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2011년 8월  
석사학위논문

A Comparative Analysis of Ajzen's  
TPB and Kuther's Revised TPB in  
Explaining College Student's  
Alcohol Consumption Behavior

조선대학교 대학원

신문방송학과

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2011년 8 월 일

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# Media Romadona의 석사학위 논문을 인준함

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# A Comparative Analysis of Ajzen's TPB and Kuther's Revised TPB in Explaining College Student's Alcohol Behavior

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2011년 4 월

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## Table of Contents

<b>LIST OF TABLES AND FIGURES.....</b>	<b>i</b>
<b>CHAPTER 1.....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 2.....</b>	<b>8</b>
<b>LITERATURE REVIEW.....</b>	<b>8</b>
<b>Related Research on Alcohol Consumption.....</b>	<b>8</b>
<b>Theory of Reasoned Action.....</b>	<b>11</b>
<b>Theory of Planned Behaviour.....</b>	<b>14</b>
<b>Critics on the Theories of Reasoned Action and Planned Behavior.....</b>	<b>18</b>
Critics on the Efficiency of Intention as a Mediator between Attitude, Subjective Norms, and Behaviors.....	19
Critics on Specificity of Attitude Measures of Theory of Planned Behavior.....	20
Critics on Subjective Norm Construct of Theory of Planned Behavior.....	24
<b>Modification of Theory of Planned Behavior (Kutner's Revised TPB).....</b>	<b>33</b>
<b>CHAPTER 3.....</b>	<b>36</b>
<b>METHOD.....</b>	<b>36</b>
<b>Research Design.....</b>	<b>36</b>
Sample Selection and Data Collection.....	36
Measurements of TPB Variables.....	39
Measurements of Kutner's Revised TPB Variables.....	41

Research Questions.....	43
Hypotheses.....	44
CHAPTER 4.....	49
RESULTS.....	49
Correlation Analysis of Theory of Planned Behavior.....	53
Correlation Analysis of Kuther’s Revised TPB.....	54
TPB in Explaining Alcohol Consumption among University Students.....	56
Kuther’s Revised TPB in Explaining Alcohol Consumption among University Students.....	58
CHAPTER 5.....	63
DISCUSSION.....	63
Limitation and Suggestions for Further Research.....	66
REFERENCES.....	68
APPENDIX.....	85

# 국문초록

## 아이젠의 계획행동이론과 쿠서의 수정계획행동모형

### 비교분석: 대학생들의 음주행위를 중심으로

By Media Romadona

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본 연구는 대학생들의 음주행위를 설명할 수 있는 두 개의 모형을 비교 검증하고자 하였다. 이를 위해 성행연구에서 음주 행위를 비롯하여 다양한 인간의 행위를 잘 설명하는 계획행동이론 (TPB, Theory of Planned Behavior)과 계획행동이론을 수정한 쿠서(Kutner)의 모형을 실증적으로 비교분석하였다. 광주지역 소재 대학에 재학중인 380 명의 학생들을 대상으로 경로분석을 한 결과 계획행동이론에 포함된 변수들 중에서 지각된 행위통제(PBC)를 제외한 모든 주요 변인들이 음주행위에 직접적으로 영향을 미치고 있는 것으로 나타났다. 경로분석결과, 쿠서의 수정모형에서도 주요 변인들간 통계적으로 유의미한 결과를 발견하였지만, 계획행동이론과 비교해 상대적으로 낮은 회귀계수를 보여주었다. 구체적으로 동료규범은 대학생들의 음주행위에 통계적으로 유의미한 영향을 미쳤지만 부모규범은 거의 영향력을 미치지 못하고 있는 것으로 나타났다. 또한, 긍정적 기대는 음주행위에 직접적으로 영향을 미쳤지만 부정적 기대는



지각된 통제 (perceived control)를 통해 간접적으 로음주행위에 영향을 미치고 있는 것으로 나타났다. 계획행동이론과 쿠서의 수정모형을 비교분석한 결과, 쿠서의 계획행동이론 변수들에 대한 비판에도 불구하고 계획행동이론 변수들이 쿠서가 수정모형에서 제시한 변수들보다 음주행위를 더 잘 설명하고 있는 것으로 밝혀졌다. 본 연구는 대학생들의 음주행위 관련 헬스커뮤니케이션에서 음주행위에 대한 태도, 주관적 규범, 지각된 행위통제가 모두 중요하다는 이론적 실무적 시사점을 제공하고 있다.

# ABSTRACT

## A Comparative Analysis of Ajzen's TPB and Kuther's Revised TPB in Explaining College Student's Alcohol Consumption Behavior

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Among Korean university students, the expectations of student's life and need to be part of the society and alumni network considerably impact alcohol consumption among the students. This group may be at particular risk for excessive and continuous drinking behavior.

The current study is to employ the Theory of Planned Behavior (TPB) and Kuther's revised TPB to examine drinking behavior among Korean university students. The research questions were to find out whether TPB can explain the behavior, and whether Kuther's revised TPB can explain the behavior, and in the

end, to compare the results by focusing on finding out which model could be used better in explaining the alcohol consumption behavior among university students. The sample for this study was 387 students of Chosun University, where the mean age was 21 years old. Mainly was sophomore students, and majority came from college of liberal arts and social science. The data was taken during April 2011 and processed using correlation and regression analysis in SPSS.

Results showed that TPB explains the behavior of alcohol consumption among university students, with all the main predictors influenced the behavior intention. In this study, the perceived behavioral control in TPB did not significantly influence the student's behavior itself, with attitude as the highest predictor and normative beliefs came strong in influencing subjective norms.

In Kuther's revised TPB, parental norms and behavior did not influence the behavior; while peer norms and behavior influenced the behavior. In addition, positive expectancies influenced the behavior, but negative expectancies only influenced behavior through perceived control.

The findings show that with coefficient of determination of .23, TPB is better than Kuther's revised TPB in predicting the future outcomes about alcohol consumption among university students, which had coefficient of determination of .12.



# CHAPTER 1

## INTRODUCTION

The drinking culture in Korea can be traced far back to the era before the Three Kingdoms period (57 B.C. - 676). Influenced by the idea of Confucianism, drinking alcohol has been part of daily life of almost all Koreans, ever since the agricultural ancestors drank together after hard working in the field. Confucianism has been the main character of cultural norm that can explain Korean adults' drinking pattern (Kim, 1994) aside of the factor of low individualism (Christie, Kwon, Stoeberl, & Baumhart, 2003; Hofstede, 1991).

The tradition of sharing the drinks using the same glass, along with group drinking, is unique to Korea.

In an interview with JoongAng Daily Newspaper, Lee Sang-hee, former Minister of Home Affairs and author of a series of books titled *Korea's Drinking Culture*, stated

*Modern day Koreans like to drink a lot, all at once. Especially in company settings, they drink to get drunk together, instead of*

*enjoying the drinks, which is totally different from how our ancestors drank. (JoongAng Daily, February 23<sup>rd</sup>, 2011)*

According to the most recent report from the Organization for Economic Cooperation and Development (OECD) on alcohol consumption (released in 2010), the average Korean drank around 8.1 liters of pure alcohol in 2008, compared to the OECD average of 9.7 liters per head. This is in contrast to the 10.3 liters average in France, and 10.8 liters in the United Kingdom. The problem lies, as Lee Sang-hee stated, in binge drinking. Binge drinking is a habit that can be fatal to everyone observing it, and it accounts for large part of alcohol-related disease in South Korea. Data from the Statistics Korea show that 494 Koreans per every 100,000 died of alcohol related diseases in 1983, mainly from liver failure. For comparison, by 1992, this number rose to 2,023 for every 100,000 people, and by 2009, deaths doubled to 4,417 people per 100,000.

The drinking habit shall start earlier than expected and part of the reasons, might be when there is the need to bond in a group, to show commitment to one's group, and to form a strong group solidarity using

alcohol. All of these start when a teenager gets into university. It seems like that the tradition of *Sujak*<sup>1</sup> and *Guneum*<sup>2</sup> no longer belongs to Korean working adults, but has evolved to be observed by the young university students.

Regular alcohol consumption among college students has never been a surprising fact, and many studies have been conducted in lieu to explain the alcohol consumption among youth and adolescents. It is a fact that excessive and irresponsible alcohol consumption can result in negative health and social implications. Negative consequences related to alcohol range from poor academic performance, through sexual assault, vandalism, to even death (Hingson, Heeren, Winter, and Wechsler, 2005).

Binge alcohol drinking among college students in South Korea has taken its toll of 10 lives in 4 years. A study by the Korean Alcohol Research Foundation (2010) revealed that as much as 71. 2 percent of college students in Korea do binge alcohol drinking regularly. The binge drinking usually consists of more than 40 grams of pure alcohol, which means more than five cups of soju. Among male students, 1 out of 3

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<sup>1</sup> Sharing the drinks using the same glass

<sup>2</sup> Drinking in group

people does binge alcohol drinking more than three times a week. According to the Ministry of Health and Welfare, between 2007 and 2010, there were 10 people killed by drunken college students. The problem is a trend issue, as the Ministry of Health and Welfare has started the campaign to promote alcohol-free campuses since the beginning of 2011, stating that this year would be the first year for the government to bolster its campaign against excessive drinking among students.

Among Korean university freshmen, the binge drinking starts from the very early part of their education years in college, premediated by the welcoming week or membership training, where alcohol is usually involved. The expectation of student's life and need to be part of the society and alumni network considerably impact alcohol consumption among the students. These factors suggest the need to develop a predictive model for understanding drinking behaviors among university students.

A study about predicting the alcohol consumption behaviors among university students in Korea may contribute to the development of a framework for understanding the behavior and may assist in



ascertaining the constructs which may be target in health promotion and education efforts to reduce such problematic behaviours. The risks of irresponsible and excessive drinking behaviors can be reduced by finding the right explanatory and predictive model in examining the alcohol consumption by university students. By using theory of planned behavior, we can examine through the roots of the behavior, finding the reasons and the influencing factors of why one might observe the behavior. In practice, this knowledge can be used to construct a communication campaign targeted on the right issue. In the literature on behavioral theories, Theory of Planned Behavior is a popular one that has been used for behavioral research not only in health field, but also in many other fields to explain and predict behaviors.

The Theory of Planned Behavior (TPB; Ajzen 1985, 1991) is an extension of the Theory of Reasoned Action (TRA; Ajzen and Fishbein, 1980) and it posits that intentions predict behaviors. The TPB suggests that intentions are predicted by attitudes toward the behavior, and subjective norms about the performance of the behavior. The TPB extends the TRA to include perceived behavioral control (PBC). While

both TPB and TRA examine individual motivation on the likelihood of performing a specific behavior, TPB includes the variable of PBC and allows for an examination of behaviours in which volitional control may be incomplete.

Several critics have tried to improve the efficacy of TPB, by adding and revising the measures regularly according to the suggestions by the TPB. Kuther (2002) suggested a new model based on TPB, removing intention as part of the measures and adding expectancy, and peer and parental perceived behavior and norms as measures in predicting behavior. The same idea was used by Scheier and Botvin (1997), who in their study suggested the use of expectancies as mediators in promoting alcohol use among youth. In the study of alcohol consumption among Korean youth, Delva et.al (2007) found that parental drinking problem has positive association with youth alcohol related problems.

