

**PERSONALITY AND THE RISK OF PROBLEMS-USED
ALCOHOL IN UNIVERSITY STUDENTS**

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Thesis
Entitled

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ALCOHOL IN UNIVERSITY STUDENTS**

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PERSONALITY AND THE RISK OF PROBLEMS-USED ALCOHOL IN UNIVERSITY STUDENTS

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ABSTRACT

The aims of this study were to examine (1) the relationship between personality characteristics and the risk of alcohol use problems and (2) personality characteristics of students who have a high risk of alcohol use problems. The sample was 454 university students in Chiang Mai. Data were collected from the Thai Personality Test (TPT) and Young Adult Alcohol Problems Screening Test(YAAPST). Chi-square, independent t-test, and Stepwise multiple regression were used for statistical analysis.

Results indicated a significant relationship between demographic variables and the risk of alcohol-related problems. Particularly, gender, faculty, age, residence, duration of drinking, and monetary factors were associated with a higher risk of alcohol use problems. Nine significant personality characteristics were found, they were E(dominance), F(liveliness), G(rule-consciousness), H(social boldness), I(sensitivity), N(privateness), L(vigilance), Q4(tension) and MO(moralistic). The high risk students were found to be different from low risk students in factors E, F, G, H, I and MO which show that their characteristics were seeking excitement and novelty, self-indulgence and low conscientiousness. For females, the high risk students were significantly different from the low risk ones in factors E, F, G, H, N and Q4, which were demonstrated a risk-taking attitude, tension and sensation seeking. However, among males it was found that personality characteristics of high risk students were different from those with low risk in factors F, G, and I, which revealed the characteristics of hedonism, a lower tender-mindedness and rule-regardlessness. Moreover, the study revealed that factor F, I, G, M and H significantly predicted the risk of alcohol use problems. Especially, factor F was the strongest predictor for both genders. The females' greater predictors were factors F, H and L, while the risk of problems in male students could distinctly be described by factors F and G. Findings of this study may promote the awareness of relationship between personality characteristics and risk of alcohol use problems. This could be used in prevention and intervention programs for students and their familiar groups.

KEY WORDS: PROBLEMS-USED ALCOHOL IN UNIVERSITY STUDENT / PERSONALITY CHARACTERISTICS

89 pp.

ลักษณะบุคลิกภาพกับความเสี่ยงต่อการเกิดปัญหาจากการใช้สุราของนักศึกษาอุดมศึกษา
(PERSONALITY AND THE RISK OF PROBLEMS-USED ALCOHOL IN
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บทคัดย่อ

การวิจัยในครั้งนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างลักษณะบุคลิกภาพกับความเสี่ยงต่อการเกิดปัญหาจากการใช้สุรา และลักษณะบุคลิกภาพของนักศึกษาที่มีความเสี่ยงต่อการเกิดปัญหาจากการใช้สุราสูง กลุ่มศึกษาเป็นนักศึกษาในมหาวิทยาลัยทั้งของรัฐบาลและเอกชนในจังหวัดเชียงใหม่ จำนวน 454 คน เป็นชาย 168 คน หญิง 286 คน เครื่องมือที่ใช้ในการวิจัย คือ แบบทดสอบบุคลิกภาพคนไทย และแบบคัดกรองความเสี่ยงต่อการเกิดปัญหาจากการใช้สุราในนักศึกษา(YAAPST) การวิเคราะห์ข้อมูลใช้ chi-square t-test และการวิเคราะห์สมการถดถอยพหุคูณแบบมีขั้นตอน ผลการศึกษาพบว่าปัจจัยส่วนบุคคล ได้แก่ เพศ คณะที่ศึกษา ผลการเรียน อายุ ที่อยู่อาศัย ระยะเวลาที่ดื่ม และการเงิน มีความเกี่ยวข้องกับความเสี่ยงต่อการเกิดปัญหาจากการใช้สุรา กลุ่มนักศึกษาที่มีความเสี่ยงต่อการเกิดปัญหาจากการใช้สุรามีลักษณะบุคลิกภาพต่างจากกลุ่มที่มีความเสี่ยงต่ำในด้าน E, F,G, H, I และ MO ซึ่งแสดงถึงลักษณะชอบความตื่นเต้นและประสบการณ์แปลกใหม่ มักทำอะไรตามใจ ขาดความรับผิดชอบ กลุ่มนักศึกษหญิงที่มีความเสี่ยงสูงมีลักษณะบุคลิกภาพ E, F, G, H, N และ Q4 แตกต่างจากนักศึกษาที่มีความเสี่ยงต่ำ แสดงถึงแนวโน้มเครียดง่าย มีลักษณะใจเร็ว ไม่อดทน ชอบความตื่นเต้น ส่วนเพศชายพบว่าลักษณะF, G และ I มีความแตกต่างกัน ซึ่งให้เห็นถึงลักษณะชอบความสนุกและความแปลกใหม่ ทำอะไรง่าย ๆ ตามใจ โดยไม่คิดถึงคนอื่นหรือกฎเกณฑ์ และพบว่าลักษณะบุคลิกภาพสามารถทำนายความเสี่ยงต่อการเกิดปัญหาจากการใช้สุราได้ร้อยละ 18.4 โดยมีด้าน F เป็นตัวทำนายที่ดีที่สุด รองลงมาคือ I, G, M และ H ลักษณะบุคลิกภาพที่ทำนายความเสี่ยงในเพศหญิงได้แก่ ด้าน F, H และ L ส่วนเพศชายเป็นด้าน F และ G ผลจากการศึกษาจะเป็นประโยชน์อีกด้านหนึ่งในการวางแผนป้องกันปัญหาการใช้สุราในเยาวชนและเป็นแนวทางในการดูแลนักศึกษาที่มีปัญหาจากการใช้สุราต่อไป

CONTENTS

	Page
ACKNOWLEDGEMENT	iii
ENGLISH ABSTRACT	iv
THAI ABSTRACT	v
LIST OF TABLES	viii
LIST OF FIGURES	x
CHAPTER	
I INTRODUCTION	
Background and significance of problem	1
Research objectives	4
Research hypothesis	4
Research scope	5
Benefits	5
Definition of terms	6
II LITERATURE REVIEW	
Alcohol and alcoholism	7
The problem of student drinking and factors relating to the consumption of alcohol	17
Personality tests and alcohol problems screening tests	26
Conceptual framework	29

CONTENTS (Continued)

	Page
III MATERIALS AND METHODOLOGY	
Population and sample	30
Recruitment process	31
Variables	31
Research instruments	32
Data collection	34
Data analysis	34
IV RESULTS	
Student demographic and drinking data	36
The comparison of the personality characteristics of students who are at a high risk of alcohol related problems and students who are at low risk.	44
The analysis of the relationship between personality characteristics and the risk of alcohol related problems.	54
V DISCUSSION, CONCLUSION, AND RECOMMENDATIONS	
Discussion	59
Conclusion	68
Recommendations	72
Research limitations	73
BIBLIOGRAPHY	74

LIST OF TABLES

Table	Page
1. Student demographic data	36
2. Specific issues of alcohol consumption	39
3. The Chi-square test for association between demographic data and the risk of alcohol-related problems	42
4. The number of students categorized by sex and the level of risk of alcohol related problems	44
5. The comparing mean scores of personality characteristics between students with low and high risk of alcohol related problems	45
6. The comparison of mean personality characteristic scores between female students with low and high risk of alcohol related problems	48
7. The comparison of mean personality characteristics scores between male students with low and high risk of alcohol related problems	51
8. The multiple correlation coefficient and multiple determination coefficient between the personality characteristics and the risk of alcohol related problems	54
9. The unstandardized regression coefficients and standardized regression coefficients of personality characteristics	55
10. The multiple correlation coefficient and multiple determination coefficient between personality characteristics and the risk of alcohol related problems in female students	56
11. The unstandardized regression coefficients and standardized regression coefficients of personality characteristics in female students	56
12. The multiple correlation coefficient and multiple determination coefficient between the personality characteristics and the risk of alcohol related problems in male students	57

LIST OF TABLES(Continued)

Table	Page
13. The unstandardized regression coefficients and standardized regression coefficients of personality characteristics in male students	58
14. The conclusion of the personality characteristics which associated with the risk of alcohol use problems.	71

LIST OF FIGURES

Figure	Page
1. The comparison of mean personality characteristic scores between students with low and high risk of alcohol related problems	47
2. The comparison of mean personality characteristic scores between female students with low and high risk of alcohol related problems	50
3. The comparison of mean personality characteristics scores between male students with low and high risk of alcohol related problems	53

CHAPTER I

INTRODUCTION

Background and significance of the problem

Alcohol has been a part of Thai society for a time, but the reasons to drink have changed, from ceremony to parts of cuisine, celebrations and business relations as a licit drug. This change indicates the increase opportunities to drink. From the WHO rankings in 2005 (1), it was found that in 1998 WHO ranked Thailand at the fiftieth in the highest consumption of alcohol, but in 2001 Thailand was ranked at the fortieth. This corresponded with the report from the Office of the National Economic and Social Board (NESDB) (2) which found that the figures for alcohol sales in Thailand increased since 2003, with liqueur and beer sales totaling 759 and 1584 million liters respectively increasing to 810 and 1961 million liters in 2006. Aside from the increase quantity in drinking, more disturbing were the increase in underage drinking, and a gradual decrease in the age of first exposure (2). It was found that young drinking age is a good indicator of the risk and severity of alcoholism. Children, who start drinking before 13 years of age, are at risk of alcohol dependency. Conversely, drinking after 21 years of age, the risk of developing an alcohol problem is reduced by more than 70 percent (3,4).

University students are another group who are at risk of drinking problems, according to the 2005 ABAC Poll, it was found that alcohol and cigarettes were a serious problem amongst the youth, with 5,921,257 youths between 12 and 24 years (5). Even though the drinking behavior of most university students are not to the extent of alcoholism, but each drink increases the risk of causing various problems, not only to themselves but to others as well. The results that affect the student includes physical effects, high levels of alcohol consumption affects the central nervous system, and is poisonous to bodily organs. In the long run, it poses a danger

to the body such as cirrhosis, alcoholism, memory loss, and mental health such as depressions, psychotic symptoms, as well as the risk of sexually transmitted disease such as Aids (6,7). Additionally, it also affects the students' academic performance. It was found that students who drank a lot often encounter problems with their education, such as tardiness, missing classes, and receiving scores lower than expected (8). Problems that affect others include quarrels or accidents. In 2005, 941,000 people were injured due to traffic accidents, where alcohol was responsible for over 40% of accidents in normal times, and up to 50-60% during Songkran and the New Year holidays (9). Alcohol also contributes to crime, provincial criminal, court reported that alcohol contribute to 59.1% of theft crimes, 34.8 sexual harassments cases, and 20.8% violence, as well as causing disruptive noises and annoyance (7,10). The affects to the university include, lose of money to repair lose in property damages, and the lose of the institution's reputation due to the problems caused by its drinking students (8,11). Chiang Mai is one province where students are at a high risk of alcohol related problems, because it is a large tourist city, with 7 higher education establishments with large number of students, most living in dormitories. This also includes the abundance of liqueur shops around the universities and the cold climate, conducive to alcohol consumption.

In order to find a way to prevent and resolve these problems, studies have been conducted concerning the cause of alcohol consumption amongst adolescents and students from many different perspectives, albeit biological, social, and psychological. The biological perspective emphasizes born characteristics such as genetics of alcoholism, tolerance, and addiction in the functioning of brain, which induces alcohol addiction (6,12). The sociological perspective emphasizes the student's social environment as the factor that affects the start of alcohol consumption and regular consumption, albeit social groups. Numerous research have found that alcohol consumption usually starts with peer pressure, drinking with friends causes fun and merriment, feeling a sense of belonging to the group (12, 13, 14, 15). The environment such as being in a dorm with friends, convenience and availability of alcohol, with alcohol being sold around the vicinity of the dormitories or universities, various activities, and social events (7,16,17,18) as well as other factors such as commercials and the marketing strategies of alcohol companies that stimulate

consumers to want to try or feel that drinking is an appropriate behavior (19), the students socioeconomic status or pricing mechanics which allows the students to consume alcohol frequently are all factors that contribute to the risk of alcohol addiction. The psychological perspective see the factors that contribute to drinking are stress, from school or work or the lack of social adaptation skills, induces individuals to drink in order to cope with these stresses (17,19). The influence and learnt behaviors from family; it was found that the role model of parents increases the risk of alcohol consumption from a young age (21), the lack of familial bonds and warmth within the family influences alcohol addiction (17,20,22). The inquisitive nature of adolescents, the need of friends, and the need to become adults, to be free from their parents, as well as personality are all factors that are related to alcohol consumption. All these are factors that increases the risk to try and habitually drink (23,24).

