

The Factors Which Affect the Problem Drinking Behavior of College Students

¹Park Da Hye and ²Kim Hee Jeong

¹Department of Nursing, Semyung University of Jecheon, 390-711 Chungbuk, Korea

²Department of Nursing, Namseoul University of Cheonan, 31020 Chungnam, Korea

Abstract: This study is a descriptive study to determine the drinking behavior of college students. The data were collected by 308 college students located in C province who agreed to participate in this study. There were positive correlations between problem drinking and the following factors: drinking attitudes ($r = 0.145$, $p < 0.05$), subjective norms ($r = 0.125$, $p < 0.05$), drinking intention ($r = 0.486$, $p < 0.01$), parent descriptive norms ($r = 0.281$, $p < 0.01$), friend descriptive norms ($r = 0.426$, $p < 0.01$), general college student descriptive norms ($r = 0.319$, $p < 0.01$), paternal problem drinking ($r = 0.150$, $p < 0.01$) and maternal problem drinking ($r = 0.128$, $p < 0.05$). There was negative correlation between problem drinking and perceived behavioral control ($r = -0.650$, $p < 0.01$). Hierarchical regression analysis revealed that the following factors exert a significant influence on college problem drinking: religion ($B = 0.679$, $p < 0.05$), perceived behavioral control ($B = -0.824$, $p < 0.001$), friend descriptive norms ($B = 0.659$, $p < 0.001$) and maternal problem drinking ($B = 0.451$, $p < 0.05$). The explanatory power on college problem drinking was 53.4%.

Key words: Alcohol, parental, problem drinking, college student drinking, determine, maternal

INTRODUCTION

College which can be seen as either the first stage of adulthood or the final stage of adolescence is a life-development stage which entails rapid changes in one's environment. It is a time when one achieves independence from one's parents while having to establish one's self-identity (Kim, 2007). Additionally, it is a period when drug abuse and other harmful behaviors increase. Thus, it is an important development stage in which one learns one's role as an adult (Hussong and Chassin, 2004). In a survey of 3,964 college students conducted by the Korean Alcohol Research Foundation in 2010, 27.5% of male students and 28.7% of female students replied that they consume alcohol 3-5 times per week. In 2010, an online job portal conducted a survey of 630 respondents to determine the status of college student drinking. In response to the question, "Do you know your drinking capacity?" 43.6% of college students replied, "Yes but I often consume alcohol in excess of my capacity." Each year, there is an endless stream of unfortunate alcohol-related incidents because so many college students exceed their limits. College drinking is a significant public health concern which is growing in spite of health promotion activities and programming. College student still drink more hardily and often than others and heavy drinking may lead to academic problems, criminal behaviors, injuries and death (Kim, 2007).

Meanwhile, in the US, drinking at college has become a natural. Many students come to college and they learn to drinking habits, there for the college environment can exacerbate the problem.

Foreign research shows that the children of problem drinkers have high rates of alcohol and drug usage and that they are 4-5 times more likely than the children of non-drinkers to become alcohol abusers (SAMHSA, 2014). Thus, there is a tendency for the problem of alcoholism to cross generations in a vicious cycle. Domestic research (Yeun *et al.*, 2009) shows that the children of problem drinkers have a higher probability of experiencing problem drinking than the children of regular households. Keller *et al.* (2005) reported that parental problem drinking can cause alcohol-related problems. According to Wilson and Nagoshi (1988), the children of problem drinkers frequently use alcohol and drugs and they are more to become alcohol abusers than the non-drinkers children. Many studies in this country show similar results (Ajzen, 1991).

In the literature on problem drinking, many studies show that paternal problem drinking tends to affect the children of problem drinkers. Therefore, this study is to analyze the influence of family drinking on college student drinking. We hope the results of this analysis can facilitate a better understanding of college drinking and can serve as the basis for developing effective prevention programs.

Literature review: Foreign research shows that the children of problem drinkers have high rates of alcohol and drug usage and that they are 4-5 times more likely than the children of non-drinkers to become alcohol abusers (Carey and Correia, 1997). Thus, there is a tendency for the problem of alcoholism to cross generations in a vicious cycle. Domestic research shows that the children of problem drinkers have a higher probability of experiencing problem drinking than the children of regular households. Keller *et al.* (2005) report that parental problem drinking is related to alcohol dependence, abuse and other maladaptive drinking patterns and alcohol-related problems. According to Wilson and Nagoshi (1988), the children of problem drinkers frequently use alcohol and drugs and they are 4-5 times more likely to become alcohol abusers than the children of non-drinkers. Many studies in this country show similar results.