Both TPB and Kuther's revised model of TPB were the theories used to predict and analyze the alcohol consumption behavior among university students in this paper. In order to find the better model to do such analysis, the study compared both models with each other and

investigated the results to find which model is better in explaining college students' alcohol consumption behavior.

## **CHAPTER 2**

### **LITERATURE REVIEW**

This chapter starts with the related research and past studies on alcohol consumption. The theory of reasoned action is discussed as the basic of theory of planned behavior and then the theory of planned behavior itself is reviewed. The criticisms of theory of planned behavior are discussed as they are the background from which Kuther's revised TPB was based on. Kuther's revised TPB was constructed based on the criticism about specificity of attitude measures, the affectivity of intention, and subjective norm construct.

#### Related Research on Alcohol Consumption

So far, the TPB has been used widely in behavioral research, including research on smoking and alcohol abuse behavior. We can find a series of research on intention and behaviors of adolescent and teenagers' alcohol consumption. Huchting, Lac, and Labrie (2007) examined the heavy drinking habit among the Greek-affiliated college students using TPB. Tara Kuther (2001) combined TPB with subjective expected utility

(SEU) theory, TRA, and alcohol-related outcome expectancy theory to examine rational decision perspectives on alcohol consumption by youth.

Johnston and White (2003) found that the TPB explained 69% of the variance in intentions, with attitude, subjective norm, and self-efficacy all being significant predictor variables. Similarly, Norman and Conner (2006) reported that TPB variables accounted for 66% of the variance in intentions with attitude, self-efficacy, and perceived control over all being significant predictor variables. The TPB has also been found to predict binge-drinking behavior. Norman and Conner (2006) found that intention and self-efficacy were significant predictors of a dichotomous measure of binge-drinking behavior. Johnston and White (2003) found that intention explained 51% of the variance in binge-drinking behavior. Despite the success of previous TPB research, there is scope for improving prediction of both intentions and behaviour. One approach is to examine the impact of additional variables, which may account for variance left unexplained by the TPB (Cooke, Snichotta, and Schuz, 2007).

Even much earlier, Bauman, Fisher, Bryan, & Chenoweth (1985) studied the relationship between subjective expected utility and behavior

of adolescent drinking behavior. Berkowitz and Perkins (1986) reviewed the research on the drinking problem among college students. There is also expectancies versus background in the prediction of college drinking patterns by Brown (1985).

Iannotti, Bush, & Weinfurt (1996) explained perception of friends' use of alcohol, cigarettes and marijuana among urban school children. Kidorf, Sherman, Johnson, & Bigelow (1995) analyzed alcohol expectancies and changes in beer consumption of first-year college students.

### Theory of Reasoned Action

Theory of reasoned action is used to predict one's social behavior based on the intention the individual has. This theory is based on the premonition that in social behavior, people in general are rational and use the information that is available to them in a systematic way. Ajzen and

Fishbein (1980) presumed that most of the socially relevant actions are consciously controlled, and therefore that someone's intention to carry out an action is a positive determining factor for predicting behavior.

The theory of reasoned action (TRA) proposed that the concept of behavioral intention mediates the relationship between attitude and behavior, and put forward the concept of subjective norm as a second predictor of intention (Rise, et al., 2010). According to Ajzen and Fishbein (1980), there are two important factors that determine the intention. Those are *personal factor* and *social influence factor*.

Personal factor is attitude towards the behavior held by the individual and it suggests the overall judgement of this particular person whether the intended behavior is good or bad. Attitudes refer to the product of two components which are beliefs or expectations about behavioral outcomes and evaluations of behavioral outcomes (Kutner, 2002).

The social influence factor is the subjective norm that suggests the perception that an individual has about the social pressure regarding the behavior. It represents a social-cognitive component to the TRA and

consists of normative beliefs regarding the behavior and depends on the individual's will to act in accordance with a perceived judgement by important people regarding the behavior (Kutner, 2002).

An individual will more likely to perform a certain behavior when the person believes that the behavior is good according to his/her personal and significant other people's judgement.

Even so, attitudes and subjective norms are not conceptualized as direct influences on behavior. Instead, attitudes and subjective norms are to influence intentions to perform a specific behavior, which is the immediate antecedent to engaging in the behavior. The only direct determinant of whether a behavior is going to be performed or not is the behavior intention. Thus, intention mediates the relationship between attitudes, subjective norms, and behavior (Ajzen, 1988, 1991; Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975).



## Theory of Planned Behavior

The Theory of Planned behavior offers a framework for understanding or predicting behavior based on psychological constructs theorized to influence behavior. Ajzen's (1985, 1991) TPB posits that intentions predict behaviors.

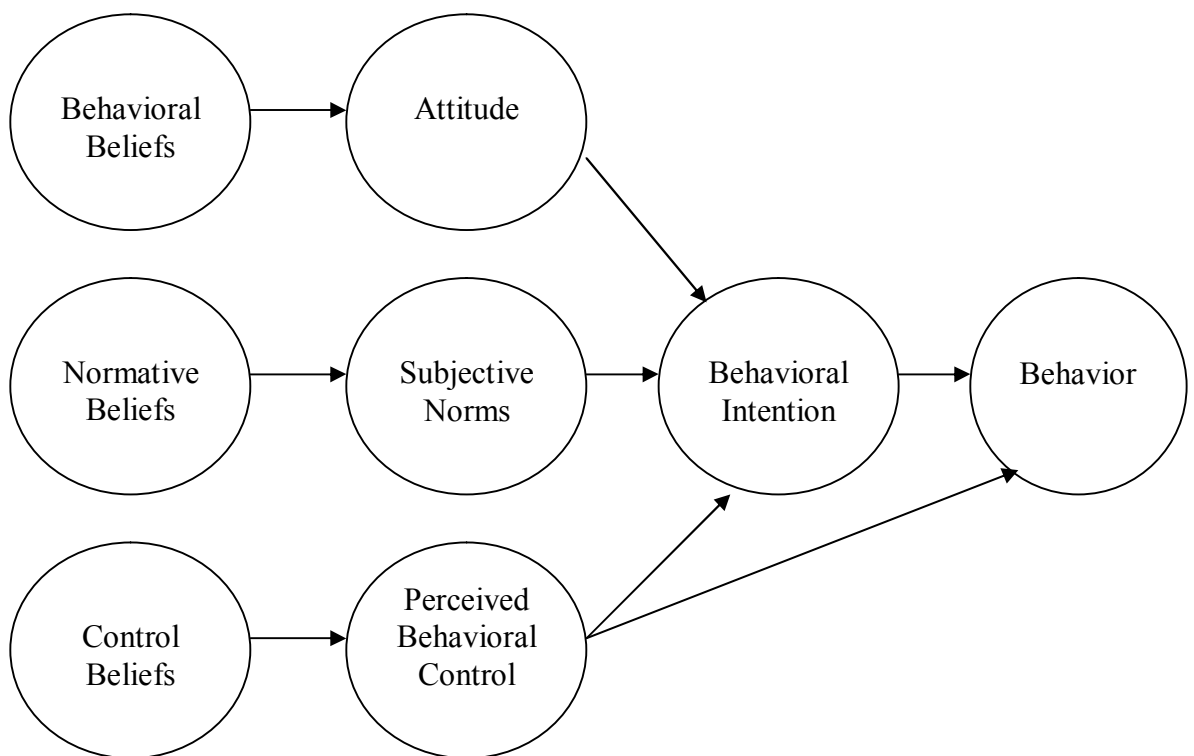


Fig. 2.1 Theory of Planned Behavior

Theory of Planned Behavior

*Behavior* in this study is the alcohol consumption among university students. *Behavioral intention* is plans to perform a behavior. *Attitude* is a positive or negative evaluation to perform the

particular behavior. *Subjective norms* are social pressure implied by important referent individuals' or groups' approval or disapproval of engaging in a given behavior. *Perceived behavioral control* is perceived ease or difficulty of performing the behavior. *Behavioral beliefs* are a person's perceived outcomes of conducting a behaviour and the evaluation of those outcomes. *Normative beliefs* are a social pressure implied by important referent individuals or groups weighted by a motivation to comply with such pressure. *Control beliefs* are beliefs concerning the presence or absence of resources and the impediments to behavioral performance and perceived power or impact of each resource/impediment to facilitate or inhibit the behavior (Ajzen, 1991; Ajzen and Fishbein, 1980; Pawlak, Brown, et al., , 2008).

The central premise of TPB is similar to that of TRA which states that people are rational in making decisions and using the resources to gather and use the information systematically. According to TPB, individual behavior depends on intention and perceived behavioral control, while intention depends on attitude, subjective norm, and perceived behavioral control.

Attitudes towards a behavior refer to a person's evaluation of advantage or disadvantage of performing a behavior. One might have the perception whether a behavior will yield a positive or negative outcome, influenced by behavioral beliefs about the consequences of the behavior. Perceptions of more favorable outcomes or consequences of a behavior influence the likeliness of a person's intention to perform a behavior. For

example, if an individual believes that smoking cigarettes will give benefit in term of social life, and if social rank is deemed important to the person, it suggests that the person's attitude toward smoking cigarettes would be favorable and there is higher probability that the behavior will be performed.

Subjective norms refer to perceived social pressures from important others to perform, or not to perform the behavior. Subjective norms are thought to be driven by normative beliefs, beliefs about how significant others would like an individual to act with regard to a particular behavior, and by outcome evaluations, the value the individual places on those normative beliefs (Pawlak, Brown, et al., 2008). When an individual is surrounded by the people who encourage him to smoke, and if he/she highly values their opinion, the individual would be most likely to smoke the cigarettes.

The theory of planned behavior (TPB) added Perceived Behavioral Control (PBC) to the TRA as a third predictor of intention. While both TPB and TRA examine individual motivation on the likelihood of performing a spesific behavior, TPB includes the variable of PBC and

allows for an examination of behaviors in which volitional control may be incomplete (Huchting, Lac, Labrie, 2007). Perceived Behavioral Control refers to how an individual perceives the level of difficulties of performing a behavior. PBC is influenced by both situational (eg. Peer pressure) and internal factors (eg. Confidence) that could inhibit or facilitate performing the behavior (Pawlak, Brown, et al., 2008) and in turn, would impact the intention to perform the behavior; which itself is theorized to be the most important direct predictor of behavior (Ajzen, 1991; Ajzen and Fishbein, 1980). PBC reflects someone's perception on the availability of resources or opportunities of performing a behavior (Ajzen and Madden, 1986). A person who holds strong control beliefs about the existence factors that impede behavior will have low perceived control over the behavior. Low volitional control may also influence the ability to form rational intentions and has been found to attenuate the attitude-behavior link (Davidson and Jaccard, 1979).

The inclusion of PBC provides information about the potential constraints on action as perceived by the individual, and is held to explain why intentions do not always predict behavior (Armitage and Conner,

2001). One thing to note about the addition of PBC, Ajzen (1991) stated that the relative importance of attitude, subjective norms, and perceived behavioral control in the prediction of intention is expected to vary across behaviors and situations, which Armitage (2001) summed that PBC may be less predictive of intentions in situations where attitudes are strong, or where normative influences are powerful.