Due to the personality, the individual's characteristics which were difficult to change, therefore, a comprehensive study of personality helps to predict individual behaviors in various situations, such as the risk of alcohol related problems. There have been many studies about the relationship between personality characteristics and the risk of alcohol-related problems, where personality is seen as important in mediating between the psychological and social factors and alcohol consumption (17). It was found that many personality characteristics are related to alcohol consumption and drug use, such as a case of low self-regulation can be predicted to have high levels of alcohol and drug consumption, especially in an environment that is conducive to alcohol consumption (25). Impulsivity will increase the risk of alcohol problems, because individuals with this characteristic often want instantaneous pleasures from drug use, without thinking of the consequences (7,15,25). Avoided, repressed, and stressed personalities have tendencies to depend on alcohol as a way to solve problems (16). Additionally, other personality characteristics such as sensation-seeking, religiosity, affiliation also influences alcohol consumption (7, 25, 26). From past research, it is concludable that adolescents who consume alcohol and uses drugs have personality characteristics that are different from other adolescent groups, in terms of cognition, affection and behavior. Nevertheless, personality is complex, differing from culture to culture and age group to age group, therefore a deep and comprehensive understanding of personality in each society is very important. The

clear understanding of the personality characteristics of students who drink will in helping to predict the risk of alcohol addiction accurately, allowing the understanding of the weakness and strengths, which will lead to effective strategies in caring for, helping and preventing problems relating to alcohol use.

These problems and perspectives has raised an interest for this research to utilize the Thai Personality Test – TPT to study the relationship between personality characteristics and the risk of problems caused by alcohol in university students in Chiang Mai, because it is a test that is able to measure all 3 components of personality including cognition, affection and behavior. Additionally, the test has been developed from Thai characteristics, with interpretation norms derived from Thais (27) as another way to help predict and plan a prevention strategy that is appropriate to Thai society.

Research Objective

1. To study the personality characteristics that are related to the risk of problems caused by alcohol in students.
2. To compare student personalities who are at a high risk of alcohol related problems and those at low risk.

Research Hypothesis

Considering other related works of research, it was found that personality characteristics are another factor that is related to the consumption of alcohol and students with a drinking problem have a different personality from students in general, and therefore the research hypothesis is as follow

1. The personality characteristics measured by the Thai Personality Test is related with the risk of alcohol related problems in students.
2. Students who are at a high risk of alcohol related problems will have personality characteristics, which are measured by the Thai Personality Test, different from the group at low risk.

Research scope

The study group in this research was randomly selected from the population, who were undergraduate students from universities in Chiang Mai, both public and private, emphasizing the factor of personality characteristics and the risk to alcohol related problems.

Benefits

1. Know the personality characteristics that related to a risk of alcohol related problems, leading to monitoring and prevention of alcohol related problems amongst youths.
2. Know the difference between the personality characteristics of students at a high risk of alcohol related problems and students with a low risk, as a strategy in dealing with and preventing alcohol related problems amongst students.

Definition of Terms

Personality is the culmination individual characteristics, inclusive of physical and mental characteristics that are expressed through behavior when confronted with similar situations. For this research, it has been divided into 22 characteristics and 7 global factors according to the Thai Personality Test, as follow.

1. Factor A, Warmth : Reserved - Warmth
2. Factor B, Reasoning :Concrete - Abstract
3. Factor C, Emotion stability: Reactive – Emotionally stable
4. Factor E, Dominance : Deferential - Dominant
5. Factor F, Liveliness : Serious - Lively
6. Factor G, Rule-consciousness : Expedient – Rule-conscious
7. Factor H, Social boldness : Shy – Socially bold
8. Factor I, Sensitivity : Utilitarian – Sensitive
9. Factor L, Vigilance : Trusting - Vigilant

10. Factor M, Abstractedness : Grounded – Imaginative
11. Factor N, Privatness : Forthright – Private
12. Factor O, Apprehension : Self-assured - Apprehension
13. Factor Q1, Open to change : Traditional – Open to change
14. Factor Q2, Self-reliance : Group-oriented – Self-reliant
15. Factor Q3, Perfectionism : Tolerates disorder - Perfectionistic
16. Factor Q4, Tension : Relaxed - Tense
17. Factor MA, Maturity : Immaturity – Maturity
18. Factor MO, Moralistic : Self-indulgence – Moralistic
19. Factor HO, Hostility : Non-aggressive - Aggressive
20. Factor DP, Depression : Non-Depress - Depress
21. Factor GD, Identity appropriateness : Appropriate sexual identity – Identity confusion
22. Factor IM, Impression management : Fake good – Fake bad

Risk of alcohol related problems is the drinking behaviors that have a detrimental effect on health and life or career such as drinking while intoxicated, missing school, hangovers, as evaluated by the Young Adult Alcohol Problems Screening Test (YAAPST) as follow

- Groups at a low risk of alcohol problems refer to students with 0 and 1 points
- Groups at a high risk of alcohol problems refer to students with 4 or more points

1 standard alcoholic beverage equals to a can or small bottle of beer, a glass of wine, a bottle of cooler, a shot of hard liqueur or a cocktail.

CHAPTER 2

LITERATURE REVIEW

In the study of the relationship between personality characteristics and the risk to alcohol problems in university students, the following documents and related research were collected as follow

1. Alcohol and alcoholism
2. The problem with alcoholism amongst students and related factors to drinking
3. Personality tests and alcohol problems screening tests

Alcohol and Alcoholism

The definition of alcohol

The Liqueurs Act of 1950, defined alcoholic beverage as substances or solutions that have alcohol which can be ingested, as well as liqueur or ingested with a mixture of water or other liquids, as well as whiskey, beer, wine and other home-brewed liqueurs(28). As for the chemical definition, liqueur or alcohol refers to hydrocarbons and at least one group of hydroxyl (-OH) such as ethanol (C₂H₅OH) (29) .

The properties of alcohol

Alcohol is a small molecule that is moderately soluble in fat and highly soluble in water, therefore, it is able to distribute all body parts. About 20% alcohol will be absorbed into the blood stream in the stomach and 80% remaining is absorbed in the small intestine. After being absorbed, the alcohol will quickly diffuse to the various tissues especially those that have a large blood supply such as the brain, liver and

kidneys. Alcohol also spreads to the various parts of the body with water. About 2-10% of alcohol will be excreted by breathing, sweating, and urination, but most of the alcohol is metabolized in the liver (12, 30)

Pharmacological effects of alcohol

1. Alcohol affects the central nervous system, by depressed CNS activity., which depending on the blood alcohol concentration (BAC). The effects to the brain is faster than to other areas of the body due to the large amounts of blood that feeds oxygen to the brain, and the alcohol is easily absorbed by the brain as well. That affects the functions of the brain by inducing the feeling of relaxation. Drinking alcohol in small quantities suppresses the inhibitory centers, which affects behavior differently such as euphoria, becomes more social able and talkative, or becomes aggressive. In moderate amounts, the effects are similar to benzodiazepines, causing a relaxed sensation and followed by a state of euphoria, but it also interferes with motor activities, such as the inability to walk straight, lose of sensation, blurred vision, difficulty in hearing etc. Most people, after drinking 1-2 alcoholic beverages will feel a mental stimulation, but in reality the alcohol inhibits the part of the brain that controls decision-making, concentration and conscious, inducing a sensation that the brain is being stimulated. When drinking in larger quantities, the disinhibition increases, capabilities are reduced, albeit in uncoordinated muscle movement, speech, cognition, decision-making, and sleep. At even higher levels, the alcohol might inhibit the respiratory system and the circulatory system, which can be fatal. This most often occurs with individuals who mix alcohol with other sedative-hypnotic drugs such as barbiturates or benzodiazepines (30, 31). Blood alcohol concentration and its effects can be summarized as follow.

Number of drinks	Blood alcohol concentration	Psychological and physical effects
1	0.02-0.03 %	- No overt effects. Slight mood elevation
2	0.05-0.06 %	- Feeling of relaxation, warmth; slight decrease in reaction time and in fine muscle coordination
3	0.08-0.09 %	- Balance, speech, vision, hearing slightly impaired; feeling of euphoria, increased confidence; loss of motor coordination
3-4	0.10 %	- Legal intoxication in all states; drive is illegal with this level
4	0.11-0.12 %	- Coordination and balance becoming difficult; distinct impairment of mental faculties. Judgment
5	0.14-0.15 %	- Major impairment of mental and physical control; slurred speech, blurred vision, lack of motor skills
7	0.20 %	- Loss of motor control – must have assistance in moving about; mental confusion
10	0.30 %	- Severe intoxication; minimum conscious control of mind and body
14	0.40 %	- Unconsciousness, threshold of coma
17	0.50 %	- Deep coma
20	0.60 %	- Death from respiratory failure

Source Drug and Society(8)

Drinking in large quantities poisons the central nervous system each time, such as

Blackout (7, 29) is the condition of acute anterograde amnesia, resulting in the lost of memory, forgetting certain events whilst drinking, but without the lose of consciousness, the things that are forgotten can be remembered by some normal activities.

Hangover (7, 29) is the effect of large amounts of alcohol consumption, inducing a physical effect such as fatigue, headaches, thirst, nausea, vomiting, upset

stomach, low blood pressure as well as hand shaking. Additionally, there are also some psychological symptoms as well such as anxiety, guilt, depression, or irritable mood. Hangovers usually do not last more than 36 hours after the alcohol has been excreted from the body, and if the drinking continues for sometime, it can result in the onset of other diseases such as,

Wernicke's encephalopathy (6) with at least two of the following symptoms

- mental confusion
- truncal ataxia
- ophthalmoplegia

Korsakoff's syndrome (6, 12) has anterograde amnesia due to the inability to retain information of the present, and confabulation, the creation of fictitious event that the patient accepts as fact.

Alcoholic dementia (12) has the condition of dementia as a result of the brain being damaged by alcohol.

2. Alcohol affects the circulatory system by constricting the heart, causing the blood vessels to dilate and causing blood pressure to drop slightly, and the blood vessels near the skin expand, especially with the skin on the face and neck which becomes red and warm from the influx of blood. Drinking too much can result in the lowering of the body's temperature because the body loses heat. In the long run the heart muscle will work irregularly, resulting in irregular heartbeats, fatigue, high blood pressure, followed by the thickening of the muscles, enlarging the heart and may induce heart attacks (12,30).

3. The effects of a small amount of alcohol on the digestive system before or with meals helps promote appetite because it reduces stress and anxiety, and stimulates the intestines and the liver to release digestive enzymes. However, in large quantities, it burns the lining of the digestive system, causing irritation, creating an internal wound along the intestines and the digestive tract. When the stomach has high concentrations of alcohol, along with a combination of gastric acids, will induce vomiting to reduce the sense of irritation. People who drink alcohol on a regular basis are prone to intestinal inflammations and infections. Long periods of consumption can

result in internal bleeding, vomiting, and the blackening of fecal matter. Additionally, there is also the loss of blood and plasma proteins, resulting in the onset of leukemia and protein deprivation, damage to the small intestines, diarrhea, weight loss, and malnutrition, especially vitamin B1 (30).

4. The effects on the liver, where alcohol is metabolized, is most prominent because it receives the most alcohol poisoning. People who drink in large quantities and for long periods of time will develop abnormalities with the liver, resulting in the body producing less sugar, the body accumulates ketoacidosis and reduces glutathione, an anti-oxidant the body needs, resulting in damages to the liver. When liver cells are destroyed, fat is accumulated in its place, resulting in liver cancer. If the cells die to a certain level, it will harden in that area, cirrhosis, which can be fatal in the end. (12, 30)

5. Alcohol's effects on endocrine glands, minerals and the homeostasis of electrolytes in the body, resulting in an imbalance of steroids in the body. Prolific drinkers usually have premature organ failure, often looking older than they are. Alcohol consumption decreases testosterone levels, and increases estrogen levels, therefore in males, testicular atrophy is common, and in female ovarian failure (12).

There are also other effects as well, such as reduce immunity, health is affected due to the lack of sleep due to alcohol consumption.

The level of alcohol poisoning is dependent on three factors (12, 30) namely.

- blood alcohol level

- rate of absorption. The amount of alcohol in the beverage affects the rate of absorption differently. The most effective rate of absorption is at 20%. If there is food or other liquids in the stomach, the rate of absorption will be lower. The rate of absorption is higher in women than in men.

- The time in which the alcohol remains in the blood

These mechanisms show that aside from alcohol's effects on the central nervous system, it also affects other organs in the body, and hence it has a detrimental effect on almost all bodily systems. The severity of the effects will intensify with larger and prolonged consumption of alcohol.

Alcoholism

The American Society of Addiction Medicine (29) defined alcoholism as a chronic disease with genetic, emotional, social and environmental causes. The symptoms are progressive, such as continual and repeated consumption, the inability to control consumption, preoccupation with alcohol, and despite the detrimental effects, a fallback on mental capacity.

Even though the term alcoholism is used to describe broad concepts of the disease, and helps to clearly illustrate it, there are wide-ranging and ambiguous meanings, therefore the WHO often uses the term alcohol dependence which is a part of alcohol-related problems instead, in order to limit and narrow the definition. In this case the patient loses control over drinking, caused by a pre-existing biological abnormality, having a predictable progressive course, and use of alcohol despite adverse consequences (29, 31). Drinking takes many forms (31) such as

Need to drink every day in small quantities. This group of patients often does not know they are addicted to alcohol, until something stops them from drinking.

Unable to stop drinking once started, often drinking in large quantities, occasionally, they are able to stop for a time, such as in sickness or the lack of money.

Alcohol withdrawal

Alcohol consumption over a period of time will result in tolerance and withdrawal symptoms. These symptoms occur after blood alcohol concentration is reduced for 12 hours, and occur in heavy and long-term alcohol consumers. 5 percent of patients suffer from severe alcohol withdrawal and waste most of their time in search of and drinking alcohol, drinking continuously, even though it causes them emotional and physical problems. 5% of alcoholics are severe, known as alcohol withdrawal delirium. Alcohol intoxication often starts in mid-adolescence, and develops psychological problems in their late 30s (6, 31).