In the literature on problem drinking, many studies show that paternal problem drinking tends to affect the children of problem drinkers. Therefore, the purpose of this study is to analyze the influence of family drinking on college student drinking. We hope the results of this analysis can facilitate a better understanding of college drinking and can serve as the basis for developing effective prevention programs.

MATERIALS AND METHODS

Subject: This study is a descriptive study to determine the drinking behavior of college students based on perceived behavioral control and parental problem drinking. The data were collected by 308 college students who agreed to participate in this study. All data used according to the approved guidelines and screening procedures of "S University".

Instruments

Planned behavior: Planned behavior is a motivational factors which lead to an intention to act in a certain way (White and Labouvie, 1989). In this study, it refers to the belief that people can withstand the temptation of alcohol (Wie and Jung, 2014). The planned behavior scale consists of four items: drinking attitude, subjective norms, perceived descriptive norms and drinking intention (Hodgins and Shimp, 1995). Higher scores indicate greater problems with perceived behavioral control. Cronbach's α was 0.89 in this study.

Family problem drinking: The family problem drinking scale was developed by Hodgins and Shimp (1955) and

Perkins and Berkowitz (1986). The family problem drinking questionnaire consists of two items: paternal problem drinking and maternal problem drinking. Higher scores indicate more problem drinking. Cronbach's α was 0.83 in this study.

Social descriptive norms: Descriptive norms describe actual behavior rather than beliefs about others including approval or disapproval of behavior (Patock-Peckham *et al.*, 1998). The social descriptive norms scale consists of three items; parent descriptive norms, college student descriptive norms and close friend descriptive norms. Higher scores indicate greater alcohol consumption and frequency. Cronbach's α was 0.83 in this study.

College student problem drinking

Data collection and analysis: The data was collected by 308 college students who agreed to participate in this study. It was a proper sample size with a significance level (α) of 0.05, a power ($1-\beta$) of 0.80 and a medium effect size (f) of 0.25 according to the G*power 3.1.9.2 program.

The data was collected from September to December 2015. They were analyzed using descriptive statistics, differences in homogeneity were accounted for by t-test. Pearson's correlation coefficient and regression analysis adjusting via., hierarchical regression analysis was used to identify the effects of family problem drinking and perceived behavioral control on college student problem drinking. The VIF index between the independent variables varied between 1.175 and 1.922. Since, it was <10 , it indicated no multicollinearity. Therefore, this data is suitable for carrying out a regression analysis.

RESULTS AND DISCUSSION

Descriptive analysis shown in Table 1. The general characteristics of the participants were as follows. The study participants included 50 males (16.2%) and 258 females (83.8%). The student's majors were as follows: 204 nursing students (66.2%), 14 oriental food and nutrition students (4.5%) and 75 students with other majors (24.4%). Ranking scales were used to measure the key factors and the average overall mean scores were as follows: perceived drinking attitude (26.43 ± 9.72), problem drinking (18.37 ± 5.69), drinking intention (11.19 ± 4.73), parent descriptive norms (7.75 ± 3.44) and friend descriptive norms (9.78 ± 2.48). There were statistically significant positive correlations between problem drinking and the following factors: drinking attitude ($r = 0.145$, $p < 0.05$), subjective norms ($r = 0.125$, $p < 0.05$), drinking

Table 1: General characteristics and relationships between perceived behavioral control, paternal descriptive norms, family problem drinking and college problem drinking (N = 308)

