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Factors of Problem Drinking and the Relationship between College Students' Problem Drinking, Anxiety, and Internalized Shame

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대학생의 음주문제, 불안, 내면적 수치심과의 관계 및 음주문제 영향요인

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Abstract This study aimed to examine the relationship between college students' anxiety, internalized shame and drinking problems and verify the factors that influence drinking problems to provide baseline data for improving college students' mental health. The subjects were 206 university students, and data were collected through a self-reported structure questionnaire from July 3 to July 30, 2021. The data were analyzed by using t-test, analysis of variance (ANOVA) and Scheffe's test, Pearson's correlation and stepwise multiple regression using the SPSS Win 21.0 program. Problem drinking varied significantly depending on the general characteristics of the subjects, such as subjective health condition (F=10.163, p<.001), frequency of drinking (F=5.100, p<.001), first drinking experience (F=2.694, p=.032) and the level of drunkenness (F=3.565, p=.030). Drinking problem was found to have a significant positive correlation with anxiety (r=.199, p=.004) and internalized shame (r=.293, p<.001). The factors influencing the subjects' drinking problems were found to be internalized shame, frequency of drinking and subjective health condition. These variables were also found to account for 18.5% of all drinking problems. Therefore, it is imperative to take these variables into consideration when developing intervention programs for improving college students' health.

요 약 본 연구의 목적은 대학생의 불안, 내면적 수치심, 음주문제와의 관계를 알아보고, 음주문제 영향요인을 확인하여 대학생의 정신건강을 증진시키기 위한 기초자료로 활용하기 위한 것이다. 206명의 대학생을 대상으로 2021년 7월 3일부터 30일까지 설문이 이루어졌으며, 자료는 SPSS Win 21.0을 이용하여 t-test, ANOVA, Scheffe's test, Pearson's correlation, stepwise multiple regression로 분석하였다. 대상자의 일반적인 특징에 따른 음주문제의 차이는 주관적 건강상태(F=10.163, p<.001), 음주빈도(F=5.100, p<.001), 처음 음주 경험(F=2.694, p=.032), 취함 정도(F=3.565, p=.030)에 따라 유의한 차이가 있었다. 음주문제는 불안(r=.199, p=.004)과 내면적 수치심(r=.293, p<.001)과 유의한 양의 상관관계가 있었다. 음주문제의 영향요인은 내면적 수치심, 음주빈도, 주관적 건강상태로 나타났으며, 이들은 음주문제에 18.5%의 설명력을 나타내었다. 대학생의 건강증진 향상을 위하여 음주문제 개선에 대한 간호중재를 개발하기 위해서 이런 변수들이 고려되어야 한다.

Keywords : Anxiety, Factors of Problem Drinking, Internalized Shame, Problem Drinking, University Students

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1. Introduction

College students are transitioning from adolescence to adulthood in their life cycle and going through the period of establishing their identity, planning their future, and becoming independent individuals [1]. Successful adjustment to college life can be manifested in the level of mental health as an important predictor for properly performing future roles in the society and leading a happy marriage [2]. It is reported that the quantity and the frequency of alcohol consumption among college students increase sharply because drinking is regarded as one of the major rituals in the rites of passage from childhood to adulthood [3]. According to the 2018 Korean Statistical Information Service [4], the rate of high risk drinking among college students reached 15.9%. Hazardous alcohol use among college students is a growing problem [5].

With 14.4 million U.S.A adults diagnosed with alcohol use disorder annually, effective treatments for combatting this condition are essential [6].

Excessive drinking causes socio-economic, physical, and mental problems [7], and depression and anxiety are the mental problems associated with problematic drinking [8]. However, drinking itself is a key factor for problem drinking because it is used as a way of relieving negative emotions such as depression and anxiety [9]. Due to such an unending vicious cycle, it is necessary to explore a variety of measures to prevent the harms stemming from problem drinking.

Preclinical studies demonstrate that chronic and heavy alcohol use facilitates neuroadaptations that perpetuate addiction-like behaviors, and lifetime heavy drinking years are a clinically meaningful indicator of alcohol use disorder severity that is not redundant with current alcohol use measures [10]. In addition, Alcohol use disorder is associated with thiamine deficiency and Wernicke-Korsakoff Syndrome [11].