To differentiate alcohol abuse, alcohol dependence and other mental disorders, psychiatrists usually use a criteria of substance-related disorder from DSM IV-TR, as in the following (32)

Substance dependence

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (of more) of the following, occurring at any time in the same 12-month period:

1. tolerance, as defined by either of following:
 - (a) a need for markedly increased amounts of the substance to achieve intoxication of desired effect
 - (b) markedly diminished effect with continued use of the same amount of the substance
2. withdrawal, as manifested by either of the following:
 - (a) the characteristic withdrawal syndrome for the substance
 - (b) the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms
3. the substance is often taken in larger amounts or over a longer period than was intended
4. there is a persistent desire or unsuccessful effort to cut down or control substance use
5. a great deal of time is spent in activities necessary to obtain the substance, or recover from its effects
6. important social, occupational, or recreational activities are given up or reduced because of substance use
7. the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance

Substance abuse

A] A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

1. recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home
2. recurrent substance use in situations in which it is physically hazardous

3. recurrent substance-related legal problems
 4. continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effect of the substance
- B] The symptoms have never met the criteria for substance dependence for this class of substance

Using the DSM-IV criteria to explain the characteristics of alcohol use that causes problems helps medical staff have an understanding of the disease, beneficial to the diagnosis and appropriate

Adolescent alcohol use

Adolescents use alcohol for the same reason as adults, but the behavior of use, its physical effects on their body and the progression of disease is different (33), making it somewhat difficult to distinguish between substance use, substance abuse or substance dependence in adolescents. The study of alcohol and substance use in this group will thus be beneficial, in order to understand the nature of the problem further. In the past, it was believed that there were no adolescent alcoholics, because the development of alcoholism progresses over a period of many years, but this belief began to change with the result of Johnson, O' Malley and Bachman (14) revealed that 5% of high school students drank alcohol everyday, and another 5% smoked marijuana everyday. Therefore 5-10% of adolescents may be categorized as substance dependents. From the study of Hingson, Heeren and Winter (4), on alcoholic patients receiving treatment at the National Institute on Alcohol Abuse and Alcoholism between 2001-2002 numbering 4778 individuals, it was found that 15% were diagnosed as alcoholic-dependent before 18 years of age, 47% before the age of 21, and two thirds before 25 years. Nevertheless, due to the effects of the substances on adolescents, sometimes the disorder only takes 1-2 years to develop, different from adults who may take as long as 10-12 years (14). Therefore, there is a necessity to understand alcohol and substance addiction amongst adolescents, which are different from those of adults.

The use of addictive substances amongst adolescents is constantly changing, progressing, regressing or remaining the same, the reason being a combination of

biological, sociological, psychological or even the nature of the substance itself. Macdonald and Newton utilized Johnson's Stage-of-Use Model for Adult Alcoholism to develop an Adolescent Chemical Use Experiment Continuum (ACUE), described using mood swing characteristics at each level.

Step 1 Experiment Use (learning the mood swing)

The experimental use of the substance, it may be a 1-2 time use. The experiment helps to discover the potency and effects of the substance in building or inducing mood swings. Some adolescents might not like the resulting effects, many having tried a number but not liking any, and therefore refrain from use. At the same time many decide to increase usage, leading to second stage substance use.

Step 2 Social use (seeking the mood swing)

Occurs when adolescents have learned about the potency of the substance, which is followed by usage with friends, whereby the role of the substance has shifted from an experiment to that of social use, such as freshman orientation, parties etc. Usage at this level is not considered critical, but also has its dangers such as usage at this level changes from use and abstaining from use, but the desire to use is at the same level as levels 3 and 4.

Social use in this case is different from social use in terms of alcohol with meals or at adult social functions, because drinking amongst minors is illegal and despite social mores, some adolescents can drink responsibly like adults, and therefore using the phrase social use in this situation should be done with caution when evaluating the risks of drinking alcohol amongst students.

Step 3 Operational use (preoccupation with the mood swing)

At this stage, adolescents have a desire to use, preoccupation and continual usage. Any substance used in this stage can be considered to be self-medication, but not in a good way, in that they choose the substance, increase or decrease the dosage according to their needs. Usage in this manner causes problems with the usage and often disrupts their daily-life functions. Usage at this stage is similar to substance

abuse more than substance dependent, but adolescents use often jumps between substance use and abuse.

Step 4 Dependent use (using to feel normal)

Is the compulsive use of the substance, resulting in emotional changes with the normalization of substance use. The adolescents’ way of life, coping style, affects regulation, sense of self, and identity has been fused together with substance addiction. It is difficult to distinguish this stage from stage 3, but at this stage the substance use is more like substance dependent.

Most adolescent substance use is at level 1 or 2, and is merely a categorization to help understand the characteristics of usage in adolescents, but in reality there is no clear distinction, it can be fluid or remain at a certain stage, because for adolescents external factors such as exams, money, various activities have an effect to the change in the steps, or the stop of use, which is different from adults where external factor do not play much of a role. Additionally, there are other approaches involving the adolescent substance dependence, which is comparable to the fore mentioned characteristics.

Defining characteristics of Substance Abuse

	Experimental	Social use	Operational use	Dependency
A	(leaning for mood swing)	(seeking for mood swing)	(preoccupied with mood swing)	(using to feel normal)
B	Substance use problem		Substance use disorder	
C	Early addiction (initiation)	Middle addiction (escalation)	Late addiction (maintenance)	

A. Adolescent Chemical Use Experience Continuum (ACUE)

B. Types of problems

C. Stages of adolescent addiction

Source Understanding and treating adolescent substance abuse (33)

The Problem of Student Drinking and Factors Relating to the Consumption of Alcohol

alcohol consumption is on the rise in Thai society, especially amongst students, according to the 2005 ABAC poll, which found that liquor and alcohol is the most important problems amongst youth, up to 5,921,257 of youth between the age of 12 and 24 consumes alcohol (5). Even though most of the drinking is moderate and not alcoholic-dependent, but each time they drink increases the risk of causing problems in the future.

The definition of problem drinking is often referred to as binge drinking, which consists of drinking more than 5 standard drinks in men or 4 in women, or 3 to 4 drinks for Asian men and women in a short period of time. It induces drunkenness, the loss of consciousness, emotional control, and this kind of drinking is prone to alcoholism. This group of students often think that their drinking does not cause problems, and do not resolve their drinking habits. Presley (34) found that binge drinkers experience alcohol related problems and the frequent binge drinker is 3 times more likely to have alcohol related problems than normal binge drinkers. Wechsler and co (35) studied the drinking behavior of American students and found that 42.7% are binge drinkers, and 20.7 are frequent binge drinkers, which these numbers of students at risk of alcoholism is on the rise, posing a threat not only to them but to those around them. The effects are as follows.

1. Damage to self

Academic performance The study of Presley and Wechsler (34, 36) found correspondingly that education and drinking are related, whereby low GPA is correlated with high levels of drinking. When the study centered on students with good grades in high school, but upon entering university often experiences problems such as missing classes, receiving lower grades, hung over in class, falling behind, failing exams, repeating classes, and expulsion. In the US, it was found that alcohol is the cause of 40% of educational problems and is the leading cause of dropouts (28%), 1 in 4 students are aware that alcohol has an effect on their education, and report that it was the cause of failed exams (8).

Risky sexual behaviors Alcohol removes inhibitions and moral sense, resulting in risky sexual activity such as unwanted sex. According to reports from the Thai Health Promotion Foundation, it was found that in the space of 7 years (1995-2002) adolescent girls between the 15-17 years old who drank increased by 6 times. 28.5 % of this group had unwanted sex due to alcohol intoxication (37). Additionally, this also includes other risky sexual behaviors such as not using a condom, changing partners (35, 38), leading to the spread of diseases, or unwanted pregnancies.

Effects on the brain and memory Each alcoholic beverage poisons the brain, in the short-term this results in blackouts and hangovers, in the long-term there can be serious repercussions such as Werknick's encephalopathy, Korsakoff's syndrome, or alcoholic dementia. It was found that drinking from a young age impairs intelligence, and increases chances of intellectual deficit than adults of who only started drinking (7,35). Additional, it also affects the nervous system, possibly leading to mental health problems. An investigation by the World Health Organization found that 1 in 3 of mental illness in each country can be linked to alcohol (39) especially amongst those over 50. This corresponds with *Songkiat Piyaka* (12) who found that 47% of alcoholic dependents have psychotic symptoms such as alcoholic paranoid, alcoholic hallucinosis, delirium tremens. Besides from the psychotic symptoms, there are also other abnormalities such as anxiety disorder and depression, as well as suicide. The relationship between alcohol and suicide is the same as the link between depression and alcohol (18).

Injury and death Students who drink alcohol are at risk of being in an accident. In the US, it was found that in each year, about 300,000 students between 18-24 years of age lose their lives, and 500,000 are injured, with alcohol as the leading cause (36, 41). In Thailand, the Department of Disease Control, the Ministry of Public Health, in 2004 found that 44.2% of accidents involving children less than 18 years of age involved alcohol (40). Additionally, it also has an effect on the rate of university suicides, where alcohol led to suicides because it induces depression and removes inhibitions (8, 11).

2. Damage to others

Students and individuals who do not drink alcohol often experience second hand consequences from others' excessive use as well such as quarrels, brawls, and accidents. In each year, there are over 600,000 students between 18 and 24 are assaulted, and 700,000 are raped or the victims of alcohol-related sexual assault. This also has other consequences such as uncleanliness and vandalism such as vomiting, or the waste and destruction that comes with drinking, not to mention annoyance such as noise pollution, disrupted sleeping, and removing fire alarms (7, 11). Wechsler (37) reported that 61% of students in dorms have been disturbed by drunk students and 50% are obligated to take care of their fellow drunk students at least once.

3. Damage to the institution

The problem with drinking not only affects others or those around, but it also reflects badly on the university too. The university loses a lot of revenue repairing damages to university property vandalized by drunken students, not to mention its academic image and the rank of the institution from the increasing number of students unable to graduate, repeated classes or expulsions. There is also the matter of the reputation getting affected by the university's involvement with the law, when students are involved in brawls, accidents or other activities linked to drunk students. This also creates problems between the university and the surrounding neighborhoods, and must cost heavily in campaigns or activities to try to cope and deal with the drinking problem of their students (11, 37).

It can be seen that the drinking problem of students is an important issue and causes numerous repercussions to all those involved. Besides from the effects caused directly from drinking, in the future when these students have grown to become adults, the alcoholism will become worse because their addiction started at a young age, increasing the risk of alcohol related problems. The risk it developing into chronic alcoholism and the chance of relapse is higher than those who started drinking later on life (3, 4), resulting in detrimental effects on the economy, the state burden, and the loss of the country's future national human resources.

Factors affecting student drinking

Even though in the present, there have been studies and campaigns about the harms of alcohol, it can still be found that the amount of consumption is on the rise. Therefore, in order to understand the state of the problem the study of drinking amongst adolescents and students is important. It was found that the reason behind adolescent and student drinking are numerous and complex, which each factor is interdependent, unable to be clearly separated, but in this case it will be divided into three main areas for convenience and understanding, namely.

1. Biological factors

Alcohol and substance dependence is not the result of merely psychological causes, but in reality it was found that biological factors also play an important role in substance use. There have been many studies and research, which found that genetics is a predisposing factor of alcoholism, such as the study of Cotton (41) who found that 20-50% of alcoholic-dependents had alcoholic fathers. Additionally it was found that the patients' relatives were 3 times more likely to become alcoholics themselves. In the case of identical twins, if one twin was alcoholic, 60% of the time, the other one will be alcoholic as well. In fraternal twins, the chances of both becoming alcoholic are down to 25%. Presently, it is believed that alcoholism is transmitted by the group of genes known as Dopamine D2 receptor (42, 43). The functioning of the brain is another cause of drinking, because alcohol is an addictive substance, and will have an effect on neurotransmitters such as dopamine and serotonin (5-HT) pathway in the mesolimbic dopamine system which controls positive-reinforcement processes, allowing only the retention of positive feelings about the effects of addictive substances. Sadness or suffering can induce euphoric recall and a desire to reuse these substances again, even with the knowledge of the dangers of alcohol, leading to addiction in the end (19, 16, 41, 43).

Another factor is high tolerance of alcohol, which might require above average qualities inducing the same effects. This group of people must then consume larger quantities of alcohol than others, hence receiving the high levels of alcohol poisoning, and are at risk of becoming alcoholics with age (12, 19). Hington (4) found that drinking at a young age risks developing chronic alcoholism and relapses more than

individuals who drink at an older age, whereby children who start drinking before 13 years of age have a chance of becoming alcoholics. Conversely, drinking after 21 years of age, the risk of alcohol related problems is reduced by 70% (3).

