of the gambling industry market has increased to 20.5 trillion won by 2015[2]. In addition, online illegal gambling is spreading due to the negative effects of the development and spread of the internet and smartphones[3] and the total size of illegal

gambling markets was 83.7 trillion won, which was four times of the legitimate gambling market[2]. Due to the spread of online gambling along with casino, sports toto, lotteries, and horse racing betting, gambling is emerging as an urgent social problem in Korea. Based on the survey of replication studies over the past 30 years, it was found that the expansion of gambling opportunities has proliferated the standardized rate of problem gambling[4]. Especially, it is reported that adolescent prevalence rates of problem gambling are five times higher than that of adults[5]. Among adolescence, college students are more easy to fall into the risk of gambling problem because of the high accessibility and frequency of gambling[6]. College students' gambling has become a social issue in Korea[7]. Gambling addiction causes many problems in terms of psychology and behavior. Gambling addicts have behavioral problems such as anxiety, anger, fragmentary and irritable pleasure, loss of control, as well as lie, irresponsibility, and self-centeredness, and they are found to have depression, suicidal ideation, alcoholism, anxiety disorders, and various kinds of stress disease[8]. In addition, gambling addiction can lead to the breakdown of normal family relationships by causing domestic violence and family disruption beyond a simple personal problem. The social side-effect due to gambling was drug abuse, suicide intention, criminal act, divorce crisis, verbal or physical violence, and unemployment crisis[9]. As gambling addiction is serious and difficult to cure, preventing gambling addiction is more important than any other activities[1]. Recently, Chinese researchers studied gambling education programs to prevent gambling problems in 93 high school students in Macau. They reported the program showed some improvement in knowledge and was successful[10]. A 20-minute intervention video was tested to see if it changed Canadian children's illusion of control in the outcome of the game[11]. And it was found that the experimental conditions were more effective in changing erroneous knowledge about personal control of gambling compared with the control group[11]. Although several education programs of gambling have been developed to reduce the problem gambling among adolescents in school[10,11], few have been assessed based on experience[5]. It is now necessary to provide well-structured and proven educational programs to address the gambling problem of college students[12].

**Revised Manuscript Received on January 03, 2019.**

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## II. MATERIALS AND METHODS

### 2.1. Participants

Data were collected from 43 college students of Chungcheongnam-do area. The participants were college freshmen of N university ranged from 18 to 26 years old.

### 2.2. Research Design

The main purpose of this study is to develop a gambling preventive education program. One group pretest-posttest design was used in this study.

### 2.3. Measurement

#### 2.3.1. Gambling Knowledge

Gambling knowledge used by the Institute of Mental Science of Daegu Catholic University was utilized[13]. It was composed of 10 items asking about a gambling knowledge (e.g., "If gambling skills are good, anyone can make money with gambling."). If the answer to the question was wrong, the score of 0 point was given, if it was correct, the score of 1 point was given, and the total score for 10 questions is 0 ~ 10 points. The Cronbach  $\alpha$  value was .68.

#### 2.3.2. Gambling Awareness

Gambling awareness used by the Institute of Mental Science of Daegu Catholic University was utilized to find out a difference of gambling awareness[13]. It was composed of 13 items asking about a gambling awareness(e.g., "Gambling should not be prohibited by law."). The measurement instrument of gambling awareness composes three sub categories, which are awareness about 'legal prohibition and treatment of gambling (5 items),' 'the extent to which gambling is prohibited (4 items)', and 'responsible gambling (4 items)'. Each item is evaluated with the Likert scale from 1 to 5 points (1 point = not at all, 5 points = very much) and the possible total score for 13 items is 13 ~ 65 points. The higher the score of a person, it is evaluated that the person is more strict about gambling[14]. The Cronbach  $\alpha$  value was .57

#### 2.3.3. Evaluation of gambling addiction prevention education

Evaluation of gambling addiction prevention education used by the Institute of Mental Science of Daegu Catholic University was utilized to find out a difference of gambling awareness[13]. The measurement instrument of 'overall satisfaction', 'relevance of subject' and 'clarity of subject' in this education was evaluated with the Likert scale from 1 to 5 points (1 point = very unsatisfied, 2 points = unsatisfied, 3 points = ordinary, 4 points = satisfied, 5 points = very satisfied). Appropriateness for number of attendee, lecture time and method of proceeding, and intention to recommend Gambling Addiction Prevention Education to others were indicated by the ratio of "Yes".

### 2.4. Gambling addiction prevention education

The program of gambling addiction prevention education composed of three sessions as seen in Table 1. Session 1 is focused on understanding gambling and gambling addiction correctly. Session 2 explains features of gambling addicts, causes of gambling addiction and results of gambling

addiction. Finally, session 3 provides effective gambling addiction therapy, the ultimate goal of gambling addiction treatment, and information of help centers. Participants of 43 college students received this education.