Variables/ Categories	Planned behavior				Family problem drinking			Social descriptive norms			College drinking behavior		
	N (%)	M (SD)	t/F	p-values	M (SD)	t/F	p-values	M (SD)	t/F	p-values	M (SD)	t/F	p-values
Sex													
Male	50 (16.2)	48 (28.35)	1.500	0.135	19.54 (5.57)	-1.588	0.113	7.56 (3.10)	-0.433	0.665	-	-	-
Female	258 (83.8)	26.06 (9.30)			18.15 (5.69)			7.79 (3.51)					
Year of college													
1st	102 (33.1)	17.40 (5.02)	1.862	0.589	17.40 (5.59) ^a	1.862	0.136	7.34 (3.56)	0.877	0.453	26.09 (9.66)	2.038	0.109
2nd	108 (35.1)	19.10 (6.44)			19.10 (6.43) ^a			7.81 (3.28)			26.02 (9.86)		
3rd	87 (28.2)	18.43 (5.54)			18.43 (5.54) ^a			8.05 (3.50)			26.47 (9.36)		
4th	11 (03.6)	19/91 (3.86)			19.91 (3.86) ^b			8.55 (3.75)			33.80 (10.70)		
Major													
Nursing	204 (66.2)	11.13 (4.71)	0.156	0.926	18.0 (5.59) ^a	2.828	0.039 a<b	7.69 (3.65)	0.190	0.903	26.15 (09.14)	2.245	0.083
Police administration	15 (4.9)	11.13 (5.25)			22.07 (7.70) ^b			7.60 (3.29)			23.79 (12.75)		
Oriental food and nutrition	14 (4.5)	12.00 (3.82)			20.00 (3.86) ^{ab}			8.36 (3.63)			32.50 (8.57)		
Other	75 (24.4)	11.08 (4.73)			18.33 (5.56) ^a			7.84 (2.90)			26.52 (10.60)		
Religion													
Protestant	66 (21.4)	9.68 (5.08) ^a	3.295	0.023 a<b	16.49 (5.31) ^a	3.295	0.021 a<b	6.62 (3.67) ^a	3.195	0.024 a<b	24.30 (09.61)	1.370	0.252
Catholic	32 (10.4)	12.25 (4.32) ^{ab}			18.41 (5.87) ^{ab}			7.75 (3.07) ^{ab}			27.13 (8.49)		
Buddhist	22 (7.1)	12.14 (4.76) ^b			19.91 (6.73) ^b			8.59 (2.77) ^b			27.50 (09.12)		
None	188 (61.0)	11.37 (4.58) ^b			18.82 (5.56) ^{ab}			8.04 (3.44) ^{ab}			26.95 (10.00)		
Assessed health status													
Very healthy	57 (18.5)	11.46 (5.24)	0.821	0.483	19.61 (5.80)	1.613	0.186	7.37 (3.51)			27.93 (10.76)	1.762	0.154
Healthy	166 (53.9)	11.32 (4.48)			17.81 (5.23)			8.02 (3.54)	0.850	0.467	26.84 (09.35)		
Neutral	61 (19.8)	10.31 (4.59)			18.42 (5.94)			7.62 (3.20)			25.25 (09.67)		
Not healthy	24 (7.8)	11.46 (5.54)			19.25 (7.41)			7.13 (3.28)			23.13 (09.45)		
Recognized problems													
None	87 (28.2)	10.61 (4.84)	1.027	0.402	18.40 (5.47)	0.067	0.694	7.79 (3.41)			26.6 (09.95)	0.603	0.698
Financial situation	62 (20.1)	10.93 (4.75)			19.29 (5.95)			7.89 (3.56)	0.628	0.678	26.58 (10.08)		
Family disease	11 (3.6)	11.90 (4.61)			19.18 (8.23)			9.30 (3.89)			25.36 (08.26)		
Conflict with parents	9 (2.9)	13.00 (4.38)			18.78 (5.33)			8.13 (3.76)			31.00 (09.5)		
Career issues	123 (39.9)	11.61 (4.58)			17.89 (5.56)			7.60 (3.28)			25.80 (09.72)		
Other	16 (5.2)	9.94 (5.46)			17.60 (5.22)			7.00 (4.24)			27.94 (08.75)		
Residential status													
Alone	17 (5.5)	10.41 (4.64)	1.554	0.214	21.19 (6.16)	2.311	0.058	7.12 (3.33)			21.00 (09.50)	2.164	0.073
With parents	206 (66.9)	10.98 (4.72)			17.98 (5.65)			7.75 (3.44)			26.43 (09.66)		
Lives with relatives	5 (1.6)	13.60 (5.68)			20.40 (8.45)			10.40 (2.19)			0.882 (8.26)	0.475	34.20
Lives with friends	37 (12.0)	12.51 (4.34)			19.97 (5.52)			7.78 (3.69)			27.28 (09.22)		
Other	43 (14.0)	10.86 (4.96)			17.65 (5.13)			7.71 (3.40)			26.84 (10.13)		
Financial situation													
Very good	5 (1.6)	10.80 (7.46)	1.354	0.177	17.80 (7.26) ^a	2.524	0.041a<b	6.60 (1.95)			31.20 (14.31)	0.674	0.610
Good	52 (16.9)	11.67 (4.21)			19.08 (5.77) ^a			8.29 (3.25)			26.21 (09.43)		
Neutral	153 (49.7)	10.93 (4.72)			18.14 (5.59) ^a			7.77 (3.42)	0.577	0.680	26.39 (09.42)		
Difficult	87 (28.2)	11.38 (4.98)			17.78 (5.40) ^a			7.50 (3.75)			26.78 (10.30)		
Very difficult	11 (3.6)	10.27 (4.73)			23.18 (6.63) ^b			7.55 (2.91)			23.00 (08.99)		