2. Sociological factors

Sociological factors are also a cause of drinking. From various works of research, it was found that the university environment plays an important role on student drinking, since education institutions and universities are areas where adolescents and students gather together. If the university environment is conducive to drinking, it will promote student drinking, such as permitting the sale of alcohol around campus. Presley et al. (44) found that making dormitories alcohol and substance free areas can help reduce alcohol related problems. Nimit Kaewat (16) found that students with drinking problems have a positive attitude towards drinking and feel that society and the environment promotes their habit. Additionally, the nature of the university also contributes to drinking. In the US, it was found that universities with a prominent sports team, will have higher rates of drinking because the athletes want to show their social attachment through alcohol (45), and alcoholic beverage producers are often sponsors of sporting events, resulting in the sale of alcohol in or around the university (46). Students in small universities are more prone to drinking than those in large universities, and universities with Greek system dormitories also have high levels of drinking, because in both cases students have the opportunity to live in large groups, believing alcohol as the social adhesive that binds the group together, and open opportunities to absorb drinking trends from one another (11, 44, 45). This corresponds with the study of O'Hare (17) who found that students living in dormitories with friends will drink the most, followed by those living alone, and those living with families drink the least.

Asides from the environmental factors of the university, the first year of university, especially the first 6 weeks, is a critical period in the start of student drinking (47), due to the new circumstances the students must confront, in terms of teaching method, accommodations, friends, all contributing to the students' stress level. The various activities in the university have come to incorporate alcohol. ABAC poll investigated the use of alcohol in freshmen orientations from 9 institutions

and found that alcohol was used 46.8% of the time (17). These factors give opportunities for students to try drinking alcohol, observing other drinking behaviors and adopting drinking values as their own. This corresponds with numerous researches which found that the most common cause of drinking is peer pressure (13, 15, 48) because adolescents place a lot of importance on friends, and group values such as drinking as a social lubricant and pleasure. The study of Rosalie et al (48) found that the most common communal activity was smoking (80.4%), drinking (55.3%) and alcohol as a communication tool. These values make the students feel drinking is normal, as well as induce a feeling of belonging in a group and acceptance, fearful that declining to drink will result in rejection from their friends or drinking to show masculinity (12, 13, 20).

Other than peers, other modern environmental factors also influences student drinking such as alcoholic advertisements, numerous corporate strategies that stimulate consumers to curiosity and the feeling that drinking alcohol is appropriate (19) such as masculinity, Thai-ness, or friendship. Additionally, there are target group specific products such as targeting women, adolescents or the elites, along with a more convenient infrastructure and efficient logistics, facilitating the access to alcohol for adolescents (15). Financial factors also influences drinking, the price of alcohol and cigarettes that are appropriate to income affects continuous consumption patterns (20). If students have higher incomes, they will consume more, in addition to the present production of alcohol in a variety of choices to be appropriate for all targets groups and are often cheap (15), becoming another risk factor in alcohol related problems.

3. Psychological factors

Alcohol is CNS-depressant drug that induces a state of rapture, relaxation. Individuals with stress from education, work, or fear have a tendency in drinking in order to reduce or forget these stresses temporarily (16). People who are easily stressed, lacking the strategy to adapt, continually or chronically stressed will cause them to consume continuously (19).

Asides from stress, numerous past research places a lot of importance on the parental substance use (15). Children from families where the father is an severe alcoholic are 79.8% more likely to becoming alcoholics amongst male students, and

80.7% of female students who had drunk had fathers who drinks (3). Duncan et al (21) explained that seeing a modeling behavior from parents increases the risk of drinking at a young age, and peers start to have an influence when the child is older, therefore warmth in the family is an important factor in drinking (16). Children who receive warmth or attention from their parents have lower tendencies to drink, as for broken families, the risk is much higher. Steinhausen and Metzke (21) reported that heavy drinkers have less familial ties and have less acceptance from their families than groups who have to drinking problems. Additionally, other family characteristics influence the risk of substance addiction notably, families with problems regularly, families with too high expectations, families with too low or too high a socio-economic status, families who do not teach their children about the harms of drugs, and families that favor the use of power and violence (19).

The basis of how a family is raised, a child's development into adolescence is not only accompanied by physical changes, but emotional and social ones too. Adolescents begin to strive for independence from their parents and want to become adults. Drinking is an adult characteristic, because it is a socially accepted activity, and therefore teens drink to shows that they are old enough to be responsible for themselves just like adults (14, 33). At the same time, friends and cliques become more important with age, there is the need for acceptance and belonging, and therefore often accept the values and beliefs of the group, and assess themselves through the reactions of their peers (23, 24). Adolescents give importance to criticism and accept the values of drinking of their friends such as masculinity and maturity. Aside from this, abstract thinking, the final stage of cognitive processes that makes them able to think reasonably, unguillible, building their own way of thinking, bringing them together to help them decide and start question rules and authority such as alcohol is bad, but is prevalent in society until it has been normalized. National Institutes of Health (11) reported that a number of adolescents does not believe and think it unfair that age is use as a criterion in alcohol consumption, along with the experimentative nature of adolescents (25). However, be it in terms of their incomplete maturity in decision making and lack of experience lacking the understanding of what is right or wrong, along with their search for identity. Social learning theories see that adolescents will observe the behaviors of role models such as parents, siblings, media

and especially upper classmen and peers with attractive attributes and personalities, and have a tendency to mimic adults and peers, compromising dangerous situations as normal because others also see it as such, when taking a risk and not getting hurt reducing the caution and adolescents often think they are immune to danger (23, 24).

Personality is also very important as the element that mediates between the biological factors, sociological factors and psychological factors of drinking (11). Even though several researches in this decade have failed to identify the addictive personality, but it was found that some personality traits have been related to addiction such as self-regulation, impulsiveness, sensation-seeking, aggression, where it was found that inappropriate self-regulation can predict the use of alcohol and substances in adolescents. Higher self-regulation helps concentrate at the task at hand, determination, resulting in a tendency to find success, conversely, those with lower self-regulation, often having bad experiences, stress, and have a tendency to use drugs as means of escaping from drugs, resulting in the adverse effects of drugs use, a cycle of addiction (25). Zucker (49) supports this approach that inappropriate self-regulation is indirectly related to drinking and smoking. In an environment that is conducive to drinking, such as problems in school, stress, peers who drink etc, will cause individuals with both characteristics low, to experience control problems with their drinking. It is debatable as to whether inappropriate self-regulation can lead adolescents to place themselves in alcohol conducive environments. Nevertheless, self-regulation is still believed to possess the link to drinking and there have been many studies across cultures such as African American, Taiwanese, Russian, etc. It can be concluded that self-regulation, is a personality trait that can predict drinking and substance abuse in the early stages, because it is linked to the environment and personality development in the future (25).

As for student drinking, students with drinking problems are separated into two types, namely hedonic use, drinking because of sensation-seeking and impulsivity, and the compensatory use, drinking to cope with negative emotions, such as sadness, hopelessness, or disappointment(11, 14). Sher et al (26) found that the most important trait responsible for problem drinking is impulsivity and disinhibition, which corresponds with Bate et al (25) who believed that both traits increases the risk in the start of and use of increasingly potent usage, because using addictive substances is a

emotion-focus problem-solving, inducing a feeling of immediate relaxation, disregarding the consequences (50). Negative emotions believe that easily stressed individuals have the tendency to be violently stressed and hence use these substances to relax (11, 14, 25).

Other personality traits that have links to drinking are religiosity and affiliation, where religiosity is related to drinking minimally, and affiliation affects drinking depending on the environment such as values of friends supporting drinking (11, 25). In addition to this, alcoholism is also found in patients with antisocial personality disorder. Rydelius (51) found that alcohol abuse children have psychopathic personality traits, whilst children who do not drink have normal traits, but it remains unclear whether the personality trait or alcoholism is the cause of the other. Other personality disorders, such as individuals who are maladaptive, dependent, lack tolerance and endurance, or dissatisfied, are all prone to drinking problems (19).

In studies to predict the risk of alcoholism since adolescence, Hampson et al (52) conducted a longitudinal study of 1,049 children from grades 1 to 5, collected the same sets of data 4 times, and found that hostility and sociability traits have high tendencies of drinking in large quantities, where sociability predicts the length of use, and hostility the quantity of usage. Laboubie et al (53) found that the traits at risk of addiction are low achievement and cognitive structure accompanied by affiliation, autonomy, exhibition and impulsivity, where two or more of these traits are factors to alcoholism. The results of research support that belief that these traits in children are linked to drinking.

As for studies of the relationship between personality and alcoholism amongst Thais (15) it was found that individuals with a repressive personality have the tendency to use alcohol in coping with problems or frustration. It was also found that people with low self-esteem, high feelings of alienation have the tendency to use alcohol as a way to reduce their anxiety and fear of failure. Nimit Kaewat (16) reported that alcoholics have adjustment problems, resulting in the inability to build relationships with others, dependent and unable to cope with the feeling of disappointment, guilt, and worthlessness.

The factors that affect alcoholism cannot be considered separately, because all three factors are all closely relevant. Tucker (54) found that adolescents who drink will have personalities, physical abilities, and life-style that are different from groups that do not drink in many areas. Therefore, before providing intervention to these students who are exposed to the risk of alcoholism, an understanding must concentrate on such factors, to realize the nature of the problem thoroughly. The factors that affect drinking, including the biological, social and psychological, are summarized following

Biological factors	Sociological factors	Psychological factors
-Genetics	-The university environment	-Stress
-The brain and neurotransmitter	-Enrollment in university	-Familial relations and learning
- Tolerance	-Peers	-Adolescent development
- Onset of drinking	-Media and advertisements	- Personality
	-Socioeconomic status	

Personality Tests and Alcohol Problems Screening Tests

Thai Personality Test

The Thai personality test was developed from Thai characteristics, have a interpretation criteria derived from a Thai representation (27), developed by Kanokrat Sukhatunga et al, a self-administering test compiled by factor analysis according to the thought of Raymond B. Cattell, the personality test and trait theory, with a total of 171 questions, where each question is a description of the individuals traits and characteristics in 22 dimensions. Bringing together the 22 dimensions to analyze the components yields the Global Factors 7, as follow (27).

1. Emotional stability. Positive results indicate emotional stability, calm, tolerant of stress, trust people, initiative, and sees details that others do not. Negative results indicate rash thought, uses common sense, irritable, and emotionally erratic.

2. Psychological stability. Positive results indicate sense of worth, contentment, and confidence, cares about others, sense of others feelings and social rules. Negative results indicate worthlessness, lack of confidence, dependency, self-critical, or the opposite; aggressiveness, impulsiveness and self-centered.

3. Social character. A positive result indicate warmth, friendliness, fun-loving, sociable, lively, open, straight forward, likes new things, but also somewhat naive, give in to people, likes to surround themselves with friends to meet their dependency needs. Negative results indicate seriousness, solitude, unfriendly, highly private, conservative, cautious, fearful of mistakes, and sticks to their own beliefs.

4. Sexual identity. Positive results indicate appropriate sexual identity, sense of worth, confidence, and openness to new environments. Negative results indicate identity confusion, lack of confidence, stress, self-centered, untidiness.

5. Self-reliance. Positive results indicate leadership, expressiveness, possessive, competitiveness, risks taking, courage. Negative results indicate inexpressiveness, follower, and shyness, fearful, deny conflict and avoid confrontation.

6. Open to change. Positive results indicate awareness and acceptance of rules, responsible, organized, likes to explore or investigate new things, cannot tolerate irrational traditions. A negative result indicates lack of need for success, hold on to tradition or conservative attitude, does not like to experiment and is difficult to adapt and change to new situations.

7. Cognition. Positives results indicate favor clear tangible things, clear goals, critical thinking and analyzing, intelligent, like to facing and solving the problems. Negative results indicate acting on emotions, sensitive to other people's opinion, artistic, and does not have persistency in problem solving.

Norms

Kanokrat Sukhatunga et al developed the norms for Thais, a mean value, categorized by sex, in order to be used with the general public. It has a cronbach's coefficients alpha value of .7100 and has reliabilities in each factors between medium to high (alpha coefficients = .3187 to .8465). Moreover, Raweevan Kitipoonwongvanich, Dounghatai Lowhakasamewong, Parinda Seneerattanaprayul, and Supapun Tuntepaswasin studied the norms categorized by age and sex in four age groups namely, 15-19, 20-24, 25-54 and 55 and older, in order to appropriately explain the personality characteristics of individuals in each age group (27).