**Table 1. Gambling addiction prevention education program**

Session	Subject	Contents
1	Understanding gambling and gambling addiction	<ul style="list-style-type: none"> <li>• What is gambling?</li> <li>• What is gambling addiction?</li> <li>• Progression of gambling addiction</li> </ul>
2	The risk of gambling addiction	<ul style="list-style-type: none"> <li>• Features of gambling addicts</li> <li>• Causes of gambling addiction</li> <li>• Results of gambling addiction</li> </ul>
3	Treatment and healing of gambling addiction	<ul style="list-style-type: none"> <li>• Effective gambling addiction therapy</li> <li>• The ultimate goal of gambling addiction treatment</li> <li>• Help centers</li> </ul>

### 2.5. Ethical consideration

Participants were provided with the purpose, the method and utilization of results of this study before data collection. It was also explained that no personal information will be revealed or used for other purposes, and their privacy will be protected. It took about 10 to 15 minutes to complete the survey questionnaire items, and a predetermined gift was provided for a participant.

## III. RESULTS

### 3.1. Demographic characteristics

The general characteristics of the participants are described as seen in Table 2. Among 43 college students, 13 students (30.2%) had experience of previous gambling education and 30 students (69.8%) had no experience of gambling education.

**Table 2. General characteristics (N=43)**

Variable	Category	N (%) Mean±SD
Gender	Male	9 (20.9%)
	Female	34 (79.1%)
Age	18 years old	24 (55.8%)
	19 years old	13 (30.2%)
	20 years old and more	6 (14.0%)
	Average	18.77±1.39
Previously taken gambling education	Yes	13 (30.2%)
	No	30 (69.8%)



### 3.2. Gambling behaviors

Gambling behaviors are described as seen in Table 3. Among 43 students, 18 students (41.9%) experienced any kind of gambling and 25 students (58.1%) had no gambling experience. The most common gambling was in the order of lottery (40.7%), fellowship games (33.3%) and entertainment online games (11.1%) among the students who had gambling activities.

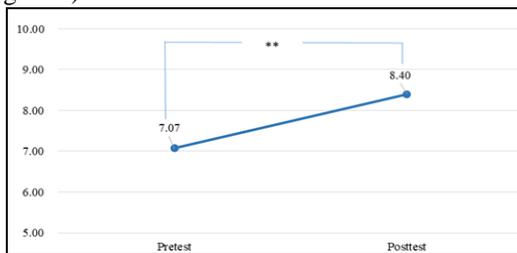
**Table 3. Gambling behaviors (n=43)**

Item	Category	N (%)
Gambling experiences	Yes	18 (41.9%)
	No	25 (58.1%)
Gambling Activities*	Lottery purchase	11 (40.7%)
	Fellowship games	9 (33.3%)
	Entertainment online games	3 (11.1%)
	Horse racing betting	2 (7.4%)
	Casino betting	1 (3.7%)
	Sports toto	1 (3.7%)

\*Duplicate answers

### 3.3. Gambling knowledge

The students' gambling knowledge was significantly increased from 7.07±2.29 to 8.40±1.92 points ( $t=-2.91$ ,  $p=.005$ ) after gambling addiction prevention education (Figure 1).



**Fig 1. Gambling knowledge of pre and posttest**

### 3.4. Gambling awareness

Students' gambling awareness was significantly increased from 3.54±.39 to 3.72±.38 points after gambling addiction prevention education as seen in Table 4. In the three subcategories of gambling awareness, only 'the extent to which gambling is prohibited' was significantly increased. Other two subcategories, 'legal prohibition and treatment of gambling' and 'responsible gambling' were increased, however, they were not significantly increased.

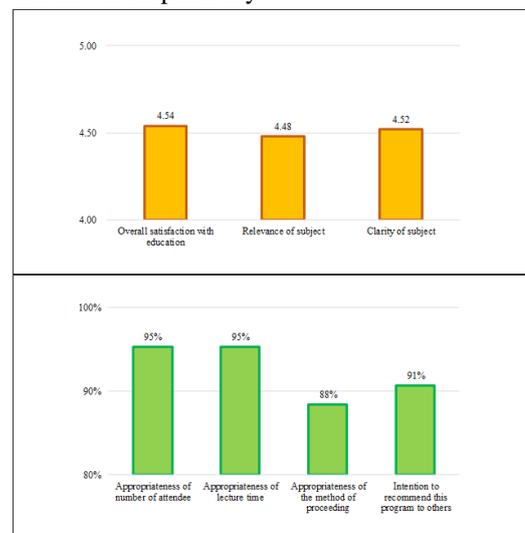
**Table 4. Gambling awareness of pre and posttest (n=43)**

Variable	Pretest	Posttest	t(p)
Gambling awareness(1~5)	3.54±.39	3.72±.38	-2.160 (.034)
Legal prohibition and treatment of gambling	3.96±.55	4.07±.49	-.917 (.362)
The extent to which gambling is prohibited	3.28±.57	3.68±.55	-3.280 (.002)
Responsible gambling	3.28±.59	3.34±.54	-.478 (.634)