In the meantime, shame is a sentiment that inflicts pain on a person. It is associated with the perception that the self-evaluation, characteristic traits, or behavioral traits that have been exposed to others will be rejected or will be looked down upon by others [12]. Internalized shame constantly makes a person view oneself negatively; by devaluing oneself widely, it creates mental lethargy and induces avoidance behaviors [13]. Internalized shame with internal cause does not dissipate for a long time, and it can induce psychological problems as it evokes shame even in a stable environment that is not likely to cause such feelings [14]. Such internalized shame is closely related to college students' problem drinking [15].

Students with social anxiety are vulnerable to hazardous drinking patterns due to their social evaluative fears and tendency to perceive alcohol use as a socially-approved, normative behavior. These students do not drink as often as their peers, yet they experience more alcohol-related consequences [16].

With regard to the overall mental health of Korean college students, 37.5% of all students are suffering from mental health problems [17]. Because drinking is associated with anxiety and internalized shame from the mental health aspect, it needs to be examined in relation to problem drinking. However, there is a lack of research that mainly targets college students using anxiety and internalized shame as variables.

For this reason, the current study examines the relationship between college students' anxiety, internalized shame, and problem drinking and verifies the factors that influence problem drinking to provide baseline data for improving college students' mental health.

2. Research method

2.1 Research design

This study is a descriptive survey research that examines the correlation between college students' anxiety, internalized shame, and problem drinking and identifies the factors that influence problem drinking.

2.2 Research subject

The subjects are college students that are currently enrolled. They understood the purpose of the study and agreed to voluntarily participate after the researcher described and gave instruction about the study. The minimum number of samples required in multiple regression analysis using the G*Power 3.1 program was 184 with significance (α) at .05, power (1-β) at 95%', moderate effect size (f2) at .15, and with 12 predictors. Therefore, considering the dropout rate of 20%, the questionnaire was distributed to 222 people and 215 copies were retrieved. Of these, a total of 206 copies were used in the final analysis, after excluding nine copies with insufficient or inappropriate responses.

2.3 Research tool

2.3.1 Anxiety scale

For anxiety scale, we used 10 items that measure the level of anxiety from the Symptom Checklist-90 Revision (SCL-90-R), which was standardized by Kim et al [18]. This tool consists of 5-point scale ranging from 0 to 4 points to measure the severity of the symptom a person experienced for the past seven days. Higher scores indicate a severe condition of anxiety. The reliability coefficient (Cronbach α) in Won's research [19] was .86, and Cronbach α for this study was .923

2.3.2 Internalized Shame Scale (ISS)

To measure the level of internalized shame, we used the 5thedition of Internalized Shame Scale(ISS), by Cook[20] and validated in Korean by Lee and Choi[21]. The scale consists of 30 items, and responses were measured using 5-point Likert scale(1 point : Never- 5 points : Almost always). The sub-variables are inadequacy, emptiness, self-punishment, and fear of making mistakes. Of 30 questionnaire items, 24 measure internalized shameand six measur eself-esteem. The six items about self-esteem were taken from Rosenberg's Self-esteem Scale and was included in ISS to prevent the tendency of participants responding in the one direction when items are presented in the same pattern. The level of shame was measured based on the sum of the 24 items except for those about self-esteem. The scores range from 0 to 96 points, and a higher score indicates a stronger proneness to internalized shame. In Cook's[20] research, scores above 50 indicate the level of shame that can be "painful" and problematic. The test-retest reliability (Cronbach's α) for the scale in Cook [20] was .84, and Cronbach's α for Lee and Choi[21] was .93. Cronbach's α for the current study was .961.

2.3.3 Problem drinking

To measure the level of problem drinking, we used the problem drinking scale developed by Shin [22]. Shin [22] defined problem drinking as "short or long-term problems stemming from drinking that alcohol users commonly experience during or after consuming alcohol." The scale consists of 20 items covering three sub-variables: damage to professional or social function (e.g., "Drinking negatively affects my performance in class or at work."), behavioral problems (e.g., "After drinking, I showed aggression."), and damage to relationship with family and others (e.g., "After drinking, I had arguments with

family or friends."). Of the items, three measure the level of behavioral problems and damage to relationship with family and others repeatedly. Each item is about drinking-related problems for the past three months, and the responses are measured on a 5-point frequency scale ranging from "Never" (1 point) to "Almost always" (5 points). The sum is calculated as the problem drinking score, and a higher score indicates a higher occurrence of problems due to drinking. The internal consistency (Cronbach' α) of the problem drinking scale in Shin [22] was .94, and Cronbach' α in the current study was .959.