^{ab}Duncan's Post-Hoc test

intention ($r = 0.486, p < 0.01$), parent descriptive norms ($r = 0.281, p < 0.01$), friend descriptive norms ($r = 0.426, p < 0.01$), general college student descriptive norms ($r = 0.319, p < 0.01$), paternal problem drinking ($r = 0.150, p < 0.01$) and maternal problem drinking ($r = 0.128, p < 0.05$). There was a statistically significant negative correlation between problem drinking and perceived behavioral control ($r = -0.650, p < 0.01$) (Table 2).

Differences in planned behavior, family problem drinking, descriptive social norms and college problem drinking among college students according to general

characteristics are shown in Table 1. The general characteristics on planned behavior showed statistically significant differences according to religion ($F = 3.295, p = 0.023$). There were statistically significant effects on family problem drinking according to the following general characteristics: major ($F = 2.828, p = 0.039$).

Religion ($F = 3.295, p = 0.021$) and economic status ($F = 2.524, p = 0.041$). Social descriptive norms appeared significant differences according to religion ($F = 3.195, p = 0.024$).

Table 2: Correlation of independent variables

Values	1	2	3	4	5	6	7	8	9
2	0.274**	-	-	-	-	-	-	-	-
3	-0.218**	-0.140**	-	-	-	-	-	-	-
4	0.293**	0.500**	-0.503**	-	-	-	-	-	-
5	0.153**	0.124**	-0.161**	0.254**	-	-	-	-	-
6	0.237**	0.239**	-0.255**	0.316**	0.292**	-	-	-	-
7	0.217**	0.157**	-0.227**	0.269**	0.303**	0.656**	-	-	-
8	-0.050	-0.014	-0.045	0.109	0.483**	0.037	0.012	-	-
9	-0.047	0.035	0.085	-0.006	0.169**	0.006	0.119**	-0.148*	-
10	0.145*	0.125*	-0.650**	0.487**	0.281**	0.426**	0.319**	0.150**	0.128*

*p<0.05, **p<0.01, ***p<0.001: 1. Drinking attitude; 2. Subjective norms; 3. Perceived behavioral control; 4. Drinking intention; 5. Parental descriptive norms; 6. Friend descriptive norms; 7. College student descriptive norms; 8. Paternal problem drinking; 9. Maternal problem drinking; 10. Problem drinking

Table 3: Association of perceived behavioral control, paternal descriptive norms, family problem drinking and college problem drinking hierarchal regression

Variables	Step 1		Step 2		Step 3	
	B	SE	B	SE	B	SE
Constant	41.497	-	25.583	-	23.563	-
Religion	0.679*	0.271	0.482*	0.208	0.305	0.195
Resides with parent	0.206	0.418	-0.082	0.216	-0.100	0.200
Financial situation	-1.326**	-0.106	0.168	0.319	0.182	0.302
Drinking attitude	-	-	-0.024	0.028	-0.048	-
Subjective norms	-	-	0.047	0.066	-0.012	-
Perceived behavioral control	-	-	-0.824***	0.059	-0.740***	0.056
Parent descriptive norms	-	-	-	-	0.090	0.321
Friend descriptive norms	-	-	-	-	0.659***	0.132
College student descriptive norms	-	-	-	-	-	-
Paternal problem drinking	-	-	-	-	-0.014	0.149
Maternal problem drinking	-	-	-	-	0.123	0.123
	-	-	-	-	0.451	0.235
	-	-	-	-	-	-
-R ² (ΔR ²)	0.023		0.441 (0.418)***		0.534 (0.515)***	
F	4.486***		36.224		28.201***	

*p<0.05, **p<0.01, ***p<0.001

To identify the effects of planned behavior, social descriptive norms and family problem drinking on college problem drinking, a regression model was used in hierarchical step 1 as reported in Table 3.