### Critics on the Theories of Reasoned Action and Planned Behavior

Armitage and Conner (2001) did a meta-analytic review on the efficacy of the TPB, based on the issues surrounding TPB. The issues include the problem with self-report, weak control components of TPB, measurements of behavioral intentions, and the measures of subjective norms.

Research findings such as those of Hessing, Elffers, and Weigel (1988) indicated that self-reports behavior were unreliable, compared with more objective behavior measures.

In terms of control components of TPB, Vries, Dijkstra, and Kuhlman (1988) suggested the use of measures of self-efficacy instead of

PBC in the prediction of intentions and behavior. Dzewaltowski, Noble, and Shaw (1990) found that self-efficacy had a direct impact on behavior, where as PBC didn't.

In the TPB, the PBC construct should tap perceptions of the factors that may facilitate performance of behavior. Armitage and Conner (2001) stated that researchers have not always employed measures that clearly tap the intention construct.

The weakest component of the theories has been mentioned as the subjective norms. Sheppard et al. (1988) and Van den Putte (1991) found that subjective norm component was the weakest predictor of intentions.

Moreover about the challenges to rational decision theories, there are several criticisms which we particularly based the present study on.

### Critics on the Efficiency of Intention as a Mediator between Attitude, Subjective Norm, and Behavior

Keefe (1994) found that intention may not be needed as a mediator between attitude, subjective norm, and behavior. Although intention may

serve as a mediator, subjective norms and attitudes often are related to behavior as well (Liska, 1984).

Another critic about TRA and TPB concerns the measurement of the attitude construct (Kutner, 2002). Measures of attitudes as conceptualized within the theory of planned behavior lack specificity. Specific measures of attitudes, such as outcome expectancies offer better prediction of behavior (Ajzen and Fishbein, 1973; Brown, Christiansen, and Goldman, 1987; Brown, Goldman, Inn, and Anderson, 1980; Fromme, Stroot, and Kaplan, 1993). Kutner (2002) stated that the strength of the expectancy construct is that it measures specific outcome expectations which allow for direct prediction of behavior without the need of mediators such as intentions.

### Critics on Specificity of Attitude Measures

While theory of planned behavior suggests the general measures of attitudes, many studies have revealed that more specific measures of attitudinal components consistently have been found to be related to behavior (Ajzen and Fishbein, 1973; Brown, Christiansen et al., 1987;

Fromme et al., 1993). The social learning theory of alcohol use (Abrams, Niaura, Carey, Monti, and Binkoff, 1986) refers to outcome expectancies as beliefs about reinforcing effects of behavior, akin to the attitude concept from the theory of planned behavior (Fromme et al., 1993; Leigh, 1989).

Scheier and Botvin (1997) confirmed that expectancies play an important and key intervening role in the promotion of adolescent alcohol use. In their study, Perceived friends' alcohol use and friends' attitudes toward alcohol use had significant effects on alcohol consumption. Both early-stage and later drinking are strongly predicated on social influence (peers).

Studies of youth and adults have shown empirical results that perceived outcomes such as anticipated effects from drinking alcohol influence substantial amounts of variation in contemporaneous and longitudinal drinking patterns (Bauman and Chenoweth, 1984; Jessor and Jessor, 1977; Moskowitz, Schaps, Schaeffer, and Malvin, 1984; Sher, Walitzer, Wood, and Brent, 1991; Stacy, Newcomb, and Bentler, 1991) and predict well to problem drinking among youth (Chen, Grube, and



Madden, 1994; Christiansen, Smith, Roehling, and Goldman, 1989) and young adults (Brown, 1985). Most of these studies have involved a central theoretical premise that alcohol has positive reinforcing properties and that the learned contingency between alcohol and reinforcement or “expectance” is largely responsible for generating drinking behavior (Goldman and Rather, 1993; Lang and Michalec, 1990).

Existing models of expectancy theory and empirical findings from studies of adolescent alcohol use indicate that it is important for examinations of the role of expectancies and their linkage to consumption to coincide with the earliest stage of drinking (Scheier and Borvin, 1997). Majority of youth consume their first alcoholic beverage during adolescence (Kandel, 1980; Newcomb and Bentler, 1986) and many youth will initiate a lifelong history of drinking (Kandel and Logan, 1984).

Alcohol-related outcome expectancies have been shown to differentiate problem from non-problem drinking from early adolescence through adulthood. Quantity and frequency indices of alcohol consumption have been associated with expectation of positive outcomes of alcohol use (Brown, 1985; Brown, Creamer, and Stetson, 1987;

Christiansen and Goldman, 1983; Kuther, 1998) and negative outcomes (Leigh and Stacy, 1993).

Relations between outcome expectations and alcohol use have been shown in studies about alcohol consumption among college students. Heavy drinkers tend to expect more sexual enhancement, global positive changes, social assertiveness, physical and social pleasure, and tension reduction with alcohol use than do light drinkers (Brown et al., 1980; Kidorf, Sherman, Johnson, and Bigelow, 1995; Leigh and Stacy, 1993).

The expectations of negative outcomes such as negative effects on emotions, social behavior, cognition and motor performance, and negative physical effects are found to be important predictors of non-drinking alcohol behavior (Leigh and Stacy, 1993). Leigh and Stacy (1993) also found that light drinkers expected more behavioral impairment from alcohol use than did heavy drinkers. Another study by Gonzales and Hanley (1990) found similar results, that perceptions of risk were related to alcohol use.

While expectations about the positive outcomes of drinking have been consistently related to alcohol consumption (Brown, 1985; Brown,

Creamer, et al., 1987; Brown et al., 1980, 1985; Leigh and Stacy, 1993; Stacy et al., 1990), the predictive ability of cognitions about the negative consequences is less clear (Kuther, 2002).

Different suggestions have been found in different studies. Fromme et al., (1993), Leigh and Stacy (1993), and Werner et al., (1993) suggested that perceptions of the potential negative consequences of drinking alcohol are associated negatively with alcohol use, while Finn and Brown (1981), Gerrard et al., (1996), and Kuther (1998) suggested a positive relation with alcohol use.

As cited from Kuther (2002), recent work has thus concluded that adolescents and young adults often may be aware of the risks or potential negative consequences associated with engaging in risky activities such as consuming alcohol, but the awareness does not seem to inhibit their engagement in such activities (Gerrard et al., 1996).

The possible reason that youth might still be consuming alcohol despite their awareness of the potential risks can also be speculated. Young people might perceive that drinking and its negative consequences are perceived as uncontrollable. A study by Kuther (1998) with a sample

of 299 older adolescents and young adults has shown that perceived control over drinking mediates the relation between expectations of negative alcohol-related outcome perceptions of the consequences of drinking and self-reported alcohol use. Expectations of negative alcohol-related outcomes appear to be related indirectly and positively to alcohol use such that as the potential negative outcomes are seen as more likely and less negative, less control is perceived over drinking, and higher rates of drinking occur (Kuther, 1998).

Prevention programs have developed strategies to deter youth from drinking which focus on changing beliefs regarding the beneficial effects of alcohol (Botvin and Botvin, 1992). The interventions are meant to be the effective barriers to alcohol consumption including restructuring the cognitive linkage between expectancy and behavior (Stacy, Bentler, and Flay, 1994). Studies have suggested a possible chain of events that connects both social influences and expectancies to drug use (Abrams and Niaura, 1987; Bauman, Fisher, and Koch, 1989; Webb, Baer, Francis, and Caid, 1993). These studies suggested that expectancies mediate a host of risk factors for alcohol and other drugs.

Webb et al., (1993) suggested that expectancies are the “cognitive channels through which important sources of social influence...have their effects”. Goldman, Brown, Christiansen, and Smith (1991) supported this notion when they stated that expectancies are part of a cognitive enterprise representing memory processes and that memory processes should be examined as a possible mediational mechanism (Scheier and Botvin, 1997). According to Goldman et al., (1991), “alcohol expectancies are essentially concepts of if-then relationships between events or objects in the world and their consequences” (p. 139).

Stacy et al., (1990) provided a reminder that historically “The construct of expectancy is hypothesized to be a dominant and direct mediator of behavior” (p. 918).

### Critics on Subjective Norm Construct of Theory of Planned Behavior

Another weak predictor of rational decision theories, as has been stated in the earlier part of this subject, is the subjective norm construct. Sheppard et al. (1988) and Van den Putte (1991) found that subjective

norm component was the weakest predictor of intentions. Especially on the studies concerning alcohol consumption among youth, the theories of planned behavior and reasoned action put together the influence of parents and peers as one, consider only the perceived norms, but not the perceived behaviors of parents and peers (Kutner, 2002).

Some studies have started to involve perceptions of family and peers' behaviors as explanatory mechanism in explaining adolescent alcohol use (Bandura, 1972; Kandel 1980). According to Bandura (1972), many studies have examined the influence of parents and peers on adolescent alcohol use under the assumption that others contribute to adolescent alcohol consumption through social learning. Parents and peers have been the learning tools as they act as model in drinking alcohol behaviour to the adolescents and lead them to alcohol consumption by themselves.

Kandel (1985) stated that alcohol and drug use are thought to be initialized and maintained within groups who act as models, through which the user acquires the motives for, attitudes about, and techniques of behavior.

The development of research findings have been going toward the acknowledgment that parents and peers influence adolescent alcohol consumption independently and that both are important (Kafka and London, 1991; McLaughlin, Baer, Burnside, and Pokorny, 1985). The point to be paid attention to is that peer influence is noted as the stronger influence in drinking alcohol behavior among early through late adolescent years. Kandel (1985) found that peers have greater influence on adolescent alcohol use compared to parents, although both exert independent effects. Another study by Kandel and Andrews (1987) also supported this notion.

McLaughlin et al., (1985) found that peers and parents contribute independently toward adolescent alcohol use, and peers have more influence than parents. Kafka and London (1991) found that high school students' perceptions of parental drinking were associated with self-reported drinking, as were perceptions of best friends' drinking.

The influence of peers and parents on expectancies and attitudes about drinking thus should be put into account especially in studies about alcohol consumption among youth.

The first idea was that parents and peers influence youth in consuming alcohol directly. But on the other side, expectancy theory posits that parents and peer influence alcohol consumption indirectly through alcohol-related outcome expectancies.

Most young people drink with their friends in a social atmosphere and this leads to the perception of immediate positive and socially beneficial consequences (Scheier and Borvin, 1997). Peer relations have long been implicated as powerful causal agents in the determination of alcohol use and are a central component of both peer cluster (Oetting and Beauvais, 1986) and self-derogation theories of adolescent alcohol and drug use (Kaplan, Martin, and Robbins, 1984). Peers represent a medium through which information regarding the beneficial effects of alcohol is transferred, either through observation or direct experience.

Young persons may learn about the positive and negative consequences of alcohol consumption and thus develop initial outcome expectancies through observing and discussing the experiences of peers and parents. Alcohol-related outcome expectancies obtained through social learning may influence initial experimentation with alcohol, as well



as how the positive and negative consequences of drinking are experienced and perceived (Kuther, 2002).