2.4 Data collection method Ethical consideration

This research was carried out after obtaining approval from the Institutional Bioethics Committee of K University (KWNUIRB-2021-03-006-001). The data were collected from July 3, 2021 to July 30, 2021. Prior to the research, the purpose and the procedure of the study were explained to the college students, assuring that the data would never be used for any other purposes. The researcher encouraged voluntary participation and reassured participants that there would be no disadvantage of withdrawing from the survey. Students who agreed to voluntarily participate signed a written consent and filled out a questionnaire.

2.5 Data analysis method

The data were analyzed using SPSS Win 21.0. The general characteristics of the college students were analyzed in terms of frequency of drinking and percentage or mean and standard deviation. The difference in problem drinking based on college students' general characteristics was analyzed by using t-test, ANOVA, and Scheffe's test. The correlation between college students' anxiety, internalized shame, and problem drinking was analyzed using Pearson's correlation. To identify the factors that influence college students' problem drinking, we used stepwise multiple regression.

3. Research results

3.1 General characteristics of subjects

General characteristics of the subjects are presented in Table 1. Male participants accounted for 23.8% and the female participants accounted for 76.2%. As for class standing, freshmen accounted for 29.6%, sophomores 34.0%, juniors 35.9%, and seniors 0.5%. As for religion, 12.6% reported to be Buddhist, 24.8% Christian, 7.8% Catholics, 2.4% other religions, and 52.4% reported having no religion. As for subjective health condition, 56.3% perceived themselves to be in good condition, 37.4% moderate, and 6.3% poor. As for smoking status, 78.2% reported having never smoked, 8.7% had stopped smoking, and 13.1% were current smokers.

As for the frequency of drinking, 19.4% reported to be non-alcohol users, 28.2% drink once a month 29.6% drink 2-3 times a month, 16.0% drink once a week, 6.8% drink 2-3 times a week, and none of the participants reported consuming alcohol more than four times a week.

As for the amount of alcohol consumption, 11.2% indicated they drink less than a 250cc glass of beer (or less than one shot glass of Soju), 14.1% reported about 500 cl glass of beer (or two shot glasses of Soju), 15.5% reported about two 500 cl glasses of beer (or four shots glasses of Soju), 29.6% reported three to four 500 cl glasses of beer (or one bottle of Soju), 22.8% reported five to seven 500 cl glasses of beer (or 1.5- 2 bottles of Soju), and 6.8% reported eight 500 cl glasses of beer (or over two bottles of Soju).

As for the first drinking experience, 4.9% was during elementary school years, 13.6% during middle school years, 27.7% during high school years, 49.5% during college years, and 4.4% was during another period in life.

Table 1. Differences in problem drinking based on general characteristics (N=206)