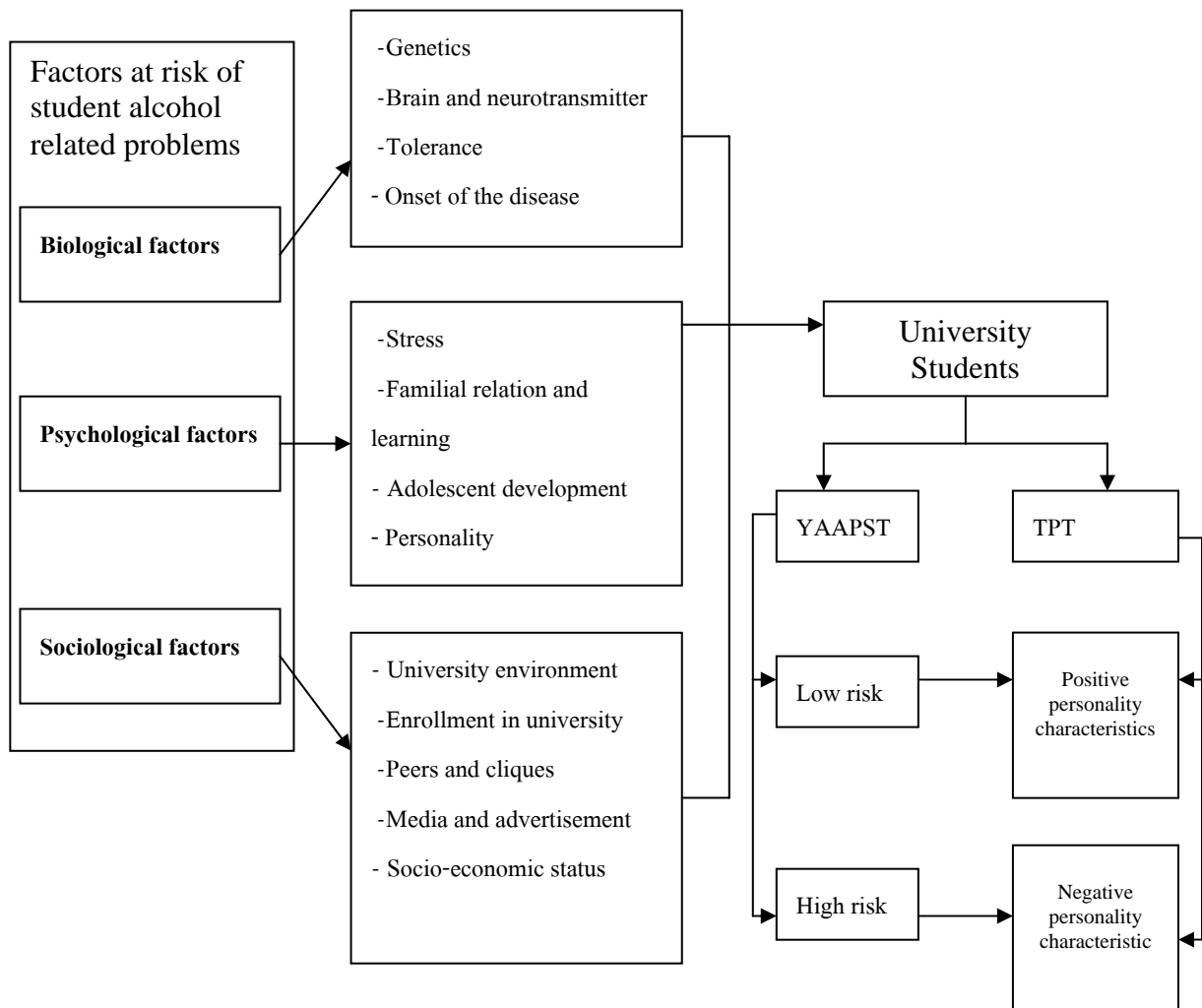
Young Adult Alcohol Problems Screening Test(YAAPST)

Developed by Hurlbut and Sher (1992), it has 27 self-reporting questions, which takes about 5-10 minutes to complete. It was developed from questions used to assess and diagnose alcoholic abuse and alcoholic dependence, as well as the nature of the effects that often affects student drinkers. It evaluates both traditional negative consequences caused by drinking such as driving while intoxicated, blackouts, hangovers, and additional negative consequences on university life such as missing class, receiving lower grade etc. The YAAPST was designed to measure behavior in two phases, namely the lifetime (ever occur), and recent time (occurring during past year), as well as the severity of these problems (weighted by the frequency of occurrences in past year). Research shows that YAAPST has a high reliability (coefficient alpha = .83 to .87, test-retest reliability = .73 to .85) and has a proper construct and concurrence validity comparing with diagnostic interviews for alcohol abuse and alcohol dependence, and other screening materials such as AUDIT, CAPS-r, it has an appropriate sensitivity and specificity values (92% and 57% at 4 point cut off score)(55). Besides from using the YAAPST to screen students who are at risk of alcohol related problems, the YAAPST was also used in research such as Rob Turrisi et al (56) who used the YAAPST to evaluate the effects of drinking to study the relationship between mother-child communication and beliefs about alcohol and its effects. It was found that teaching children about the effects of alcohol will give the child appropriate beliefs about alcohol, reducing the risk of alcohol related problems.

Donohue (57) use the YAAPST along with other tests to separate the students who do not have drinking problems into two groups in order to compare the effects on the body whilst drinking. The experiment found that the high blood alcohol is negatively correlated with response mechanisms of the eye. Doumas (58) used the YAAPST to study the study patterns and effects from student drinking, and found that male students drink more and are affecting more from alcohol related problems especially amongst university athletes.

Conceptual Framework

The literature review revealed that biological, psychological and social factors affect various student personalities, which lead to the hypothesis that “students who are at risk of alcohol-related problems will have a different personality from students in general”. To test this hypothesis, the YAAPST was used to categorize students into two groups one being those who are at high risk of alcohol-related problems and the others with low risk. Then the Thai personality test was used to study the personality of the students in each group and find correlations between the data. This could all be summarized in the following conceptual framework.



CHAPTER 3

METHODOLOGY

This research was a cross-sectional study of the personality of students at risk of alcohol related problems, and the relations between personality characteristics and risk of alcohol related problems amongst university students in Chiang Mai, with the following methodology.

Population

The population used in this study were undergraduate students studying in private and public universities in Chiang Mai in the year 2007, totaling 73, 362 students (59).

Sample

The sample for this study was derived from both public and private institutes, categorized by university. The number of the sample group was calculated by the following formula (60).

$$\begin{aligned}
 N_{pm} &= \frac{NZ^2}{4NE^2 + Z^2} \\
 &= \frac{(73362)(2)^2}{4(73362)^2 + (2)^2} \\
 &= 397
 \end{aligned}$$

Note

- N_{pm} is Sample size
- N is Size of target population
- Z is Value of normal curve at area under the normal curve range($\alpha/2$)
- E is Value of error, In this research $E = .05$

Calculating the proportions, adjustments have been made to the sample group up to 440 people, detailed in the following

University	Number of Students	Sample group
Chiang Mai University	19,212	104
Payap University	6,148	33
Maejo University	9,750	53
Rajamangala Univserity of Technology Lanna	12,144	66
Rajabhat University Chiang Mai	22,913	124
Far Eastern University	2,142	30*
North Chiang Mai University	1,053	30*
Total	73362	440

Note : * Due to a small sample, the number was extended to 30

Recruitment Process

Lest the recruitment process may have disrupted lectures and activities in the institutes, participants were invited by university faculties and staffs through available students from a variety of faculties, year of study, and gender. Subsequently, they were appointed to take a group testing session on their leisure. Prior to administration of the questionnaires, the written informed-consent procedure was explained to the participants. They were also emphasized that their responses would be completed anonymously apart from respective use of group data, and they were encouraged to be honest to their responses.

Variables

Independent Variable The personality characteristics derived from the Thai Personality Test of students who are both low and high risk of alcohol related problems

Dependent Variable The risk of alcohol-related problems derived from YAAPST, which can be low or high.

Research Instruments

1. Questionnaire of personal data including age, sex, grades, class year level, faculty, socio-economic status, native habitat, and residential neighbors or roommate, age of first exposure, place to drink, quantity of alcohol consumption per day, type of beverage, reason for alcohol and substance use.

2. **The Young Adult Alcohol Problems Screening Test (YAAPST)**

Created and developed by Hurlbut and Sher (1992), it has 27 self-reporting questions, which takes about 5-10 minutes to complete. It was created from questions used to evaluate and diagnose alcoholic abuse and alcoholic dependence, as well as the nature of the effects that often affects student drinkers. It consists of questions about traditional negative consequences caused by drinking such as driving under the influence, blackouts, hangovers, and negative consequences about the particular effects of alcohol on university life such as missing class, below average scores etc. The YAAPST is designed to measure behavior in two phases, namely the entire life, and life in the past year, as well as the frequency over the last year. Research shows that YAAPST has a high reliability (coefficient alpha = .83 to .87, test-retest reliability = .73 to .85) and has a high construct and concurrence validity form comparing with diagnostic interviews of alcohol abuse and dependence, and other screening materials such as AUDIT, CAPS-r, it has an appropriate sensitivity and specificity values (92% and 57% at 4 point cut off score)(55).

3. **The Thai Personality Test (TPT)** created and developed by Kanokrat Sukhatunga et al.

Characteristics of the Thai Personality Test

1. The questions are self-administering. It has 171 questions which each questions describes a personality or behavior derived from studies of questions, adjectives and adverbs used to describe Thai characteristics.

2. Answering uses the forced-choice technique from the 3 choices or answers, namely yes, not sure and no.

3. Regarding the criteria for scoring each answer which is clearly indicated as 0, 1, 2 or 0, 1 according to each personality scale and key indicated in the manual for using the personality test.

Reliability

The Thai Personality Test has a reliability value of .71, with a reliability coefficient at a medium to high, as detailed.

Personality Trait	Reliability coefficients(alpha)
A: Warmth	.4200
B: Reasoning	.3364
C: Emotion stability	.5762
E: Dominance	.4941
F: Liveliness	.3346
G: Rule-consciousness	.3187
H: Social boldness	.7435
I: Sensitivity	.4452
L: Vigilance	.4591
M: Abstractedness	.4894
N: Privatness	.4746
O: Apprehension	.5788
Q1: Open to change	.3460
Q2: Self-reliance	.5042
Q3: Perfectionism	.5193
Q4: Tension	.5298
MA: Maturity	.7711
MO: Moralistic	.5809
HO: Hostility	.7477
DP: Depression	.8465
GD: Identity appropriateness	.5678
IM: Impressive management	.4929
Total	.7100

Source Development of Thai Personality Test (TPT), Journal of Thai Clinical Psychology. 35 (2) : July-Dec 2004

Interpretation

After deriving the scores from each of the 22 personality characteristics, a graph is created and interpreted according to the scoring level into three levels, namely low, normal, and high.

Data collection

1. Contact for permission to proceed with the data collection from the institutions and universities to conduct the data collection.
2. After this research had been approved by the Committee of Human Rights Related to Human Experimentation of Mahidol University, the researcher proceeded with the data collection with a trained, knowledgeable and experienced assistance. The data collection was conducted with groups on a designated date and time.
3. The record forms were scored according to the manual.
4. Analyzed the collected data.

Duration of data collection

Data collection for this research took 1 month, during 1-31 August 2007.

Data Analysis

The SPSS program was used to analyze the data as follow.

1. The demographic data of the sample were calculated to frequency and percentage, and the relationship between demographic variables was analyses by Chi-square.
2. Divide the students who are at high risk of alcohol related problems from those who are not, according to the YAAPST criterion. Moderate risk student groups were excluded.
3. Calculate the scores for each of the personality characteristics using the mean and standard deviation values.

4. Compare the average score of the personality characteristics in each dimension of the students between the high alcohol-related problems risk students and the low risk students using the t-test.
5. Analyze the multiple correlation coefficients between personality characteristics and the risk of alcohol related problems, using the stepwise multiple regression analysis.

CHAPTER 4

RESULTS

The research results studying undergraduate students in universities in Chiang Mai is derived from a 454 participants, which is slightly more than the calculated sample size. The results are presented in three parts as

Part 1 Student demographic and drinking data

Part 2 The comparison of the personality characteristics of students who are at a high risk of alcohol related problems and students who are at low risk.

Part 3 The analysis of the relationship between personality characteristics and the risk of alcohol related problems.

Part 1 Student Demographic and Drinking Data

Table 1 Student demographic data

Demographic data	Number	Percentage
Sex		
Male	168	37
Female	286	63
Year		
1	142	31.3
2	149	32.8
3	92	20.3
4	71	15.6

Table 1 Student demographic data (Continued).

Demographic data	Number	Percentage
University Type		
Public	351	77.3
Private	103	22.7
Faculty		
Social Science	163	35.9
Humanities	100	22.0
Science	134	29.5
Health Science	57	12.6
Age		
Below 19 years	56	12.3
19 to 20 years	244	59.7
21 to 22 years	113	24.9
23 years and above	41	9.0
Grade Point Average (GPA)		
Below 2.50	122	26.9
2.50-2.99	131	28.9
3.00 and above	201	44.3
Residence		
University dormitory	125	27.5
Dormitory outside university - with friends	114	25.1
Dormitory outside university - stay alone	73	16.1
Rent - house with relatives	29	6.4
Home with parents	113	24.9

Table 1 Student demographic data (Continued)

Demographic data	Number	Percentage
Monthly allowance		
Less than 3,000 baht	204	44.9
3,001 to 5,000 baht	166	36.6
5,001 baht and above	84	18.5
Monthly expenditure		
Less than 3,000 baht	219	48.2
3,001 to 5,000 baht	147	32.4
5,001 baht and above	88	19.4

The tables show the general view of the demographic data of the students in this study, most of whom were girls (63%) studying in public universities (77.3%) in their second (32.8%) or first year (31.3%), ages were between 19 and 20 years old (53.7%). There were more arts students (57.9%) than science students (42.1%), most with average GPAs of more than 3.00 (44.3%). There was a relatively close distribution of residence between university dormitories, (27.5%) home with parents (24.9%) and dormitories outside university with friends (23.3%). Most received (44.9%) and used (48.2%) less than 3,000 baht per month.