Scheier and Botvin (1997) found that among eighth grade students, alcohol-related outcome expectancies were predicted by knowledge of the facts and effects of alcohol use, perceived alcohol use by friends, and perceptions of friends' attitudes toward alcohol use. They also found that alcohol-related outcome expectancies assessed in ninth grade were predicted by experience with alcohol, knowledge of the facts and effects of alcohol use, perceived alcohol use by friends, and perceptions of friends' attitudes toward alcohol use in ninth grade.

These results suggest that alcohol-related outcome expectancies are influenced through social learning and through experience with alcohol consumption.

Webb et al., (1993) examined the relative role of alcohol expectancies as mediators of personality (sensation seeking and tolerance of deviance), peer influence (normative expectations and attitudes toward alcohol), and parental attitudes toward alcohol use on subsequent alcohol use in a cohort of adolescents. Their findings supported the contention

that expectancies influence alcohol use; however, social and intrapersonal influences had substantially large direct effects on alcohol use independent of alcohol expectancies. Bauman and Ennett (1991) studied the intervening role of expectancies for both alcohol and tobacco use, and they included peer and parental social influence measures including the perceived attitudes and normative expectations, and hypothesized to influence intervening expectancy measures. Perceived peer drinking was significantly mediated through peer norms and social consequences and problem behavior related to drinking. However, the introduction of the expectancy measures into the model did not substantially reduce the effect of the peer and parental attitudinal measures to alcohol use, reinforcing the significant direct effect exerted by these risk factors (Scheier and Botvin, 1997).

Bauman et al., (1989) also found little empirical evidence to support the contention that expectancies are a necessary and sufficient condition for mediation of social or intrapersonal influences on cigarette smoking or alcohol consumption.

Other researchers, however, have provided limited support for the mediational role of expectancies in studies of college-aged youth and drinking (Henderson, Goldman, Coover, and Carnevala, 1994), drinking among high-risk college-aged youth classified as children of alcoholics (Sher et al., 1991), and substance use among adolescents prospectively followed into young adulthood (Stacy et al., 1991).

## Modification of Theory of Planned Behavior

(Kuther's Revised TPB)

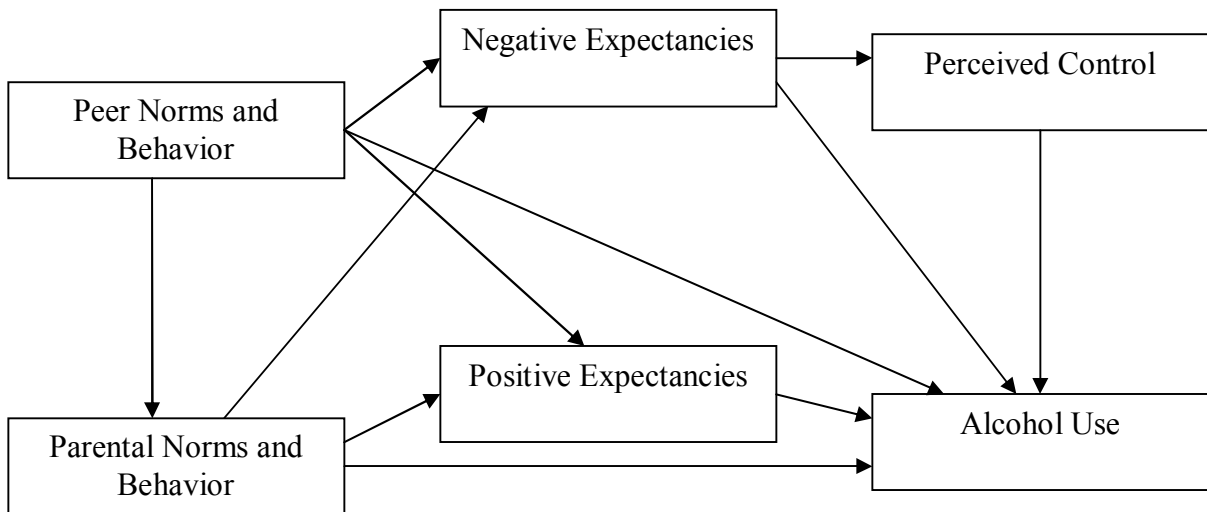


Fig. 2.2 Kuther's Revised TPB

Kutner (2002) suggested several revisions based on the critics on the efficacy of intention as mediator between attitude, subjective norm, and behaviour, attitude measures and subjective norm construct.

The model proposed by Kuther integrates the theory of planned behavior and alcohol-related outcome expectancy theory with modifications based on findings from the developmental literature,

including the contribution of parents and peers to adolescent alcohol consumption.

Kutner departed from several theories of decision making with regard to alcohol consumption, including subjective expected utility (SEU) theory, the theories of reasoned action and planned behavior, and alcohol-related outcome expectancy theory.

To capitalize on the finding that specific measures of attitudes have been shown to better predict behavior than general measures (Ajzen and Fishbein, 1973; Brown, Christiansen, et al., 1987, 1980; Fromme et al., 1993), attitudes about alcohol consumption should be measured with expectancy measures that tap expectations of the likelihood and desirability of both positive and negative outcomes from drinking (Fromme et al., 1993). Relatedly, as specific measures of outcome expectancies and parental and peer norms have been associated directly with adolescent reports of alcohol consumption (Johnson, 1988; Kahle and Berman, 1979; Keefe, 1994; Laflin, Moore-Hirschi, Weis, and Hayes, 1994; Stacy, Bentler, and Flay, 1994) in the interest of parsimony, behavioral intention should be removed from the model. Paths from

expectations of negative alcohol-related outcomes to alcohol use and behavioral control reflect prior research supporting both direct and indirect associations between expectations of negative alcohol-related outcomes and self-reported alcohol use (Kuther, 1998). The next modification involves measuring the perceived norms of parents and peer separately rather than putting them together as one measure. A substantial literature supports the importance of an adolescent's perceptions of parental and peer behavior as influences on alcohol use. The last modification is linking parental and peer norms and behaviors to expectancies of positive and negative alcohol-related outcomes, as parental and peer norms may influence alcohol consumption indirectly as well through their influence on the adolescent's expectations about the positive and negative consequences of drinking.

## CHAPTER 3

### METHOD

#### Research Design

##### Sample selection and data collection

The sample for this study was drawn from the college students in Gwangju, South Korea. The data were gathered from the students of Chosun University (N= 387) by the use of self-completion questionnaire. 51.4% were female respondents (N=199) and 48.6% were male (N=188)

The mean age of the sample is 21 years old. Respondents of the age 20 (N=77) were the majority of the sample with 19.9% of total respondents. One respondent of the age 27 is the lowest representation. The rest of the respondents accordingly were of age 19 (N=68), age 21 (N=67), age 22 (N=66), age 23 (N=49), age 24 (N=24), age 18 (N=19), age 25 (N=12), and age 26 (N=4).

Sophomore respondents (N=150) were the majority of the sample with 38.8 % of the total sample. Junior respondents (N=89) comprised

23% of total, seniors (N=78) with 20.0%, and freshmen (N=70) were 18.1% of the total sample.

The sample were derived from different majors, with students of college of liberal arts and social science (N=221) were the majority. The rest of the sample comprised of students of college of Natural Science (N=30), college of Engineering (N=53), college of Medical/ Dentistry (N=7), college of Art/Physical Education (N=30), and other colleges (N=46).



Gender	Male	188(48.6)
	Female	199(51.4)
Age	18	19(4.9)
	19	68(17.6)
	20	77(19.9)
	21	67(17.3)
	22	66(17.1)
	23	49(12.7)
	24	24(6.2)
	25	12(3.1)
	26	4(1.0)
	27	1(0.3)
Academic Year	1 <sup>st</sup>	70(18.1)
	2 <sup>nd</sup>	150(38.8)
	3 <sup>rd</sup>	89(23)
	4 <sup>th</sup>	78(20.2)
Major	Liberal arts and social science	221(57.1)
	Natural science	30(7.8)
	Engineering	53(13.7)
	Medical/Dentistry	7(1.8)
	Arts/Physical Education	30(7.8)
	Others	46(11.9)

Table 3.1 Demographic Distribution

### Measures of TPB variables

The variables were assessed on 7-point scales using items adopted from Pawlak, Brown et al (2008). The methods used were derived from Ajzen (2002)'s method to develop the STPB questionnaire and to measure the construct of the TPB. In their research, Pawlak et al obtained the behavioral, normative, and control beliefs from questionnaire completed by eight samples. The most frequently identified salient beliefs were subsequently included in the STPB (Pawlak et al 2008). In addition, standard-scaled statements adopted from the literature tailored toward the behavior of interest were included in the STPB (Ajzen and Fishbein 1980; Conner et al. 2001). The measurements for behavioral beliefs and drinking behavior were exceptional, because they were derived from the Korean research by Shim Seong Wook (2009).

*Perceived behavioral control* was measured by responses to the item 'I have had drunk more than I could have managed myself', 'I could not keep my commitment of not drinking alcohol', 'I could not keep my commitment of reducing drinking alcohol', 'I cannot stop myself from drinking alcohol on occasions', 'I could not refuse others offering me

drinking alcohol'. *Behavioral Intention* was measured using 3 items taken from a study by Shim Seong Wook (2009) stating the intentions to drink alcohol in the next month; 'Within the next month I am planning to drink alcohol', 'Usually when I have a plan to go drinking alcohol I plan to drink just a little bit', and 'There is a big possibility for me to go drinking alcohol within the next month'.

*Subjective Norms* were measured using one item 'People who are important to me would think I should drink beer'. *Attitude* was measured using 'Drinking alcohol would help me adapt to my campus life', 'Drinking alcohol would make me have closer relationships with others', 'Drinking alcohol would make me happy and it is beneficial'.

Eight items assessed *Behavioral Beliefs*: (1) "Drinking alcohol would help me to work better" (2) Drinking alcohol would give me physical and mental assistance (3) "Drinking alcohol would improve the mood of my social gathering" (4) "Drinking alcohol would make warm atmosphere" (5) "Drinking alcohol would make me express myself in natural environment" (6) "Drinking beer would make me relax" (7) "Drinking

alcohol would reduce my physical fatigue” (8) “Drinking alcohol would reduce my shyness and improve my social life”.

*Normative Beliefs* were measured using two items “My friends think I should drink alcohol”, and “My peers approve of my drinking alcohol”.

*Control Beliefs* were measured using one item “It would be easy for me to buy alcohol”.

#### Measurement of Kuther’s Revised TPB Variables

The measures of positive and negative expectancies were developed from the results of similar research about relations between outcome expectations and alcohol use in drinking behavior among college students. Brown et al. (1980), Kidorf et al. (1995), and Leigh and Stacy (1993) found that heavy drinkers tend to expect more sexual enhancement, global positive changes, social assertiveness, physical and social pleasure, and tension reduction with alcohol use than light drinkers. Hence the *Positive Expectancies* were generally assessed by these items “I can feel relaxed and less tensed if I drink alcohol”, “I can have better

social life if I drink alcohol”, “I can have better self-confident if I drink alcohol”, “I can feel good if I drink alcohol”.