Characteristics	Categories	Problem drinking		t/F	p	Anxiety	t/F	p	Internalized shame	t/F	p
		N(%)	M±SD			M±SD			M±SD		
Gender	Male	49(23.8)	1.42±0.66	1.341	.182	0.47±0.66	-1.671	.096	1.56±0.65	-1.785	.076
	female	157(76.2)	1.30±0.47			0.66±0.72			1.75±0.67		
Class standing	Freshmen	61(29.6)	1.39±0.63	0.815	.487	0.56±0.65	1.568	.198	1.74±0.70	1.927	.126
	Sophomore	70(34.0)	1.25±0.35			0.54±0.67			1.74±0.68		
	Junior	74(35.9)	1.35±0.57			0.72±0.78			1.63±0.59		
	Senior	1(0.5)	1.20±0.00			1.60±0.00			3.08±0.00		
Religion	Buddhist	26(12.6)	1.37±0.50	0.689	.600	0.69±0.80	2.308	.059	1.63±0.61	1.328	.261
	Christian	51(24.8)	1.24±0.33			0.49±0.60			1.63±0.50		
	Catholic	16(7.8)	1.27±0.47			0.55±0.58			1.51±0.69		
	Others	5(2.4)	1.49±0.94			1.46±1.04			2.12±0.73		
	None	108(52.4)	1.36±0.59			0.63±0.72			1.77±0.73		
Subjective health status	Good[a]	116(56.3)	1.20±0.36	10.163	.000 †(a<b)	0.56±0.72	1.089	.339	1.65±0.60	1.453	.236
	Moderate[b]	77(37.4)	1.53±0.66			0.66±0.66			1.81±0.75		
	Poor[c]	13(6.3)	1.32±0.45			0.82±0.90			1.62±0.65		
Smoking status	Never smoked	161(78.2)	1.29±0.47	1.662	.192	0.67±0.74	2.629	.075	1.78±0.65	4.017	.019
	Stopped smoking	18(8.7)	1.45±0.71			0.30±0.46			1.47±0.55		
	Smoking	27(13.1)	1.45±0.68			0.50±0.66			1.46±0.76		
Drinking frequency	Never[a]	40(19.4)	1.14±0.44	5.100	.001 †(a<d, e)	0.50±0.67	1.431	.225	1.68±0.59	.315	.868
	Once a month[b]	58(28.2)	1.28±0.58			0.77±0.85			1.77±0.69		
	2-3 times a month[c]	61(29.6)	1.29±0.38			0.59±0.64			1.64±0.63		
	Once a week[d]	33(16.0)	1.56±0.60			0.47±0.54			1.72±0.71		
	2-3 times a week[e]	14(6.8)	1.68±0.56			0.76±0.82			1.78±0.79		
	4 or more times a week[f]	0(0.0)	0.00±0.00			0.00±0.00			0.00±0.00		
Alcohol consumption	0-1 glass of 500 cl beer(or less than 1 glass of Soju)	23(11.2)	1.27±0.59	1.543	.178	0.69±0.65	0.464	.803	1.86±0.67	0.945	.453
	1 glass of 500 cl beer (or 2 Soju)	29(14.1)	1.33±0.65			0.64±0.85			1.76±0.81		
	2 glasses of 500 cl beer (or 4 Soju)	32(15.5)	1.14±0.18			0.75±0.85			1.81±0.58		
	3-4 glasses of 500 cl beer(or about 1 bottle of Soju)	61(29.6)	1.33±0.48			0.54±0.63			1.63±0.67		
	5-7 glasses of beer 500 cl (or 1 and a half to 2bottles of Soju)	47(22.8)	1.43±0.52			0.59±0.66			1.74±0.65		
	8glasses of 500 cl beer(or 2 or more bottles of Soju)	14(6.8)	1.49±0.78			0.54±0.73			1.48±0.55		
When you first drank	Elementary school	10(4.9)	1.38±0.44	2.694	.032	0.51±0.34	0.338	.852	1.88±0.59	0.476	.753
	Middle school	28(13.6)	1.51±0.73			0.73±0.77			1.73±0.77		
	High school	57(27.7)	1.41±0.54			0.56±0.65			1.73±0.72		
	University	102(49.5)	1.21±0.39			0.62±0.76			1.66±0.62		
	No drink	9(4.4)	1.48±0.87			0.68±0.77			1.87±0.63		
Who you drink with	Childhood friend	172(83.5)	1.31±0.49	2.137	.063	0.62±0.71	0.625	.681	1.68±0.65	1.521	.185
	Significant other	12(5.8)	1.59±0.69			0.53±0.61			1.89±0.76		
	Family	9(4.4)	1.06±0.14			0.89±0.91			2.08±0.68		
	Classmates	2(1.0)	1.15±0.21			0.15±0.21			1.04±0.06		
	Alone	1(0.5)	1.00±0.00			0.00±0.00			1.00±0.00		
	Stranger	10(4.9)	1.67±0.84			0.56±0.76			1.83±0.69		
Drunkenness	Never	43(20.9)	1.15±0.44	3.565	.030	0.47±0.60	1.731	.180	1.73±0.60	0.030	.970
	Sometimes	135(65.5)	1.36±0.51			0.63±0.73			1.69±0.69		
	Always	28(13.6)	1.46±0.64			0.78±0.73			1.71±0.61		

†Scheffe' test

As for drinking companion(s), 83.5% was with childhood friends, 5.8% with significant others, 4.4% with family, 1.0% with classmates, 0.5% reported they drink alone, and 4.9% reported they drink with a stranger.

As for the level of drunkenness after drinking, 20.9% reported to have never felt intoxicated, 65.5% reported sometimes, and 13.6% reported all the time (Table 1).

3.2 Differences in problem drinking based on general characteristics of subjects

Among the general characteristics of the subjects, the variables that showed a statistically significant difference in problem drinking were subjective health condition, frequency of drinking, first drinking experience, and level of drunkenness (Table 1). There were no significant differences in the degree of anxiety according to the subjects' general characteristics. In addition, there was a difference in the internal shame according to the general characteristics of the subjects, depending on whether or not they smoked. The never-smoked group showed a higher level of internal shame than the stopped smoking or smoking group (Table 1).