It was found that college problem drinking increases with religion (B = 0.679, p<0.05). Thus, religion was shown to have an explanatory power of 2.3% with regard to college problem drinking. In hierarchical Step 2, adding planned behavioral factors increased the explanatory power by a statistically significant 42.8%. It was found that college problem drinking increases with planned behavioral control (B = -0.824, p<0.001). Thus, planned behavioral control was shown to have an explanatory power of 44.1% with regard to college problem drinking. In hierarchical step 3, social descriptive norms and family problem drinking were added and the explanatory power increased by a statistically significant 51.5%. It was shown that friend descriptive norms (B = 0.659, p<0.001) and maternal problem drinking (B = 0.451, p<0.05) exert a significant influence on college problem drinking. The total explanatory power of these factors on college problem drinking was 53.4%.

This research is a descriptive study to determine the relationship structure among planned behavior, social

descriptive norms and family problem drinking in terms of their influence on problem drinking among college students.

In this study, religion had statistically significant effects on family problem drinking. Patock-Peckham *et al.* (1998) report that students with no religious presence reported significantly higher levels of drinking frequency, quantity and getting drunk. Also, Henion and Harrell report that religious college students reported less alcohol use than their classmates and that the reason may have to do with how their parents handle stress, according to, new research by a Michigan State University scholar (Armitage *et al.*, 2002). Thus, this study's results are supported by the results of other studies.

This study shows statistically significant positive correlations between college student drinking attitudes and paternal and maternal problem drinking. Foreign research by Wilson and Nagoshi (1988) shows that the children of problem drinkers have high rates of alcohol and drug usage and that they are 4-5 times more likely than the children of non-drinkers to become alcohol abusers. Thus, there is a tendency for problem drinking to cross generations in a vicious cycle. Domestic research by Carey and Correia (1997) shows similar results which state that the children of problem drinking households have a higher probability of experiencing problem drinking than the children of normal households.

In this study, planned behavioral control was shown to have an explanatory power of 44.1% with regard to college problem drinking. Four items have examined the influence of drinking attitudes, subjective norms, perceived behavioral control and drinking intention on college problem drinking. According to the theory of planned behavior, a certain set of motivational factors leads to an intention to act in a certain way (White and Labouvie, 1989). If given the right opportunity, people will translate this intention into behavior. Several studies focusing on college drinkers have established the prediction of behavior by intention (Conner *et al.*, 1999; Johnston and White, 2003). Johnston and White (2003) report that the results of multiple regression indicated that attitudes, subjective norms and self-efficacy significantly predicted 69% of the variance in intention to engage in heavy episodic drinking (Rinker and Neighbors, 2013). The results of these studies are similar to those of the current study.

In the current study, added social descriptive norms and family problem drinking were the explanatory power increased by a statistically significant 51.5%. It was shown that friend descriptive norms ($B = 0.659$, $p < 0.001$) and maternal problem drinking ($B = 0.451$, $p < 0.05$) exert a significant influence on college problem drinking. Rinker and Neighbors (2013) reported that among college students, social norms were one of the strongest predictors of problematic drinking. College students who are very tempted to drink may drink more heavily and experience alcohol-related problems more frequently if they have greater perceptions that the typical student at their college drinks a lot (Ohannessian, 2012). This conclusion is supported by the current study. In addition, maternal problem drinking exerts a significant influence on college problem drinking. Ohannessian (2012) explores the relationships between parental problem drinking, adolescent-parent communication and adolescent psychosocial adjustment. The results indicated that paternal problem drinking directly predicted substance use (alcohol and drug use) for boys but not for girls. In contrast, maternal problem drinking directly predicted substance use (drug use) for girls but not for boys (Poelen *et al.*, 2009). Meanwhile, in this study, the effects of parental problem drinking did not vary significantly according to gender. This result is slightly different from the result of Christine's study. Several studies report that the role of parental gender is still inconclusive. A number of studies find that paternal drinking strongly predicts adolescent drinking whereas others emphasize the particular influence of maternal drinking (Otten *et al.*, 2008). Thus, this topic needs further study.

CONCLUSION

This research is a descriptive study to determine the relationship structure among planned behavior, social descriptive norms and family problem drinking in terms of their influence on problem drinking among college students. However, since this research only considers a small sample of students, it will be difficult to extend the results of this study to other analyses and follow-up studies must be carried out. We hope the results of this analysis can facilitate a better understanding of college drinking and can serve as the basis for developing effective prevention programs and. Educational authorities need to know increasing alcohol consumption for college students in relation to their problem drinking behavior and to support that.

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