Table 2 Specific issues of alcohol consumption

Specific issues	Number	Percentage
Have drunk alcohol		
No	119	26.2
Yes	335	73.8
Age of first exposure (n = 335)		
Less than 15 years old	32	9.6
15 to 16 years old	127	37.9
17 to 18 years old	118	35.2
19 and above	58	17.3
Duration of drinking (n = 335)		
Less than 2 years	60	17.9
2 to 3 years	121	36.1
4 to 5 years	88	26.3
More than 5 years	66	19.7
Reason to drink (n = 335)		
(one or more responses)		
Peer pressure	165	49.3
To socialize	169	50.4
To relieve stress	73	21.8
To have fun with friends	184	55.2
To relieve fatigue	18	5.4
Union with relatives or parents	29	8.7
To try	128	38.2

Table 2 Specific issues of alcohol consumption (Continued)

Specific issues	Number	Percentage
Alcoholic beverage preferred (n = 335)		
(more than 1 possible)		
White liqueur (lao khao)	54	16.1
Illegal home-distilled alcohol	47	14
Fermented herb in alcohol (ya dong)	37	11.0
Beer	244	73.1
Home-brewed liqueur such as ricewine, wort	50	14.9
Imported liqueur	185	55.5
Domestic liqueur	131	39.4
Others such as wine, vodka, cocktails	60	17.9
Drinking over the last 30 days (n = 335)		
None	133	39.7
1-2 day(s)	87	26
3-5 days	48	14.3
6-9 days	34	10.1
10-19 days	22	6.6
20-29 days	9	2.7
all 30 days	2	0.6
Quantity drunk each time(n = 335)		
1-2 drink(s)	139	41.5
3-4 drinks	67	20
5-6 drinks	34	10.1
7-9 drinks	27	8.1
10-12 drinks	18	5.4
more than 12 drinks	50	14.9

Table 2 Specific issues of alcohol consumption (Continued)

Specific issues	Number	Percentage
Number of times drinking more than 5 standard drinks over the last 30 days (n = 335)		
None	183	54.6
1-2 time(s)	82	24.5
3-5 times	29	8.7
6-9 times	17	5.1
10-12 times	14	4.2
20 or more times	10	3.0
Occasion for drinking (more than 1 possible)(n = 335)		
Various special occasions	272	81.2
Emotional problems	125	37.3
Holiday	108	32.2
Sociability	255	76.1
Remedy for fatigue	34	10.1
No special occasion	13	3.9
Others such as aperitif, health	24	7.2

It can be found on the table that 73.8% of students had drunk alcohol; about half have tried to drink between 15 and 18 years old(63.1%), most having drunk between 2-3 years (36.1%). The most common reason to drink, about half, was due to friends (for fun, to socialize, and peer pressure), but trying also accounted for 38.3%. Beer was the most common alcoholic beverage (73.1%). The frequency of drink over the last 30 days found that 1-2 days was the highest (39.7%), the amount drunk each time was between 1-2 standard drinks (41.5%). Additionally, 45.4% of students had heavy drinking habits (more than 5 standard drinks), often this behavior is between 1-2 times in 30 days. As for the occasion to drink, it was found that special occasions (81.2%) and social situations (76.1%) were the most common.

Table 3 The Chi-square test for association between demographic data and the risk of alcohol-related problems

Demographic data	Risk						Chi square	p-value
	Low risk		Moderate risk		High risk			
	n	%	n	%	n	%		
Sex								
Male	53	31.5	31	18.5	84	50.0	41.39*	<.001
Female	178	62.2	37	12.9	71	24.8		
Year								
1	77	54.2	19	13.4	46	32.4	7.06	.315
2	80	53.7	21	14.1	48	32.2		
3	47	51.1	12	13.0	33	35.9		
4	27	38.0	16	22.5	28	39.4		
Faculty								
Social Science	72	44.2	30	18.4	61	37.4	28.81*	<.001
Humanities	71	71.0	9	9.0	20	20.0		
Science	55	41.0	19	14.2	60	44.8		
Health Science	33	57.9	10	17.5	14	24.6		
Grade Point Average								
Below 2.50	33	27.0	23	18.9	66	54.1	41.86*	<.001
2.50-2.99	77	58.8	14	10.7	40	30.5		
3.00 and above	121	60.2	31	15.4	49	24.4		
Age								
Below 19 years	31	55.4	10	17.9	15	26.8	26.53*	<.001
19 to 20 years	141	57.8	30	12.3	73	29.9		
21 to 22 years	48	42.5	24	21.2	41	36.3		
23 years and above	11	26.8	4	9.8	26	63.4		

Table 3 The Chi-square test for association between demographic data and the risk of alcohol-related problems (Continued)

Demographic data	Risk						Chi-square	p-value
	Low risk		Moderate risk		High risk			
	n	%	n	%	n	%		
Age of first exposure (n = 335)								
Less than 15 years old	9	28.1	7	21.9	16	50.0	9.86	.131
15 to 16 years old	31	24.4	28	22.0	68	53.5		
17 to 18 years old	47	39.8	23	19.5	48	40.7		
19 and above	25	43.1	10	17.2	23	39.7		
Duration of drinking (n = 335)								
Less than 2 years	31	51.7	12	20.0	17	28.3	16.48*	.011
2 to 3 years	41	33.9	27	22.3	53	43.8		
4 to 5 years	25	28.4	16	18.2	47	53.4		
More than 5 years	15	22.7	13	19.7	38	57.6		
Residence								
University dormitory	66	52.8	23	18.4	36	28.8	23.03*	.003
Dormitory outside university – with friends	59	55.7	10	9.4	37	34.9		
Dormitory outside university – stay alone	26	35.6	9	12.3	38	52.1		
Rent-house with relatives	24	64.9	2	5.4	11	29.7		
Home with parents	56	49.6	24	21.2	33	29.2		
Monthly allowance								
Less than 3,000 baht	126	61.8	31	15.2	47	23.0	24.61*	<.001
3,001 to 5,000 baht	74	44.6	26	15.7	66	39.8		
5,001 baht and above	31	36.9	11	13.1	42	50.0		
Monthly expenditure								
Less than 3,000 baht	131	59.8	36	16.4	52	23.7	33.25*	<.001
3,001 to 5,000 baht	75	51.0	19	12.9	53	36.1		
5,001 baht and above	25	28.4	13	14.8	50	56.8		

This table showed that there was a significant association between the risk of alcohol-related problems and demographic variables which were gender, faculty, GPA, age, duration of drinking, residence, monthly allowance, and monthly expenditure. According to the proportion of high risk students within each group, the ratio of high-risk students was greater in males than in females (50% and 24.8%),

greater in the Science students and Social Science students (44.8%, and 37.4%) than in the others, greater in low GPA students than in moderate and high ones (54.1%, 30.5%, and 24.4% respectively), greater in students who older than 23 (63.4%) and students who had been drinking more than 5 years(57.6%) than in the others, greater in students who housed dormitory outside university(alone and with friends; 52.1% and 34.9% respectively) than in the others, as well as greater in students having and spending more than 5,001 baht a month (50.0% and 56.8% respectively) than in the others.

Part 2 The Comparison of The Personality Characteristics of Students who are at a High Risk of Alcohol Related Problems and Students who are at Low Risk

Table 4 Showing the number of students categorized by sex and the level of risk of alcohol related problems

		Risk			Total
		Low	Moderate	High	
Sex	Male	53	31	84	168
	Percent	31.5	18.5	50.0	100.0
	Female	178	37	71	286
	Percent	62.2	12.9	24.8	100.0
Total		231	68	155	454
Percent		50.9	15.0	34.1	100.0

From the table, it was found that the participants that have a low risk of alcohol related problems number 231, moderate risk number 68 and high risk number 155. Among male students, 31.5% are in the low risk group, 50% are in the high risk group. Among female students, 62.2% were in the low risk group and only 24.8% were in the high risk.

The comparison of personality characteristics and the risk of alcohol related problems; the mean scores of personality characteristics were used for comparison of

students at low and high risk of alcohol related problems. The moderate risk student groups were not used in the comparison.

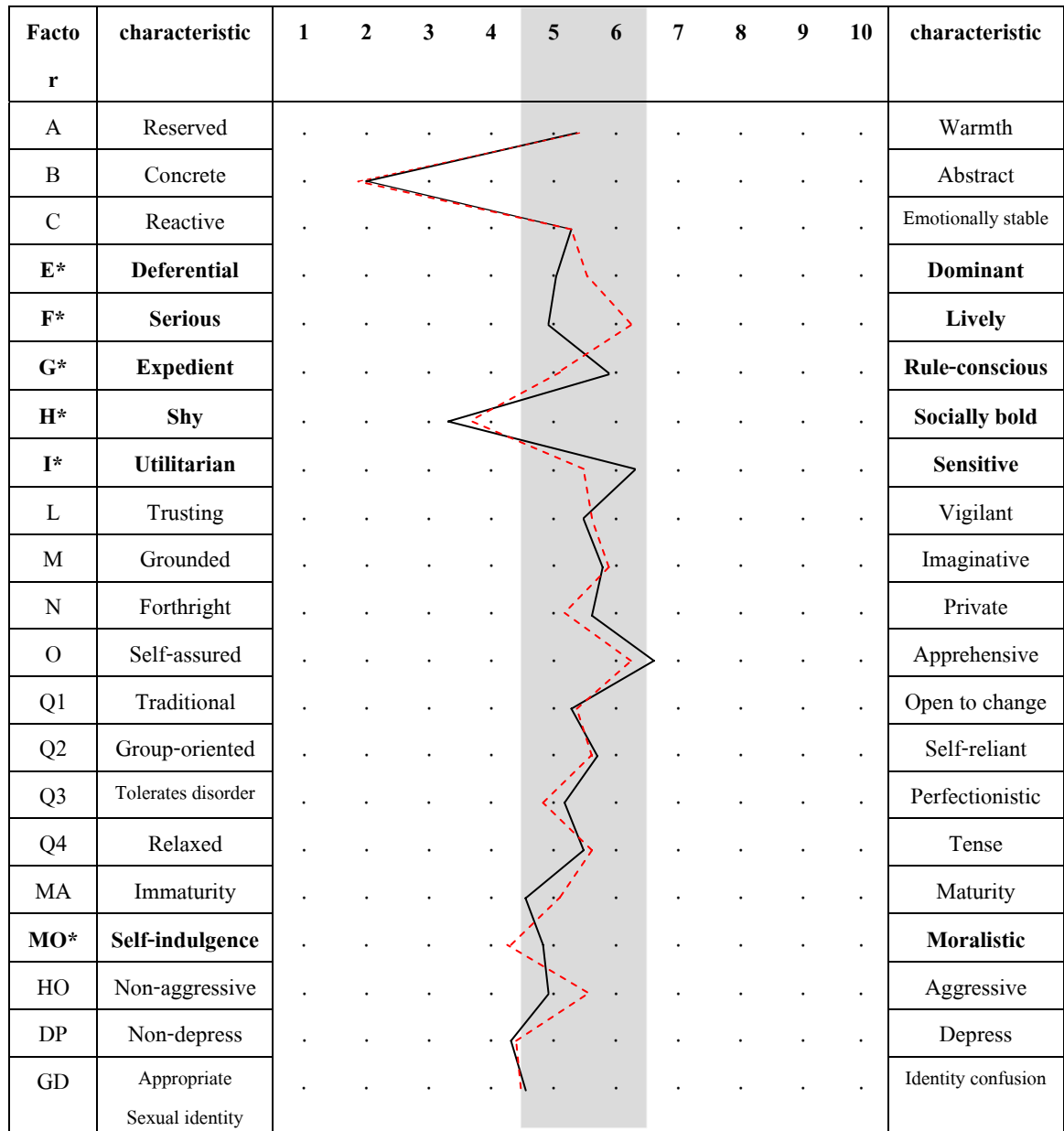
Table 5 The comparing mean scores of personality characteristics between students with low and high risk of alcohol related problems (n=386)

Personality characteristics	Low Risk (n = 231)		High Risk (n = 155)		t-test	p-value
	M	SD	M	SD		
A	5.33	1.848	5.46	1.821	-.823	.411
B	2.00	1.327	1.91	1.255	.638	.524
C	5.21	1.846	5.26	1.652	-.309	.758
E	5.01	1.640	5.55	1.795	-3.008*	.003
F	4.95	1.765	6.25	1.536	-7.463*	<.001
G	5.85	1.997	5.04	1.879	4.020*	<.001
H	3.70	1.775	4.34	1.929	-3.357*	.001
I	6.32	1.835	5.51	2.217	3.788*	<.001
L	5.50	1.834	5.67	1.974	-.859	.391
M	5.75	2.134	5.94	1.861	-.889	.375
N	5.53	1.699	5.26	1.728	1.521	.129
O	6.65	1.730	6.35	1.619	1.707	.089
Q1	5.23	1.879	5.31	2.044	-.418	.676
Q2	5.53	1.791	5.43	1.900	.503	.615
Q3	5.11	1.985	4.90	1.901	1.043	.297
Q4	5.47	1.917	5.66	1.864	-.946	.345
MA	4.68	2.176	5.06	2.434	1.615	.107
MO	4.89	1.968	4.39	2.015	2.394*	.017
HO	4.93	2.875	5.51	3.063	-1.903	.058
DP	4.28	2.515	4.37	2.629	-.325	.746
GD	4.73	2.062	4.52	1.942	.979	.328

From the table it can be seen that both student groups had different mean scores of personality characteristics, in terms of E (dominance), F (liveliness), G (rule-consciousness), H (social boldness), I (sensitivity), and MO (moralistic), where the students at low risk of alcohol related problems had higher mean scores in G and MO than the high risk group. As for the students with high risk of alcohol related problems, they had higher mean scores for E, F and H, which shows the characteristic seeking for novelty and excitement, self-indulgence, and low conscientiousness, than the low risk group. No differences were found in terms of other personality characteristics. The information from table 5 can be illustrated in diagram 1.