3.3 Correlation between anxiety, internalized shame, and problem drinking of the subjects

The result of examining the correlation between anxiety, internalized shame, and problem drinking of the research subjects are as follows: problem drinking was found to have a significant positive correlation with anxiety (r=.199, p=.004) and internalized shame (r=.293, p<.001). Anxiety was found to have a significant positive correlation with internalized shame (r=.550, p<.001). That is, a high level of anxiety and internalized shame led to a serious level of problem drinking; a high level of anxiety led to a high level of internalized shame (Table 2).

3.4 Factors influencing the subjects' problem drinking

To identify the factors that influence problem drinking, we conducted a step-by-step regression analysis that included the following variables: those that showed a significant difference in problem drinking based on general characteristics such as subjective health condition, frequency of drinking, first drinking experience, level of drunkenness, and those that showed a significant correlation with problem

Table 2. Correlation among problem drinking, anxiety, and internalized shame (N=206)

Variables	Anxiety r(p)	Internalized shame r(p)	Problem drinking r(p)
Anxiety r(p)	1	.550(.000)	.199(.004)
Internalized shame r(p)	.550(.000)	1	.293(.000)
Problem drinking r(p)	.199(.004)	.293(.000)	1

Table 3. Variables influencing problem drinking (N=206)

Variables	B	SE	β	R^2	Adj. R^2	t	p	F	p
(Constant)	.471	0.132				3.570	<.001	15.331	<.001
Internalized shame	.222	0.050	.281	.086	.081	4.417	<.001		
Frequency of drinking	.109	0.029	.243	.164	.156	3.705	<.001		
Subjective health condition	.128	0.056	.150	.185	.173	2.288	.023		
Durbin-Watson 1.853									

drinking such as anxiety and internalized shame. Before performing multiple regression analysis, we analyzed the tolerance limit and variance inflation factor (VIF) to check the multicollinearity of independent variables. The result indicated that there was no problem of multicollinearity as the tolerance limit was above 0.1 (0.93 - 0.99) and VIF was below 10 (1.00 - 1.07). In addition, to test the independence of the residuals, we calculated the Durbin-Watson value. The result was 1.85, which indicated that there is no autocorrelation. These results revealed that there was a statistically significant difference between the regression models (F=15.331, $p<.001$). The factors that influence the subjects' problem drinking were found to be internalized shame ($\beta=.281$, $p<.001$), frequency of drinking ($\beta=.243$, $p<.001$), and subjective health condition ($\beta=.150$, $p=.023$). These variables were also found to account for 18.5% of all problem drinking (Table 3).

4. Discussion

This study provides baseline data for improving college students' mental health by examining the relationship between college students' anxiety, internalized shame, and problem drinking, and by identifying the factors that influence problem drinking.

Problem drinking varied significantly depending on the general characteristics of the subjects such as subjective health condition, frequency of drinking, first drinking experience, and the level of drunkenness.

As for the severity of problem drinking based on subjective health condition, the students whose subjective health condition was moderate had a higher level of problem drinking than the students whose subjective health condition was good. This finding contradicts to the research result that there was no difference in problem drinking based on subjective health condition [23]. This can be interpreted that students whose subjective health condition is good do not drink alcohol for their health and ultimately perceive their health condition to be good. Considering that the students whose subjective health condition is moderate have a higher level of problem drinking, it is necessary to select the students whose subjective health condition is moderate when developing an intervention program related to problem drinking.

As for the severity of problem drinking based on frequency of drinking, the students who reported drinking 1-3 times a week had a higher level of problem drinking than those who reported to be non-drinkers. This shows that a higher frequency of drinking means a higher level of problem drinking. Therefore, it is imperative to find alternatives to decrease the frequency of drinking.

As for the severity of problem drinking based on first drinking experience, the students who had their first drinking experience during middle school years had the highest level of problem drinking. However, the post-hoc test showed no significant difference from the students who had first drinking experience in other periods of life. Therefore, it is essential to focus on middle school students when implementing intervention programs to prevent problem drinking.

As for the severity of problem drinking based on the level of drunkenness, the students who reported to become intoxicated all the time had a higher level of problem drinking. However, the post-hoc test showed no significant difference based on the level of drunkenness.

There was a difference in the internalized shame according to the general characteristics of the subjects, depending on whether or not they smoked. The never-smoked group showed a higher level of internal shame than the stopped smoking or smoking group.