Gambling awareness(1~5)	3.54±.39	3.72±.38	-2.160 (.034)
Legal prohibition and treatment of gambling	3.96±.55	4.07±.49	-.917 (.362)
The extent to which gambling is prohibited	3.28±.57	3.68±.55	-3.280 (.002)
Responsible gambling	3.28±.59	3.34±.54	-.478 (.634)

### 3.5. Evaluation of gambling addiction prevention education

The students' evaluation of gambling addiction prevention education was positive as seen in Figure 2. Overall satisfaction with education, relevance of subject and clarity of subject were evaluated as 4.54±0.69, 4.48±0.55 and 4.52±0.55 respectively. The ratio of participants who answered "Yes" about the questions of 'appropriateness of number of attendee,' 'appropriateness of lecture time,' 'appropriateness of the method of proceeding' and 'intention to recommend this program to others' were 95.3%, 95.3%, 88.4% and 90.7% respectively.



**Fig 2. Participants' evaluation of gambling addiction prevention education**

## IV. DISCUSSION

The purposes of this study were to develop an effective education program to prevent gambling addiction for college students and analyze the effects of education. The students' gambling knowledge was significantly increased from 7.07±2.29 to 8.40±1.92 points after gambling addiction prevention education. This current result was partly in accordance with the previous study[12,15].

## A Preliminary study for Developing Gambling Preventive Education for College Students

Lupu and Lupu reported that “The study found that experimental group corrected significantly the erroneous knowledge of gambling compared to control group from gambling education program”[12]. A study demonstrated that students corrected significantly inaccurate gambling knowledge compared to control group after video education[15]. It's easy to get into gambling, but getting out is too painful. Therefore, prevention education is very important for gambling as well as smoking. It costs less to prevent problems from occurring in advance than to solve them afterwards. Therefore, the study focused on prevention[12]. So a researcher suggested that advisory committee is set in school or community to give education and conversation with a young adolescent about illegal and pathological gambling[16].

Gambling awareness was also significantly increased after the program. In the three subcategories of gambling awareness, only ‘the extent to which gambling is prohibited’ was significantly increased, and other ‘legal prohibition and treatment of gambling’ and ‘responsible gambling’ were not. It suggests that gambling addiction prevention education program can be used to increase college students’ gambling knowledge as an education, however, other programs should be developed to contribute to the increase of gambling awareness. This current result was partly in accordance with the previous study[5]. According to a meta analysis report, “All studies had intervention effects on perceptive outcomes such as knowledge, awareness, and beliefs. Just nine studies measured the effects of intervention on behavioral outcomes, and only five of those reported significant changes in gambling behavior”[5].

The satisfaction level with the gambling addiction prevention education program of this study was generally good. Overall satisfaction with education was evaluated as 4.54 while it was 4.39 in the previous program[1]. The satisfaction level for the items of ‘appropriateness of number of attendee,’ ‘appropriateness of lecture time,’ ‘appropriateness of the method of proceeding’ and ‘intention to recommend this program to others’ were 95.3%, 95.3%, 88.4% and 90.7% respectively while they were 86.8%, 73.5%, 97.1%, and 97.1% respectively[1]. Though the satisfaction level for ‘appropriateness of number of attendee’ and ‘appropriateness of lecture time’ were high compared to the previous program, those for ‘appropriateness of the method of proceeding’ and ‘intention to recommend this program to others’ were low compared to the previous program. So, it is required to find a measure to improve those items for a future program. Although the results of the study showed the increase of gambling knowledge, certain limitation is inevitable. Our study was one group pretest/posttest design without control group, so it is required to be careful with generalization of this study.

### V. CONCLUSION

This study aims to develop an effective program to prevent gambling addiction. One group pretest-posttest design was used in this study. To find out a difference of gambling knowledge and gambling awareness between pretest and posttest, 10 questions for gambling knowledge and 13

questions for gambling awareness were utilized. Each item was evaluated with the Likert scale from 1 to 5 points. After 3 sessions of gambling addiction prevention education, the student’s gambling knowledge was significantly increased from  $7.07 \pm 2.29$  to  $8.40 \pm 1.92$  points ( $t = -2.91$ ,  $p = .005$ ). In the three subcategories of gambling awareness, only ‘the extent to which gambling is prohibited’ was significantly increased from  $3.28 \pm .57$  to  $3.68 \pm .55$  points ( $t = -3.28$ ,  $p = .002$ ). It suggests that the program can be used effectively to increase college students’ gambling knowledge after gambling education. School authorities and society should be interested in developing and operating various educational programs to prevent adolescent gambling.

### ACKNOWLEDGMENT

This work was supported by National Research Foundation of Korea (NRF-2017R1D1A1B 03028538).

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