Diagram 1

Shows the comparison of mean personality characteristic scores between students with low and high risk of alcohol related problems



* p < .05

Notice : ————— Students with low risk of alcohol related problems

----- Students with high risk of alcohol related problems

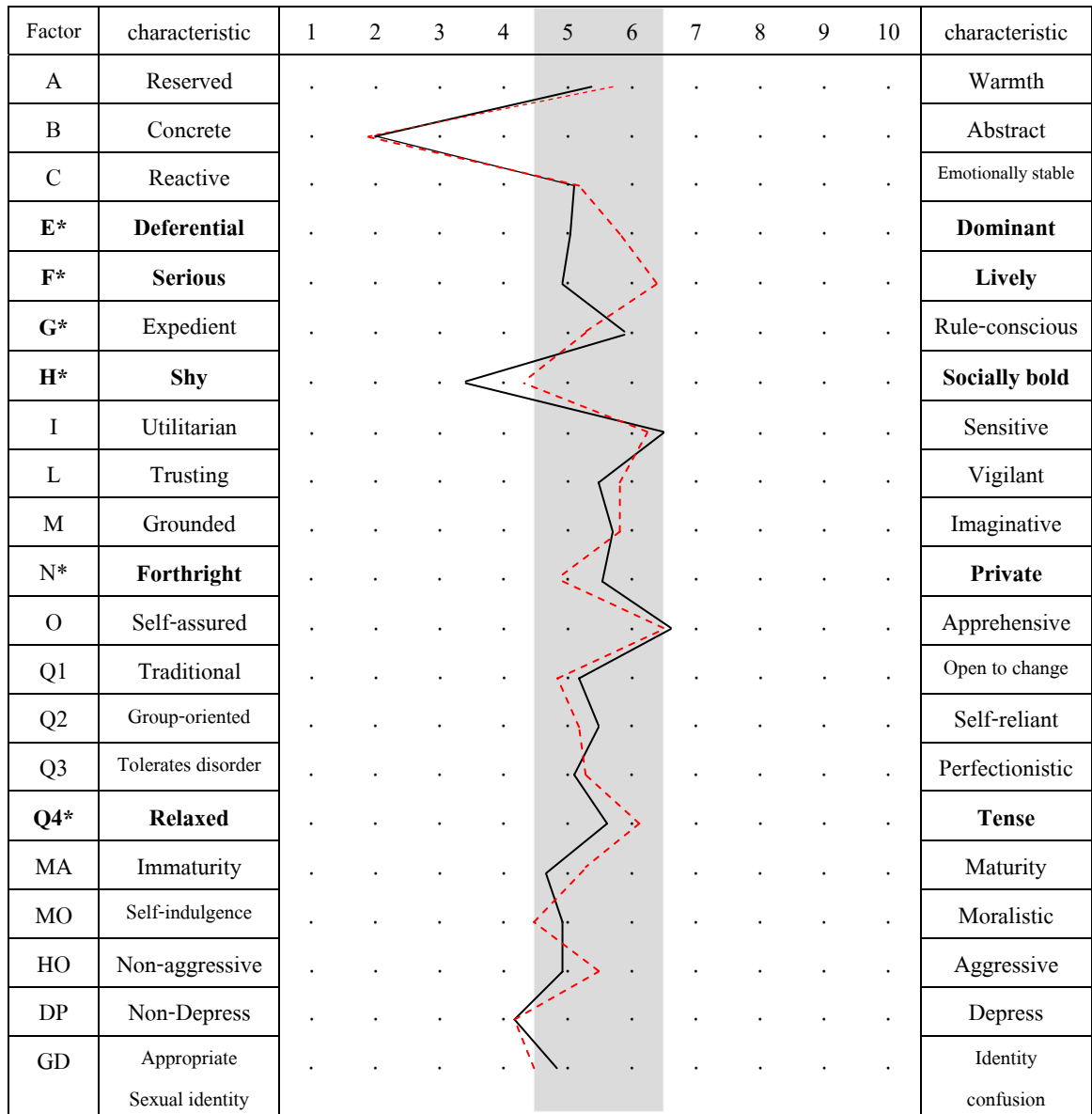
Table 6 The comparison of mean personality characteristic scores between female students with low and high risk of alcohol related problems (n= 249)

Personality characteristic	Low Risk (n = 178)		High Risk (n = 71)		t-test	p-value
	M	SD	M	SD		
A	5.33	1.893	5.82	1.862	-1.071	.285
B	1.97	1.308	1.92	1.360	.304	.762
C	5.12	1.874	5.20	1.762	-.285	.776
E	5.03	1.655	5.82	1.846	-3.284*	.001
F	4.93	1.787	6.34	1.585	-5.781*	<.001
G	5.94	1.989	5.30	1.744	2.380*	.018
H	3.70	1.778	4.44	1.977	-2.871*	.004
I	6.53	1.786	6.32	2.116	.737	.463
L	5.49	1.811	5.85	2.116	-1.334	.183
M	5.69	2.179	5.76	1.736	-.284	.775
N	5.50	1.668	4.92	1.803	2.439*	.015
O	6.75	1.722	6.73	1.530	.087	.931
Q1	5.11	1.939	4.97	2.049	.508	.612
Q2	5.44	1.826	5.15	1.925	1.110	.268
Q3	5.10	1.988	5.21	1.715	-.459	.647
Q4	5.56	1.913	6.13	1.820	-2.133*	.034
MA	4.71	2.194	5.21	2.688	-1.387	.168
MO	4.98	1.932	4.59	2.011	1.427	.163
HO	4.92	2.866	5.55	2.897	-1.570	.121
DP	4.25	2.458	4.23	2.491	.079	.937
GD	4.88	2.076	4.49	2.006	1.348	.179

The table shows that both groups of female students have different mean scores in terms of E (dominance), F (liveliness), G (rule-consciousness), H (social boldness), N (privateness) and Q4 (tension), where the female students with a low risk of alcohol related problems had higher scores in the terms of G and N than the high risk group. The female students with high risk of alcohol related problems had higher means scored in terms of E, F, H and Q4, which indicate social boldness, risk-taking, love of fun excitement, but are more easily stressed, temperamental, ignorant of rule, than the low risk group. No differences were found with other personality characteristics. Table 6 can be illustrated in diagram 2.

Diagram 2

The comparison of mean personality characteristic scores between female students with low and high risk of alcohol related problems



* p < .05

Notice : **————— Female students with low risk of alcohol related problems**

- - - - - Female students with high risk of alcohol related problems

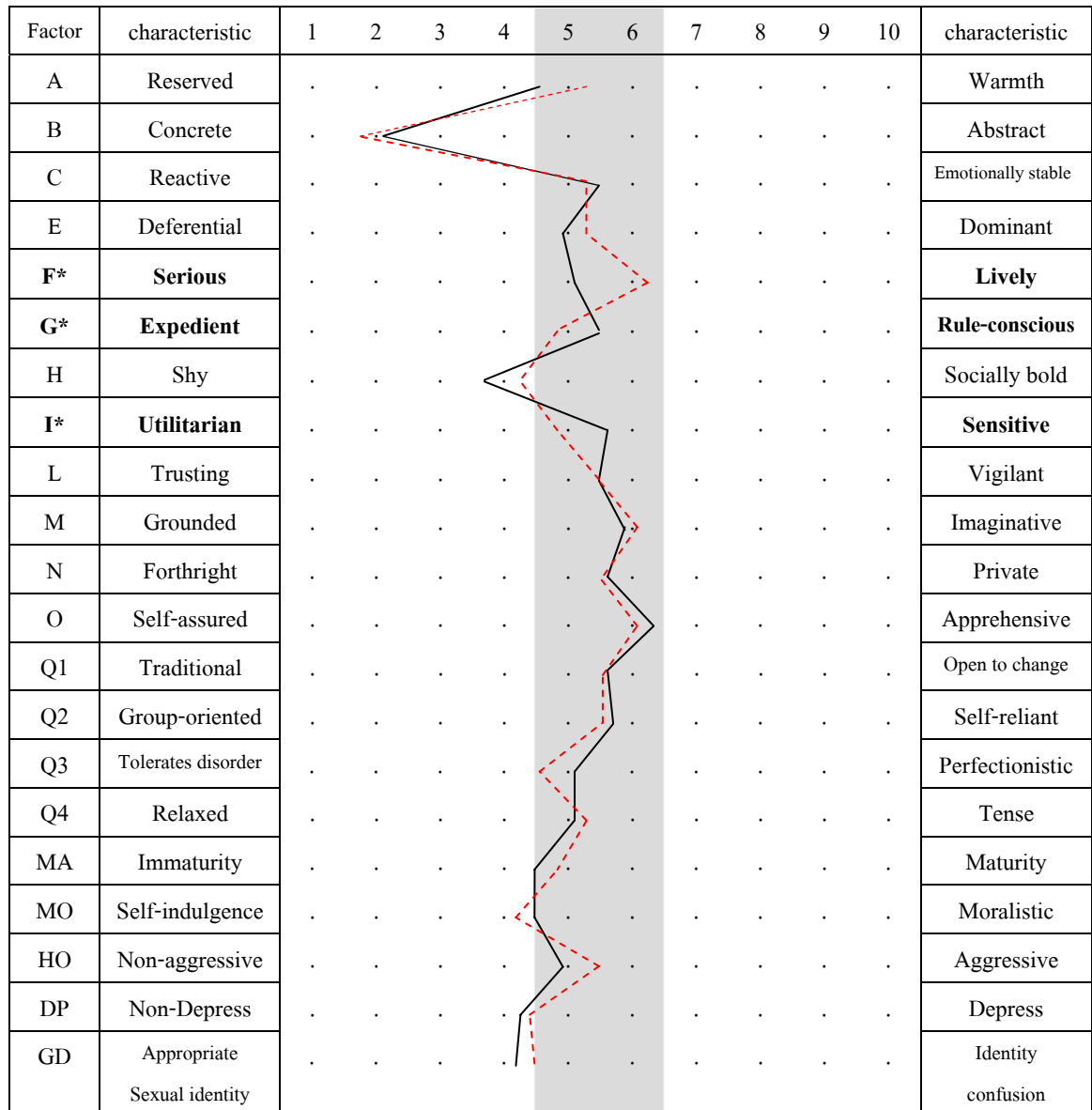
Table 7 The comparison of mean personality characteristics scores between male students with low and high risk of alcohol related problems (n = 137)

Personality characteristic	Low Risk (n = 53)		High Risk (n = 84)		t-test	p-value
	M	SD	M	SD		
A	4.66	1.518	5.21	1.750	-1.897	.060
B	2.08	1.398	1.90	1.168	.771	.442
C	5.49	1.739	5.32	1.561	.591	.556
E	4.96	1.605	5.33	1.731	-1.257	.211
F	5.02	1.704	6.18	1.498	-4.182*	<.001
G	5.57	2.014	4.82	1.971	2.136*	.035
H	3.72	1.780	4.26	1.896	-1.677	.096
I	5.62	1.842	4.82	2.072	2.299*	.023
L	5.55	1.927	5.52	1.846	.071	.944
M	5.98	1.976	6.08	1.959	-2.96	.767
N	5.62	1.811	5.55	1.616	.253	.081
O	6.32	1.730	6.04	1.631	.973	.332
Q1	5.60	1.621	5.60	2.007	.026	.979
Q2	5.81	1.653	5.67	1.858	.463	.644
Q3	5.15	1.994	4.63	2.017	1.476	.142
Q4	5.17	1.919	5.26	1.818	-2.83	.778
MA	4.55	2.126	4.93	2.205	-1.000	.319
MO	4.57	2.071	4.23	2.014	.951	.343
HO	4.96	2.935	5.48	3.213	-.942	.348
DP	4.38	2.719	4.49	2.748	-.231	.818
GD	4.21	1.945	4.55	1.897	-1.012	.313

Table 7 show that both groups of male students had different mean personality characteristic scores in terms of F (liveliness), G (rule-consciousness), and I (sensitivity), where male students with a low risk of alcohol related problems had higher mean scores in terms of G and I than the high risk group. Male students with high risk of alcohol related problems had higher mean scores for F characteristic than the low risk group, which shows the characteristic of being more excitement and thrill seeking, utilitarian, lower tender-mindedness, and ignorant of rule. Other personality characteristics showed no differences. Table 7 can be illustrated as shown in diagram 3.

Diagram 3

The comparison of mean personality characteristics scores between male students with low and high risk of alcohol related problems



* p < .05

Notice : **————— Male students with low risk of alcohol related problems**

- - - - - Male students with high risk of alcohol related problems

Part 3 The Analysis of The Relationship Between Personality Characteristics and the Risk of Alcohol Related Problems.

Tables 8 to 13 are the studies of the relationship between personality characteristics and the risk of alcohol related problems using multiple regression, as detailed in the following.