According to Leigh and Stacy (1993), the expectations of negative outcomes were important predictors of not drinking alcohol among college students. The outcomes included negative effects on emotions, social behavior, cognition and motor performance, and negative physical effects. Hence the *Negative Expectancies* were assessed using the following items: “I can feel unstable emotionally if I drink alcohol”, “I can perform impaired social behavior if I drink alcohol”, “I can lose my awareness of my surrounding environment if I drink alcohol”, “I can lose control over my motoric performance if I drink alcohol”.

The measures for peer and parental norms and behavior were based on role-model exposure as a predictor to one’s behavior. William, Brevik, and Wold (2006) measured exposure to model behavior at home, at school, and exposure from best friends. What we did here was to separate the measurements for peer and parental norms and behavior. *Peer Norms and Behavior* was assessed using two items “My close friends drink alcohol a lot”, “My friends drink alcohol regularly”.

*Parental Norms and Behavior* was assessed using the following two items: “My parents drink alcohol a lot”, “My parents drink alcohol regularly”.

The item “How many times did you drink alcohol last month?” was used to assess the actual behavior.

## Research Questions

### Research Question 1

Research question 1 was based on the central premise of TPB that people are rational in making decisions and using the resources to gather and use the information systematically. Ajzen and Fishbein (1977) presumed that behaviors are consciously controlled, and that intention is a positive determining factor for predicting behavior. To make a better communication campaign to promote healthy lifestyle and responsible drinking behavior among university students, we need to find the root of the problem and have better understanding of the reasons why the university students observe this behavior. This study sought to find out whether the Theory of Planned Behavior explains alcohol consumption

behavior among university students in Korea, in order to prove that the central premise was reliable and the model could be used to examine such behavior.

Research question 1: Can Ajzen's TPB explain the college student's alcohol behavior?

### Research Question 2

Research question 2 was based on the notion that some variables of TPB were not efficient as predictors. Several critics have tried to improve the efficacy of TPB, and these criticisms include the criticism regarding specificity of attitude measures, the affectivity of intention, and subjective norms construct. Based on these criticism, Kuther (2002) offered a revised version of TPB for alcohol behavior study, which specified the attitude measures and break it down into negative and positive expectancies, using parents and peer norms and behavior, and removed the behavioral intention from the model. These changes were previously advised by researchers on different studies as reliable predictors. At this stage, this study focused on finding out whether

Kutner's revised model of TPB (the alternative model) explains alcohol consumption among university students in Korea.

Research question 2: Can Kutner's revised TPB explain college student's alcohol consumption behavior?

### Research Question 3

Within the two models applied in this study, we need to find out which one is more suitable to be used in practice. In order to accommodate the critics toward the Theory of Planned behavior, and to find better explanation of alcohol consumption behavior among university students, research question 3 was to find out which model could best explain alcohol consumption behavior among university student in Korea.

Research question 3: Which model can explain college student's alcohol consumption behavior better?



## Hypotheses

Hypotheses 1 through 8 tested TPB in explaining college student's alcohol consumption behavior.

Hypothesis 1: Behavioral beliefs would influence attitude towards alcohol consumption by university students.

Hypothesis 2: Normative beliefs would influence the subjective norms on alcohol consumption by university students.

Hypothesis 3: Control beliefs would influence the perceived behavioral control on alcohol consumption by university students.

Hypothesis 4: Attitude towards alcohol consumption would influence intention to drink alcohol among university students.

Hypothesis 5: Subjective norms would influence intention to drink alcohol among university students.

Hypothesis 6: Perceived behavioral control would influence intention to drink alcohol among university students.

Hypothesis 7: Perceived behavioral control would influence the alcohol consumption behavior among university students.

Hypothesis 8: The intention to drink alcohol would influence the actual behavior of alcohol consumption among university students.

The hypotheses below are for the Kuther's revised TPB model:

Hypothesis 9: Peers and parent would influence alcohol consumption by university students differentially.

Hypotheses 10.1 through 10.3 tested peer norms and behavior and its relationships with negative expectancies, positive expectancies, and alcohol consumption behavior.

Hypothesis 10.1: Peer norms and behavior would influence negative expectancies on alcohol consumption by university students.

Hypothesis 10.2: Peer norms and behavior would influence positive expectancies on alcohol consumption by university students.

Hypothesis 10.3: Peer norms and behavior would directly influence alcohol consumption by university students.

Hypotheses 11.1 through 11.3 tested parental norms and behavior and its relationships with negative expectancies, positive expectancies, and alcohol consumption behavior.

Hypothesis 11.1: Parental norms and behavior would influence negative expectancies on alcohol consumption by university students.

Hypothesis 11.2: Parental norms and behavior would influence positive expectancies on alcohol consumption by university students.

Hypothesis 11.3: Parental norms and behavior would directly influence alcohol consumption by university students.

Hypotheses 12.1 through 12.3 tested negative and positive expectancies and their relationships with alcohol consumption behavior.

Hypothesis 12.1: Negative expectancies would directly influence alcohol consumption by university students.

Hypothesis 12.2: Negative expectancies would influence the perceived control on alcohol consumption by university students.

Hypothesis 12.3: Positive expectancies would directly influence alcohol consumption by university students.

Hypothesis 13: Perceived control would have direct influence on alcohol consumption by university students.

## CHAPTER 4

### RESULTS

Table 4.1 presents sample sizes, means, standard deviation for the variables. The frequency distribution for all variables approximated a normal curve.

Variable	Mean	Std. Deviation	N
Behavioral Belief	4.82	.95	387
Attitude	4.41	1.18	387
Normative Belief	4.59	1.34	387
Subjective Norms	4.31	1.52	387
Control Belief	4.95	1.39	387
Perceived Behavioral Control	3.59	1.38	386
Peer Norms and Behavior	4.68	1.44	386
Parental Norms and Behavior	3.00	1.54	387
Positive Expectancies	4.37	1.15	387
Negative Expectancies	3.01	1.19	387
Behavioral Intention	5.15	1.29	387

Table 4.1 Descriptive statistics of variables

Table 4.2 presents the reliability of the variables. All variables have reliability coefficients (Cronbach's standardized alpha) from .71 to .86, except for subjective norms and control beliefs. The items of subjective norms should be adjusted into 1 item only, using "People who are

important to me would think I should drink alcohol” to maintain the reliability of the measure. The same thing occurred to control beliefs items, where we only used 1 item out of the 2 items provided to maintain the reliability of the measure. The item used was “It would be easy for me to buy alcohol”.

The items on peer norms and behavior variable were also reduced only to two items (“My close friends drink alcohol a lot” and “My friends drink alcohol regularly”). The item on parental norms and behavior were reduced to two items as well to maintain the reliability of the measure (items used were “My parents drink alcohol a lot” and “My parents drink beer regularly”).

Variable	Cronbach's Alpha	N of Items
Behavioral Belief	.78	8
Attitude	.71	3
Normative Beliefs	.86	2
Subjective Norms <sup>3</sup>	-	1
Control Beliefs <sup>4</sup>	-	1
Perceived Behavioral Control	.82	5
Peer Norms and Behavior <sup>5</sup>		
Parental Norms and Behavior <sup>6</sup>	.74	2
Positive Expectancies	.85	2
Negative Expectancies		
Behavioral Intention	.80	4
	.73	4
	.84	3

Table 4.2 Reliability Table

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<sup>3</sup> Original Cronbach's  $\alpha$  = .44

<sup>4</sup> Original Cronbach's  $\alpha$  = -.29

<sup>5</sup> Original Cronbach's  $\alpha$  = .50

<sup>6</sup> Original Cronbach's  $\alpha$  = .66

Table 4.3 presents the sample sizes, means, standard deviations, and the minimum and maximum values for the behavior and Korean subjective norms variables.

Variables	Mean	Std. Deviation	Minimum	Maximum	N
Usually, how many glasses of alcohol do you drink?	7.77	5.08	.00	32.00	383
How many glasses of alcohol did you drink the most?	15.62	11.03	1.00	92.00	375
How many glasses of alcohol can your best friend drink the most?	11.95	9.66	1.00	100.00	374
How many glasses of alcohol did your best friend drink last month at the most?	6.89	5.87	.00	30.00	378
How many percents of your friends drink alcohol?	82.97	20.24	10.00	100.00	385
Valid N (listwise)					361

Table 4.3 Means, Standard Deviations and Ranges of Variables

Variable		BB	AT	NB	SN	CB	PBC	BI	B
TPB	BB	1							
	AT	.57**	1						
	NB	.39**	.54**	1					
	SN	.32**	.35**	.64**	1				
	CB	.28**	.32**	.26**	.18**	1			
	PBC	.32**	.31**	.22**	.27**	.14**	1		
	BI	.36**	.50**	.38**	.30**	.33**	.24**	1	
	B	.24**	.31**	.19**	.20**	.23**	.31**	.40**	1

\*\*  $p < 0.01$

Table 4.4 Correlations Coefficient Matrix for TPB

### Correlation Analysis of Theory of Planned Behavior

According to table 4.4, behavioral beliefs are significantly correlated with Attitude ( $r = .57, p < .01$ ). Normative beliefs are significantly correlated with subjective norms ( $r = .64, p < .01$ ). Control beliefs and perceived behavioral control variables also show significant correlation ( $r = .14, p < .01$ ). Attitudes and behavioral intentions were significantly correlated ( $r = .50, p < .01$ ). Subjective norms and behavioral intentions were also significantly correlated ( $r = .30, p < .01$ ). Perceived behavioral control was significantly correlated with behavioral intentions ( $r = .24, p$



< .01), as well as with the alcohol consumption itself ( $r = .31, p < .01$ ).

Lastly, the intention to drink alcohol was correlated significantly with the behavior of drinking alcohol ( $r = .40, p < .01$ ).

Variable		PBC	PENB	PANB	PE	NGE	B
Kutner's Revised TPB	PBC	1					
	PENB	.30**	1				
	PANB	.21**	.14**	1			
	PE	.42**	.31**	.28**	1		
	NGE	.46**	.15**	.22**	.26**	1	
	B	.31**	.29**	.07**	.30**	.15	1

\*\*  $p < 0.01$

Table 4.5 Correlations Coefficient Matrix for Kutner's revised TPB

### Correlation Analysis of Kutner's Revised TPB

According to table 4.5, the highest significant correlation was between negative expectancies and perceived behavioral control ( $r = .46, p < .01$ ). Peer norms and behavior were significantly correlated with parental norms and behavior ( $r = .14, p < .01$ ). On the other hand, peer norms and behavior were similarly having a significant correlation with

negative expectancies ( $r = .15, p < .01$ ), but it had higher correlation with positive expectancies ( $r = .31, p < .01$ ). Peer norms and behavior and the behavior of drinking alcohol were significantly correlated ( $r = .29, p < .01$ ).

Parental norms and behavior was significantly correlated to negative expectancies ( $r = .22, p < .01$ ), and at the same time also significantly correlated to positive expectancies ( $r = .28, p < .01$ ). However there was no significant correlation between parental norms and behavior with the alcohol consumption itself ( $r = .07$ ).

Negative expectancies and the behavior of alcohol consumption were significantly correlated ( $r = .15, p < .01$ ). Positive expectancies and the behavior of alcohol consumption were significantly correlated on a higher coefficient ( $r = .31, p < .01$ ). Perceived behavioral control and alcohol use were also significantly correlated ( $r = .31, p < .01$ ).