The subjects' anxiety, internalized shame, and

problem drinking were found to have the following correlation. Problem drinking was found to have a significant positive correlation with anxiety and internalized shame. That is, students with a higher level of anxiety and internalized shame were found to have a higher level of problem drinking.

The finding revealed that subjects with a higher level of anxiety had a higher level of problem drinking. This is similar to the previous research finding that anxiety is an affective factor that causes problem drinking [23].

College students with social anxiety experience more alcohol-related negative consequences, regardless of the amount of alcohol they consume [24]. Students with anxiety or mood issues tend to engage in more problematic drinking [25].

Therefore, it seems important to manage anxiety to resolve college students' problem drinking.

The findings also showed that subjects with a higher level of internalized shame manifested a higher level of problem drinking. This matches the previous research finding that college students' high level of internalized shame leads to a higher level of problem drinking [15]. It has been reported that people with a high level of internalized shame are more likely to resort to alcohol or drugs to cope with their negative emotions induced by shame [26]. For this reason, it is necessary to develop an intervention program for minimizing internalized shame to resolve college students' problem drinking.

The factors that influence the subjects' problem drinking were in the order of internalized shame, frequency of drinking, and subjective health condition. These variables were found to account for 18.5% of all problem drinking. This finding is in line with previous research about internalized shame. Treeby and Bruno [27] discovered that people with a higher level of internalized shame had more problem drinking to cope with their negative emotions. Dearing et al. [28] found shame-proneness also showed a significant positive correlation with alcohol and substance abuse. These findings verified that internalized shame was a factor influencing drinking-related problems. Because a close link between problem drinking and internalized shame was verified, it is critical to develop an intervention program for college students who have a high level of internalized shame, to reduce such shame and resolve their problem drinking.

The finding of the current study also identified the frequency of drinking as a factor that influences problem drinking. This is similar to the finding of a previous research that identified frequency of drinking and alcohol consumption as influencing factors of college students' problem drinking and verified the effect of frequency of drinking and alcohol consumption on post-drinking behavior [29]. Because the social atmosphere in Korea is tolerant toward excessive alcohol consumption, there is a lack of awareness of social problems caused by excessive drinking and there is a strong need of guidelines and campaign for moderate drinking [30]. Therefore, a wide variety of measures are needed to resolve college students' problem drinking.

Moreover, the findings revealed that subjective health condition also influenced problem drinking. This finding is contradictory to the previous research report that subjective health condition does not make difference in problem drinking, and that it is not one of the influencing factors of problem drinking [23]. This can be speculated that college students perceive themselves as physically healthy based on the stage of human development and can become less vigilant about maintaining their health. In reality, however, excessive alcohol consumption can increase the risk of hypertension, gastrointestinal bleeding, sleep disturbance,

depression, hemorrhagic stroke, and cirrhosis [31]. Therefore, there is an urgent need to develop programs that can help college students to understand the harmful effect of excessive drinking.

The negative consequences associated with alcohol misuse remain a concern on college campuses nationwide [32].

In summary, internalized shame, frequency of drinking, and subjective health condition should be taken into account at the time of developing a program to resolve college students' problem drinking. To resolve problem drinking, it is vital to develop a program that targets college students with a high level of internalized shame and frequency of drinking while establishing measures for resolving internalized shame.

5. Conclusion

This study is a descriptive survey that examined the correlation between college students' anxiety, internalized shame, and problem drinking targeting 206 subjects and identified the factors that influence problem drinking.

Problem drinking varied based on college students' general characteristics. The results indicated that problem drinking was serious for students whose subjective health condition was moderate, who drank more than once a week, and who had first drinking experience during middle school years, and who always become intoxicated when drinking.

In addition, the analysis of correlation between anxiety, internalized shame, and problem drinking revealed that a high level of anxiety and internalized shame led to a higher level of problem drinking. The factors that influence the subjects' problem drinking were in the order of internalized shame, frequency of drinking, and subjective health condition. These variables were found to account for 18.5% of all problem drinking.

In conclusion, this study has its significance in that it examined excessive alcohol consumption which can jeopardize early adulthood, and that it empirically verified internalized shame, frequency of drinking, and subjective health condition as factors for problem drinking. Therefore, it is imperative to take these variables into consideration when developing intervention programs for improving college students' health. It is recommended to conduct a research that compares the results before and after implementing the intervention program using the same variables from this study.

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