## TPB in Explaining Alcohol Consumption among University Students

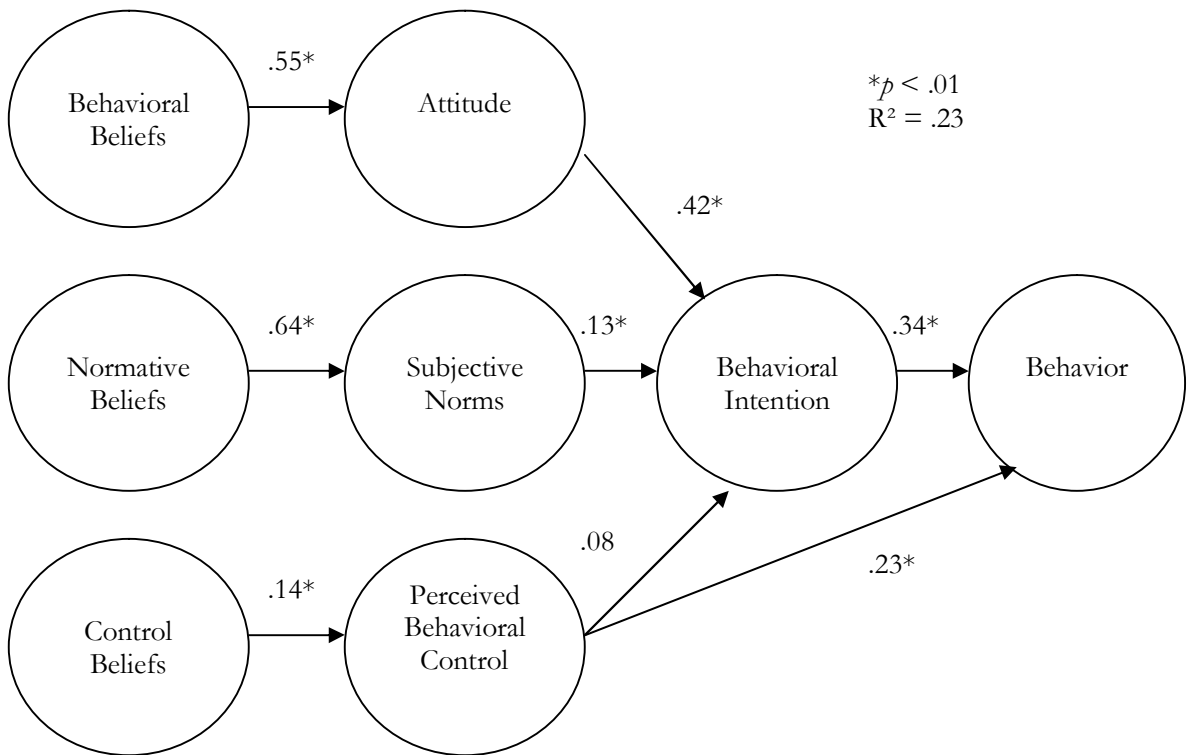


Fig. 4.1 Regression Coefficient of Theory of Planned Behavior

Figure 4.1 shows linear regression coefficients for the theory of planned behavior explaining the associations among the main variables of TPB with the behavior.

Hypotheses 1 and 2 were supported with the findings that attitude was significantly influenced by behavioral beliefs ( $\beta = .55, p < 0.01$ ), as well as subjective norms was being influenced by normative beliefs ( $\beta = .64, p <$

0.01). Perceived behavioral control was significantly influenced by control beliefs ( $\beta = .14, p < 0.01$ ), meaning hypothesis 3 was also supported.

Behavioral intention was significantly influenced by attitude ( $\beta = .42, p < 0.01$ ) and subjective norms ( $\beta = .13, p < 0.01$ ), supporting the hypothesis 4 and 5, but not significantly influenced by perceived behavioral control ( $\beta = .08$ ), even though it means that hypothesis 6 was still supported. Hypotheses 7 and 8 were supported by the findings that alcohol consumption behavior itself was significantly influenced by both behavioral intention ( $\beta = .34, p < 0.01$ ) and perceived behavioral control ( $\beta = .23, p < 0.01$ ). The coefficient of determination of this model was .23, which means this model was likely to predict alcohol consumption behavior among college students.

## Kuther's Revised TPB in Explaining Alcohol Consumption among University Students

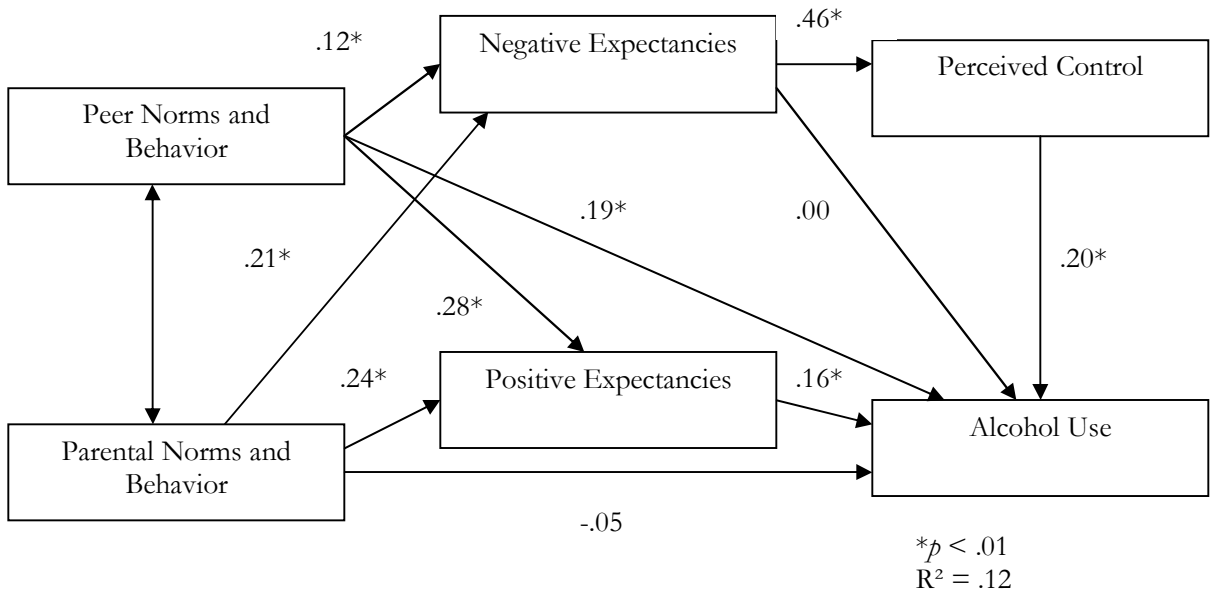


Fig. 4.2 Regression Coefficient of Kuther's Revised TPB

Hypothesis 9 (Peers and parents would influence alcohol consumption by young adults differentially) was supported by the finding of regression analysis. Peer norms and behavior significantly influenced alcohol use ( $\beta = .19$ ,  $p < 0.01$ ), while parental norms and behavior did not have any significant influence toward alcohol use ( $\beta = -.05$ ).

Peer norms and behavior significantly influenced negative expectancies on alcohol consumption among university students ( $\beta = .12, p < 0.01$ ). This means that hypothesis 10.1 was also supported.

The next finding was also that peer norms and behavior significantly influenced positive expectancies on alcohol consumption among university student ( $\beta = .28, p < 0.01$ ), even on higher coefficient than it influenced negative expectancies, supporting hypothesis 10.2.

Hypothesis 10.3 was also supported; peer norms and behavior significantly influenced alcohol consumption by university students ( $\beta = .19, p < 0.01$ ).

On the other side, hypothesis 11.1 and 11.2 were also significantly supported, as the finding of parental norms and behavior significantly influenced both negative expectancies on alcohol consumption by university students ( $\beta = .21, p < 0.01$ ) and positive expectancies ( $\beta = .24, p < 0.01$ ). But the regression analysis found that even though parental norms and behavior significantly influenced both negative and positive expectancies, they did not necessarily influence the alcohol consumption by university student ( $\beta = -.05$ ), hence hypothesis 11.3 was not supported.

Negative expectancies also did not have any significant influence on alcohol consumption by university students ( $\beta = .00$ ). That means hypothesis 12.1 was not supported. However, negative expectancies did significantly influence the perceived control on alcohol consumption by young people ( $\beta = .46, p < 0.01$ ), hence hypothesis 12.2 was supported.

Contrary to the influence of negative expectancies on alcohol consumption, positive expectancies significantly influenced the behavior ( $\beta = .16, p < 0.01$ ), supporting the hypothesis 12.3. This demonstrated the study by Stacy, Widaman, and Marlatt (1990) which found that positive expectancies predicted in a greater amount than negative expectancies did. The behavior of consuming alcohol was also significantly influenced by the perceived control ( $\beta = .20, p < 0.01$ ), supporting hypothesis 13. The coefficient of determination of this model was .12, lower than the coefficient of determination of TPB, meaning the future outcomes are less likely to be predicted by the model, compared to TPB.

<b>Hypotheses</b>	<b>Results</b>
Behavioral beliefs -> Attitude	Supported
Normative beliefs -> Subjective norms	Supported
Control beliefs -> Perceived behavioral control	Supported
Attitude -> Intention	Supported
Subjective norms -> Intention	Supported
Perceived behavioral control -> Intention	Supported
Perceived behavioral control -> Behavior	Supported
Intention -> Behavior	Supported

Table 4.6 TPB Results Summary



<b>Hypotheses</b>	<b>Results</b>
Peers and parents norms and behavior will influence behavior differentially	Supported
Peers norms and behavior -> Negative expectancies	Supported
Peer norms and behavior -> Positive expectancies	Supported
Peer norms and behavior -> Behavior	Supported
Parental norms and behavior -> Negative expectancies	Supported
Parental norms and behavior -> Positive expectancies	Supported
Parental norms and behavior -> Behavior	Rejected
Negative expectancies -> Behavior	Rejected
Negative expectancies -> Perceived control	Supported
Positive expectancies -> Behavior	Supported
Perceived control -> Behavior	Supported

Table 4.7 Kuther's revised TPB Results Summary

## **CHAPTER 5**

### **DISCUSSION**

All the hypotheses regarding theory of planned behavior were supported except for the relationship between perceived behavioral control and behavioral intention. All the predictors influence the alcohol consumption behavior, even though perceived behavioral control did not significantly influence the behavior, unlike attitude and subjective norms toward the behavior. In contrary, two hypotheses regarding Kuther's revised TPB were not supported. Negative expectancies did not have any influence on behavior, as neither did parental norms and behavior.

To answer the research questions, we can examine the results of regression analysis of both Theory of Planned Behavior and Kuther's revised TPB. TPB does explain the alcohol consumption among university students in Korea with significant association of the predictor variables and the behavior itself. As we can see on figure 4.1, attitude and subjective norms had significance influence on behavioral intention, which in return significantly predicted the behavior itself.

Perceived behavioral control, which was the main additional item in differentiating theory of planned behavior and theory of reason action, did not show any significance or influence towards the behavioral intention, but it was a significant predictor of behavior along with behavioral intention in TPB.

To answer the second research question, the predictors in Kuther's revised TPB did not fully predict the alcohol consumption among university students in Korea. Looking at the figure 4.2, we can conclude that only three of the main predictors of Kuther's TPB had the significant influences toward the alcohol consumption. Perceived control, positive expectancies, and peer norms and behavior influenced the behavior of alcohol consumption, but negative expectancies and parental norms and behavior did not show any influence in predicting the behavior.

The comparison between TPB and Kuther's revised TPB showed a better functionality in the original TPB. In Kuther's revised TPB, perceived control, peer norms and behavior, and positive expectancies showed significance in influencing the alcohol use, but the TPB behavioral intention showed better significance in predicting the behavior,

as in mediating attitude and subjective norms in predicting behavior. The likeliness to predict alcohol consumption among college students worked better in TPB compared to Kuther's revised model of TPB.

The results also revealed both challenge and support to the criticism about the general measures of attitudes of TPB. Attitude as a general measure predicted the behavior intention better than positive expectancies and negative expectancies in predicting behavior. On the other hand, the finding that perceived behavioral control is less predictive of intentions supported Armitage's (2001) critics on TPB.

The subjective norms construct showed better influence compared to parental norms and behavior, and not much lower significance compared to the peer norms and behavior. Parental norms and behavior showed no significance at all in influencing the alcohol use. This doesn't support the finding by Davlin et.al (2007) which found the the influence of parents to alcohol problems among Korean youth.

With these results, there are chances to construct a better and more detailed communication campaign to promote healthy lifestyle and

reduce the risk of irresponsible drinking behavior among students, by focusing on the highest predictor issues.

### Limitations of This Study and Suggestions for Further Research

This study has several limitations. First, it is assumed that there is a comparative homogeneity in our sample because we used samples only from one university from one city. The characteristics of university students may differ according to the area they live and the university they attend. A future study can possibly have vast variety of samples, from different cities and universities.

Second, this study used measurement of variables which were derived not only from Korean research studies, but mainly from foreign articles. The cultural factors were not put into considerations in this study when measures were taken from foreign standards. Future study can focus on building the standard measurements specifically designed for Korean culture.

Third, this research was conducted through self-report examinations. While they provide fast and easy way to collect data, the self-report

examinations without interviews might have influenced by bias, different level of the understanding of the questions, and response sets when the respondent would answer and comfortably making straight lines, extremes, or right down middle pattern that could influence the validity of the data. Future study can use better method in collecting data to assure strict validity of the data.

In conclusion, with limitations of this study, there are possibilities in creating more customized measures for Korean students' alcohol consumption behavior, which will open the chance for better understanding of the problem and in return, better solutions to solve the uprising drinking problem in Korea and to construct a better communication campaign in fighting irresponsible drinking among university students.

## REFERENCES

- Abrams, D.B., & Niaura, R.S. (1987). Social learning theory. In H.T. Blane & K.E. Leonard (Eds.) *Psychological theories of drinking and alcoholism* (pp.131-178). New York: Guilford Press.
- Ajzen, I. (1985). From decisions to actions: A Theory of Planned Behavior. In J. Kuhl, & J. Beckmann (Eds.), *Action-control: from cognition to behavior* (pp. 11–39). New York: Springer.
- Ajzen, I., & Madden, T.J. (1986). Prediction of goal directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22, 453-474.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago: Dorsey.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I. (2002). Residual effects of past on later behavior: Habituation and reasoned action perspectives. *Personality and Social Psychology Review*, 6, 107–122.

- Ajzen, I., & Fishbein, M. (1977). Attitude–behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888–918.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, 40, 471–499.
- Ary, D. V., Tildesly, E., Hops, H., & Andrews, J. (1993). The influence of parent, sibling, and peer modeling and attitudes on adolescent use of alcohol. *International Journal of the Addictions*, 28, 853–880.
- Bauman, K. E., & Bryan, E. S. (1980). Subjective expected utility and children’s drinking. *Journal of Studies on Alcohol*, 41, 952–957.
- Bauman, K.E., & Chenoweth, R.L. (1984). The relationship between the consequences adolescents expect from smoking and their behavior: A factor analysis with panel data. *Journal of Applied Social Psychology*, 14, 28-41.



- Bauman, K. E., Fisher, L. A., Bryan, E. S., & Chenoweth, R. L. (1985). Relationship between subjective expected utility and behavior: a longitudinal study of adolescent drinking behavior. *Journal of Studies on Alcohol*, 46, 32–38.
- Bauman, K. E., Fisher, L. A., & Koch, G. G. (1989). External variables, subjective expected utility, and adolescent behavior with alcohol and cigarettes. *Journal of Applied Social Psychology*, 19, 789–804.
- Berkowitz, A. D., & Perkins, H. W. (1986). Problem drinking among college students: A review of recent research. *Journal of American College Health*, 35, 21–28.
- Beyth-Marón, R., Austin, L., Fischhoff, B., Palmgren, C., & Jacobs-Quadrel, M. (1993). Perceived consequences of risky behaviors: adults and adolescents. *Developmental Psychology*, 29, 549–563.
- Biddle, B. J., Cabe, B. J., & Marlin, M. M. (1980). Parental and peer influences on adolescents. *Social Forces*, 58, 1057–1079.
- Borsari, B., & Carey, K. B. (2000). Effects of a brief motivational intervention with college student drinkers. *Journal of Consulting and Clinical Psychology*, 68, 728–733.

- Botvin, G.J., Botvin, E., M. (1992). School-based and community-based prevention approaches. In J. H. Lowinson, P. Ruiz, & R.B. Millman (Eds.) *Substance abuse: A comprehensive textbook* (2<sup>nd</sup> ed., pp. 910-927). Baltimore: Williams & Wilkins.
- Brandstätter, V., Lengfelder, A., & Gollwitzer, P. M. (2001). Implementation intentions and efficient action initiation. *Journal of Personality and Social Psychology*, 81, 946–960.
- Brown, S. A. (1985). Expectancies versus background in the prediction of college drinking patterns. *Journal of Consulting and Clinical Psychology*, 53, 123–130.
- Brown, S. A., Christiansen, B. A., & Goldman, M. S. (1987). The alcohol expectancy questionnaire: an instrument for the assessment of adolescent and adult alcohol expectancies. *Journal of Studies on Alcohol*, 48, 483–491.
- Brown, S. A., Creamer, V. A., & Stetson, B. A. (1987). Adolescent alcohol expectancies in relation to personal and parental drinking patterns. *Journal of Abnormal Psychology*, 96, 117–121.

- Brown, S. A., Goldman, M. A., Inn, A., & Anderson, L. (1980). Expectations of reinforcement from alcohol: their domain and relation to drinking patterns. *Journal of Consulting and Clinical Psychology*, 48, 419–426.
- Brown, S. A., Goldman, M. S., & Christiansen, B. A. (1985). Do alcohol expectancies mediate drinking patterns of adults? *Journal of Consulting and Clinical Psychology*, 53, 512–519.
- Chen, M.J., Grube, J.W., & Madden, P.A. (1994). Alcohol expectancies and adolescent drinking: Differential prediction of frequency, quantity, and intoxication. *Addictive Behaviors*, 19, 521-529.
- Cho, J., (2011). Bottoms up? Corporate Korea distorts historic drinking culture. *JoongAng Daily Newspaper*, February 23<sup>rd</sup>.
- Christie, P.M.J., Kwon, I.W.G., Stoeberl, P.A., & Baumhart, R. (2003). A cross-cultural comparison of ethical attitudes of business managers: India, Korea and the United States, *Journal of Business Ethics*, 46, 263–287
- Christiansen, B. A., & Goldman, M. S. (1983). Alcohol-related expectancies versus demographic/background variables in the

- prediction of adolescent drinking. *Journal of Consulting and Clinical Psychology*, 51, 249–257.
- Cooke, R., Sniehotta, F., & Schuz, B. (2007). Predicting binge-drinking behaviour using an extended TPB: Examining the impact of anticipated regret and descriptive norms. *Alcohol & Alcoholism*, 42, No. 2, pp. 84–91, 2007
- Cooper, M. L. (1994). Reasons for drinking among adolescents: Development and validation of a four-dimensional measure of drinking motives. *Psychological Assessment*, 6, 117–128.
- Curran, P. J., Stice, E., & Chassin, L. (1997). The relation between adolescent alcohol use and peer alcohol use: a longitudinal random coefficients model. *Journal of Consulting and Clinical Psychology*, 65, 130–140.
- Delva, J., Kaylor, A.G., Steinhoff, E., Shin, D.E, Siefert, K. (2007). Using tobit regression analysis to further understand the association of youth alcohol problems with depression and parental factors among Korean adolescent females. *Journal of Preventive Medicine and Public Health*, 40, 145-149.

- De Vries, H., Dijkstra, M., & Kuhlman, P. (1988). Self-efficacy: The third factor besides attitude and subjective norm as a predictor of behavioral intentions. *Health Education Research*, 3, 273-282.
- Dzewaltowski, D.A., Noble, J.M., & Shaw, J.M. (1990). Physical activity participation- social cognitive theory versus the theories of reasoned action and planned behavior. *Journal of Sport and Exercise Psychology*, 12, 388-405.
- Edwards, W. (1954). Behavioral decision theory. *Annual Review of Psychology*, 12, 473–498.
- Finn, P., & Brown, J. (1981). Risks entailed in teenage intoxication as perceived by junior and senior high school students. *Journal of Youth and Adolescence*, 10, 61–76.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior: an introduction to theory and research. Reading, MA: Addison-Wesley.
- Frisch, D., & Clemen, R. T. (1994). Beyond expected utility: rethinking behavioral decision research. *Psychological Bulletin*, 116, 46–54.

- Fromme, K., Stroot, E., & Kaplan, D. (1993). Comprehensive effects of alcohol: development and psychometric assessment of a new expectancy questionnaire. *Psychological Assessment*, 5, 19–26.
- Furby, L., & Beyth-Marom, R. (1992). Risk taking in adolescence: a decision-making perspective. *Developmental Review*, 12, 1–44.
- Gerrard, M., Gibbons, F. X., Benthin, A. C., & Hessling, R. M. (1996). A longitudinal study of the reciprocal nature of risk behaviors and cognitions in adolescents: what you do shapes what you think and vice versa. *Health Psychology*, 15, 344–354.
- Goldman, M.S., Brown, S.A., Christiansen, B.A., & Smith, G.T. (1991). Alcoholism and memory: Broadening the scope of alcohol-expectancy research. *Psychological Bulletin*, 110, 137-146.
- Goldman, M.S., & Rather, B.C. (1993). Substance abuse: Cognitive models and architecture. In P.C. Kendall & K. Dobson (Eds.), *Psychopathology and Cognition* (pp. 245-292) New York: Academic Press.
- Gollwitzer, P. M. (1993). Goal achievement: The role of intentions. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology*, 4, 141–185. Chichester, UK: Wiley.

- Gollwitzer, P. M., & Bayer, U. (1999). Deliberative versus implemental mindsets in the control of action. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* 403–422. New York: Guilford.
- Gonzalez, G. M., & Hanley, M. L. (1990). Perceptions of risk as predictors of alcohol, marijuana and cocaine use among college students. *Journal of College Student Development*, 31, 313–318.
- Henderson M. J., Goldman, M.S., Coover, M.D., & Carnevalla, N. (1994). Covariance structure models of expectancy. *Journal of Studies on Alcohol*, 55, 315-326.
- Hingson, R., Heeren, T., Winter, M. R., & Wechsler, H. (2005). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18–24: Changes from 1998 to 2001. *Annual Review of Public Health*, 26, 259–279.
- Hofstede, G. (1991) *Cultures and organizations: Software of the mind*, McGraw-Hill.
- Huchting, K., Lac, A., & LaBrie, J.W. (2008). An application of the theory of planned behavior to sorority alcohol consumption. *Addictive Behaviors*, 33, 538-551.

- Iannotti, R. J., Bush, P. J., & Weinfurt, K. P. (1996). Perception of friends' use of alcohol, cigarettes and marijuana among urban schoolchildren: a longitudinal analysis. *Addictive Behaviors*, 21, 615–632.
- Jessor, R., & Jessor, S.L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Johnston, K. L. and White, K. (2003) Binge-drinking: A test of the role of group norms in the theory of planned behaviour. *Psychology and Health* 18, 63–77.
- Kafka, R. R., & London, P. (1991). Communication in relationships and adolescent substance use: the influence of parents and friends. *Adolescence*, 26, 587–597.
- Kandel, D. B. (1980). Drug and drinking behavior among youth. Annual Review of *Sociology*, 6, 235–286.
- Kandel, D. B. (1985). On processes of peer influences in adolescent drug use: a developmental perspective. *Advances in Alcohol and Substance Abuse*, 4, 139–163.



- Kandel, D.B., & Logan, J.A. (1984). Patterns of drug use from adolescence to young adulthood: I. Periods of risk initiation, continued use, and discontinuation. *American Journal of Public Health*, 74, 660-666.
- Kaplan, H.B., Martin, S.S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior*, 25, 270-289.
- Keefe, K. (1994). Perceptions of normative social pressure and attitudes toward alcohol use: changes in adolescence. *Journal of Studies on Alcohol*, 55, 46-54.
- Kidorf, M., Sherman, M. F., Johnson, J. G., & Bigelow, G. E. (1995). Alcohol expectancies and changes in beer consumption of first-year college students. *Addictive Behaviors*, 20, 225-231.
- Kim, U. M. (1994). Significance of paternalism and communalism in the occupational welfare system of Korean firms: A national survey. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, method, and applications*

- (*Cross-Cultural Research and Methodology*, 18, 251-266). Thousand Oaks, CA: Sage.
- Kuther, T. L. (1998). The influence of cognitive, affective and developmental factors on alcohol consumption by adolescents and young adults. Unpublished dissertation. Fordham University.
- Kuther, T. L., (2002). Rational decision perspectives on alcohol consumption by youth. *Addictive Behaviors*, 27, 35-47.
- Laflin, M. T., Moore-Hirschi, S., Weis, D. L., & Hayes, B. E. (1994). Use of the theory of reasoned action to predict drug and alcohol use. *International Journal of the Addictions*, 29, 927–938.
- Lang, A. R., & Michalec, E. M. (1990). Expectancy effects in reinforcement from alcohol. In W. M. Cox (Ed.), *Why people drink: Parameters of alcohol as a reinforcer* (pp. 193-232). New York: Guilford Press.
- Lee, D., Park, H., Lee, T., Kim, M., Kim, Y., (2006) Korean working adults' and undergraduates' attitudes towards, and self-efficacy in joining drinking parties. *Social Behavior and Personality*, 35 (4).

- Leigh, B. C. and Stacy, A. W. (1993) Alcohol outcome expectancies: Scale construction and predictive utility in higher order confirmatory models. *Psychological Assessments* 5, 216–229.
- Maggs, J. L., Almeida, D. M., & Galambos, N. L. (1995). Risky business: the paradoxical meaning of problem behavior for young adolescents. *Journal of Early Adolescence*, 15, 344–362.
- McLaughlin, R. J., Baer, P. E., Burnside, M. A., & Pokorny, A. D. (1985). Psychosocial correlates of alcohol use at two age levels during adolescence. *Journal of Studies on Alcohol*, 46, 212–218.
- Moskowitz, J.M., Schaps, E., Schaeffer, G.A., & Malvin, J.H. (1984). Evaluation of a substance abuse prevention program for junior high school students. *International Journal of Addictions*, 19, 419-430.
- Newcomb, M.D., & Bentler, P.M. (1986). Frequency and sequence of drug use: A longitudinal study from early adolescence to young adulthood. *Journal of Drug Education*, 16, 101-120.
- Norman, P. and Conner, M. (2006). The theory of planned behaviour and binge drinking: Assessing the moderating role of past behaviour

- within the theory of planned behaviour. *British Journal of Health Psychology*, 11, 55–70.
- Oetting, E.R., & Beauvais, F. (1986). Peer cluster theory: Drugs and the adolescent. *Journal of Counseling and Development*, 65, 17-22.
- Pawlak, R., Brown, D., Meyer, M.K., Connell, C., Yadrick, K., Johnson, J.T., & Blackwell, A. (2008). Theory of planned behavior and multivitamin supplement use in caucasian college females. *Journal of Primary Prevent*, 29, 57-71.
- Rise, J., Sheeran, P., Hukkelberg, & Silje. (2010). The role of self-identity in the theory of planned behavior: A meta-analysis. *Journal of Applied Social Psychology*, 40, 1085-1105.
- Scheier, L. M., & Botvin, G. J. (1997). Expectancies as mediators of social influences and alcohol knowledge on adolescent alcohol use: a prospective analysis. *Psychology of Addictive Behaviors*, 11 (1), 48–64.
- Schlegel, R. P., Crawford, C. A., & Sanborn, M. D. (1977). Correspondence and mediational properties of the Fishbein model: an application to adolescent alcohol use. *Journal of Experimental Social Psychology*, 13, 421–430.

- Schlegel, R. P., d'Avernas, J. R., Zanna, M., DiTecco, D., & Manske, S. R. (1987). Predicting alcohol use in young adult males: a comparison of the Fishbein–Ajzen model and Jessors' Problem Behavior Theory. *Drugs and Society*, 1 (4), 7–23.
- Sharpe, D. L., Abdel-Ghany, M., Kim, H., Hong, G., (2001) Alcohol consumption decisions in Korea. *Journal of Family and Economic Issues*, Vol. 22(1), 7-24.
- Shepperd, B.H, Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15, 325-343.
- Sher, K.J., Walitzer, .K.S, Wood, P.K., & Brent, E.E. (1991). Characteristics of children of alcoholics: Putative risk factors, substance use and abuse, and psychopathology. *Journal of Abnormal Psyhology*, 100, 427-448.
- Smith, G. T., Goldman, M. S., Greenbaum, P. E., & Christiansen, B. A. (1995). Expectancy for social facilitation from drinking: The

- divergent paths of high-expectancy and low-expectancy adolescents.  
*Journal of Abnormal Psychology*, 104, 32-40.
- Stacy, A.W., Bentler, P.M., & Flay, B. R (1994). Attitudes and health behavior in diverse populations: Drunk driving, alcohol use, binge eating, marijuana use, and cigarette use. *Health Psychology*, 13, 73-85.
- Stacy, A.W., Newcomb, M.D., Bentler, P.M. (1991). Cognitive motivation and drug use: A 9-year longitudinal study. *Journal of Abnormal Psychology*, 100, 502-515.
- Stacy, A. W., Widaman, K. E., & Marlatt, G. A. (1990). Expectancy models of alcohol use. *Journal of Personality and Social Psychology*, 58, 918–928.
- Van den Putte, B. (1991). 20 years of the theory of reasoned action of Fishbein and Ajzein: A meta-analysis. Unpublished manuscript. University of Amsterdam.
- Verplanken, B., & Faes, S. (1999). Good intentions, bad habits, and effects of forming implementation intentions on healthy eating. *European Journal of Social Psychology*, 29, 591–604.

- Webb, J. A., Baer, P. E., Francis, D. J., & Caid, C. D. (1993). Relationship among social and intrapersonal risk, alcohol expectancies, and alcohol usage among early adolescents. *Addictive Behaviors*, 18, 127-134.
- Wechsler, H., Lee, J.E., Kuo, M., Seibring, M., Nelson, T.F., & Lee, H.P. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from frou Harvard School of Public Health Study surveys, 1993-2001. *Journal of American College Health*, 50, 203-217.
- Werner, M. J., Walker, L. S., & Greene, J. W. (1993). Alcohol expectancies, problem drinking, and adverse health consequences. *Journal of Adolescent Health*, 14, 446-452.
- 심성욱외. (2009). 한국광고홍보학보 11-1

## **APPENDIX**

### Measurements of Variables

#### Behavioral Beliefs

1. Drinking alcohol would help me to work better.
2. Drinking alcohol would give me physical and mental assistance
3. Drinking alcohol would make my social gathering happy.
4. Drinking alcohol would make warm atmosphere.
5. Drinking alcohol would make me express myself in natural environment.
6. Drinking alcohol would reduce my shyness and improve my social life.
7. Drinking alcohol would reduce my physical fatigue.
8. Drinking alcohol would make me relax.

#### Attitude

1. Drinking alcohol would help me adapt to my campus life.
2. Drinking alcohol would make me have closer relationships with others.



3. Drinking alcohol would make me happy and beneficial.

#### Normative Beliefs

1. My friends think I should drink alcohol.
2. My peers approve of my drinking alcohol.

#### Subjective Norms

1. People who are important to me would think I should drink alcohol
2. People whose opinion I value would think I should drink alcohol.

#### Control Beliefs

1. The cost of alcohol would prevent me from buying them.
2. It would be easy for me to buy alcohol.
3. I just don't have much time and opportunity for drinking alcohol.

#### Perceived Behavioral Control

1. I have had drunken more than I could have managed myself.
2. I could not keep my commitment to not drinking alcohol.
3. I could not keep my commitment to reducing drinking alcohol.

4. I can not stop myself from drinking alcohol on occasions.
5. I could not refuse others offering me drinking alcohol.

#### Peer Norms and Behaviour

1. I learn how to drink from my friends.
2. My close friends drink alcohol a lot.
3. My friends drink alcohol regularly.

#### Parental Norms and Behaviour

1. I learn how to drink from my friends.
2. My parents drink alcohol a lot.
3. My parents drink alcohol regularly

#### Positive Expectancies

1. I can feel relaxed and less tensed if I drink alcohol.
2. I can have better social life if I drink alcohol.
3. I can have better self confidence if I drink alcohol.
4. I can feel good if I drink alcohol.

#### Negative Expectancies

1. I can feel unstable emotionally if I drink alcohol.
2. I can perform impaired social behaviour if I drink alcohol.

3. I can lose my awareness of my surrounding environment if I drink alcohol.
4. I can lose control over my motoric performance if I drink alcohol.

### Behavioural Intention

1. Within the next month I am planning to drink alcohol.
2. Usually when I have a plan to go drinking alcohol I think to drink just a little bit.
3. There is a big possibility for me to go drinking alcohol within the next month.

### Behaviour

How many times have you drunk alcohol during last month?