Table 8 The multiple correlation coefficient (R) and multiple determination coefficient (R²) between the personality characteristics and the risk of alcohol related problems (n = 454)

Personality characteristic	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	P-value
F	.349	.122	.120	4.049	62.855*	<.001
F,G	.386	.149	.145	3.990	39.491*	<.001
F,G,I	.405	.164	.158	3.960	29.376*	<.001
F,G,I,M	.418	.174	.167	3.939	23.716*	<.001
F,G,I,M,H	.429	.184	.175	3.920	20.239*	<.001

The stepwise multiple regression analysis found 5 personality characteristics in the equation namely F (liveliness), G (rule-consciousness), I (sensitivity), M (abstractness) and H (social boldness), **where F was the first variable in the equation, with a correlation coefficient of .349 able to explain 12.2% of the risk of alcohol related problems.**

Bringing together the other personality characteristics into the equation, it was found that the correlation coefficient went up to .429 able to explain 18.4% of the risk of alcohol related problems.

Table 9 The unstandardized regression coefficients (B) and standardized regression coefficients (Beta) of personality characteristics (n = 454)

Variable	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	3.514E-03	1.345		.003	.998
F	.762	.106	.316	7.155*	<.001
G	-.278	.099	-.126	-2.801*	.005
I	-.286	.092	-.135	-3.116*	.002
M	.241	.094	.114	2.577*	.010
H	.237	.102	.102	2.324*	.021
R = .429 R ² = .184 R ² adjusted = .175 F = 20.239 p-value = <.001					

The regression coefficients of personality characteristics F (liveliness), G (rule-consciousness), I (sensitivity), M (abstractness) and H (social boldness) were able to be used to explain the relationship between the risk of alcohol related problems in students and personality characteristics as follows.

$$\text{Risk of alcohol related problems} = .003514 + .762F - .248I - .278G + .241M + .237H$$

When considering the standardized coefficients (Beta), it was found that the personality characteristic F was able to explain the risk of alcohol related problems the most (Beta = .316) followed by I, G, M and H respectively (Beta = -.135, -.126, .144 and .102).

Table 10 The multiple correlation coefficient(R) and multiple determination coefficient (R^2) between personality characteristics and the risk of alcohol related problems in female students (n = 286)

Personality characteristics	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	p-value
F	.359	.129	.126	3.535	41.911*	<.001
F,H	.393	.154	.148	3.488	25.850*	<.001
F,H,L	.416	.173	.164	3.455	19.682*	<.001

The stepwise multiple regression analysis found that the personality characteristics chosen to be equated namely F(liveliness), H (social boldness) and L (vigilance), where F was the first variable in the equation, had a correlation coefficient of .359, able to explain 12.9% of the risk of alcohol related problems in female students.

Bringing H and I into the equation found that the correlation increased to .416, in the mid-range, able to explain 17.3% of the risk of alcohol related problems in female students.

Table 11 The unstandardized regression coefficients (B) and standardized regression coefficients (Beta) of personality characteristics in female students (n = 286)

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-4.249	.948		-4.483*	<.001
F	.705	.113	.341	6.253*	<.001
H	.325	.110	.161	2.943*	.004
L	.268	.106	.137	2.523*	.012
R= .416 R^2 = .173 R^2 adjusted = .154 F = 16.143 p-value = <.001					

Table 11 shows the regression coefficients of personality characteristics F (liveliness), H (social boldness) and L (vigilance), able to be used to explain the relationship between the risk of alcohol related problems and the personality characteristics of female students as follows.

$$\text{Risk of alcohol related problems in female students} = -4.249 + .705F + .325H + .268L$$

When considering the standardized regression coefficients (Beta), it was found F was able to explain the risk of alcohol related problems in female students the most (Beta = .341) followed by H and L respectively (Beta = .161, .106).

Table 12 the multiple correlation coefficient(R) and multiple determination coefficient (R²) between the personality characteristics and the risk of alcohol related problems in male students (n = 168)

Personality characteristics	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	p-value
F	.340	.116	.110	4.429	21.692*	<.001
F,G	.405	.164	.154	4.320	16.143*	<.001

The stepwise multiple regression analysis found that the 2 personality characteristics chosen to be equated name F (liveliness) and G (rule-consciousness), where F was the first variable in the equation, had a correlation coefficient of .340, able to explain 11.0% of the risk of alcohol related problems in male students.

Bringing G into the equation found that the correlation increased to .405 able to explain 16.4% of the risk of alcohol related problems in male students.

Table 13 The unstandardized regression coefficients (B) and standardized regression coefficients (Beta) of personality characteristics in male students (n = 168)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
	(Constant)	3.157	1.588		
F	.797	.198	.293	4.022*	<.001
G	-.519	.168	-.224	-3.080*	.002
R= .405 R ² = .164 R ² adjusted = .154 F = 16.143 p-value = <.001					

The regression coefficients of personality characteristics F (liveliness) and G (rule-consciousness) were able to be used to explain the relationship between the risks of alcohol related problems in male students and personality characteristics as follows.

$$\text{Risk of alcohol related problems in male students} = 3.157 + .797F - .519G$$

When considering the standardized regression coefficients (Beta), it was found that F (Beta = .293) was able to explain the risk of alcohol related problems in male students the most (Beta = .293) followed by G (Beta = -.224).

CHAPTER 5

DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

This research's objective was to study the personality characteristics of students who were at high risk of alcohol-related problem and to study the relationship between personality and the risk of alcohol related problems among students both in public and private universities in Chiang Mai. A number of 454 participants were selected from a population of 73,362.

Discussion

1. Student demographic and drinking data

The study consists of 454 students from universities in Chiang Mai, 351 from public institutions, and 103 from private institutions. Most were female students, in their first and second year. About half were between 19 and 20 years old, and had a grade point average of 3.00 or higher. As for residence, there were slightly different number of students who lived in university dorms, with parents and in dormitories outside the university with friends. About half of subjects received and spent less than 3,000 baht a month.

Drinking information found that about 3 in 4 students had drunk alcohol more or less. In this group it was found that 7% began to drink before 15 years of age, about half began to drink between 15 to 18 years of age, and had been drinking for about 2-3 years. Beer and local and foreign liqueur were the most popular alcoholic beverages. The frequency of drinking in the last 30 days was 1-2 days, and the amount of drink each time was about 1-2 standard drinks. About half are binge drinkers, the reason and occasion to drink usually involved peers or friends such as social gatherings, special events, and socializing. These findings correspond with data collected by the Thai Health Promotion Foundation and the study of Patrawadee

Chumpolveerapong (61, 62) which found that first instances of drinking behavior in adolescents was often amongst friends, when they were pressured by their peers. Many adolescents were not brave enough to decline the invitation because of their fear of rejection and others just wanted to try to fit in with their friends. Muisener (33) explained the adolescents placed important on their peers as their need to increase autonomy and become independent from their parents, therefore separating themselves from their parents. But because they had yet to become adults by themselves, they had to depend on their friends, their heroes, or other role models and used the reactions from their friends to develop their identity, such as self-image, self-acceptance, problem-solving skills, by comparing themselves to their peers and hence had a tendency to follow and accept others. Additionally, drinking in Thai society is considered normal at festive occasions, to celebrate, to create an atmosphere of fun and attachment (19, 63). These social messages make them feel drinking is normal ,and accepting these drinking values easily.

Additionally, when categorizing the samples by demographic data, it was found that students with different sex, faculty, GPA, residence, age, time of drinking, monthly allowance, and monthly payment had different risk of alcohol-use problems. The findings found that these demographic factors were related with alcohol-use problems. In terms of gender, it was found that males were more at risk of alcohol related problems, which corresponds to numerous researches (7, 11, 41, 44, 45, 48). There are a variety of perspectives explaining the relationship between gender and alcohol use, such as the belief that societal values accept male drinking more than female (15, 19, 65), the values that drinking was an expression of masculinity, and drinking to get drunk to show virility (32, 48). Other than this there were biological views that the gene for alcoholism was more likely inherited by male rather than female offspring (41, 50) and there were more adverse physical effects on the female than male with the same quantity of drink, discouraging females from drinking, but have a higher tendency to abuse other drugs(7, 65).

Other than gender, it was found that the group divided by faculty and GPA had the different means of the risks of problems from using alcohol. In terms of faculty, the findings reveal that science and social science students had higher risk of alcohol-related problems than humanities students. In this study, the science group consisted of

students from a faculty of Engineering, Sciences, Agriculture, and Agro Industry. In this group, there were more males than females (71.6% and 28.4% respectively), by contrast with social science group which consisted of students from a faculty of Political Science, Laws, Sociology and Anthropology, Business Administration, and Economics, had more females than males (73.6% and 26.4% respectively). These evidences showed that the different means were not influenced by gender difference, but should be caused by the drinking culture in each faculty. According to the report of NIAAA (7), it described that the college drinking was a kind of culture handed down through the generations that alcohol was a necessary component of social success. This corresponds with several studies which found that drinking problems were related with the positive attitudes toward using alcohol. Many students felt it was common to use alcohol in college activities, such as freshy or new coming orientation, parties, etc, and they perceived that society and the environment facilitated their drinking habit. (16, 44, 48) In terms of GPA, it was found that the students who had lower GPA had the highest risk of alcohol-related problems. This finding conforms to the Hampson's study (64) explaining that students with alcohol related problems often underestimated the dangers of alcohol use and did not give importance to education. This also corresponds with Presley and Wechsler (34, 36) who explained that the academic impairment was a consequence of drinking, such as missing school, hangovers, falling behind others and failure to do course work.

In term of residence, it was found that students who were living outside university dorms with friends were at higher risk of alcohol related problems. This was because living in the dorms outside the university constitutes more freedom, living without rules that they didn't like, and there were no parents to try to control or discipline them. In contrary, students who lived in university dorms are governed under strict rules of conduct such as curfews, prohibition of alcohol or resident professors etc. Thus students living in dorms outside the university were exposed to a higher tendency to drink. Similarly, the study of Rosalie, Weitzman and Wechsler (48, 67, 68) found that living in residence that was available to drink such as no drinking restriction, having drinking peer, etc., makes students had a higher alcohol consumption rate.

Next demographic factors which were related with the risk of alcohol-use problems were duration of drinking, age of exposure, and age. For the duration of drinking, it was found that the students who had drunk more than 5 years had higher risk of alcohol-related problems. This is because adolescence is a critical period for identity development, learning about individual differences, and building relationships with others. Therefore, using alcohol or other drugs for a long time or from an early age will interfere with the development in this stage, making it impossible to establish identity, problem-solving skills and mutual relationships with others. This confronts them with confusion, stress and more negative experiences; therefore they tend to use alcohol all over again to solve their problems, which lead to a drug cycle that makes their problems more severe and complicated. At the same time, the group that uses at a later age or not use for a long time, even the alcohol use still causes problems, but this group has any problem-solving skills, has less of an identity crisis, and is able to build relationships with others more (14, 23, 33). However, in this study, although the age of exposure didn't have statistically different ratio of risk of problem from using alcohol, it does not imply that drinking onset is not related with a risk of alcohol-related problems; but when considering the ratio within this group, the students who started drinking before 17 years old, although insignificant, had higher risk of alcohol-related problems than the others. This is because progression of alcoholism often insidiously occurs in late teens or 20s, and the criteria of disease are not fully found until 30s (24). Nonetheless, in this study, all participants were university students; about half were only 19-20 years old, and most of them had drunk alcohol no longer than 3 years, hence the problem from using only clearly appeared in some cases. It conforms to the findings of different scores between each age group; the older than 23 year old students had the highest risk of alcohol use problems, because this group had been drinking alcohol for a long time, and had more progression to alcohol use disorder and more negative consequences from drinking than others. Similarly, the study of Hingson, Heeran, and Winter (4) found that 15 % of the 4,778 alcoholic patients who received treatment at NIAAA between 2001-2002 were diagnosed with alcohol dependence before the age of 18, whereas, if diagnosed prior to the age of 25, the percentage is raised to two-thirds.

In terms of monetary factors, it was found that the student group that received a low monthly income had a lower risk of alcohol related problems than student groups with middle to high incomes, and the student group that spent more than 5,001 per month had the highest risk. This is because money is a factor which makes students able to continue consumption hence increasing the chances of problems. If they have enough income to buy alcohol or the price of alcohol is low enough, the chances of drinking will increase (15, 19, 20, 26). The students with high risk of alcohol use problems have to spend more money than others due to their frequent or heavy drinking.

2. Comparing the personality characteristics of students with low and high risk of alcohol related problems

The categorization of the groups by YAAPST in accordance to the level of risk, found that 231 were at low risk, 68 were at moderate risk, and 155 were at high risk of alcohol related problems. From this categorized, it found that 50 percent of male students were at high risk, and female students were 24.8 percent at risk. The comparison is detailed as follows.

2.1 Personality characteristics of students who have low and high risk of alcohol related problems

From the study, it was found that the personality characteristics of both groups were different, where students with low risk of alcohol related problems had higher mean scores in factor G (rule-consciousness), I (sensitivity) and MO (moralistic), and students with high risk had higher mean scores in factor E (dominance), F (liveliness) and H (social boldness). Nevertheless, profiles of both groups were in the normal range.

From initial studies, it can be concluded that students with high risk of alcohol related problems have characteristics of the search for novelty, excitement and risk-taking, lack of regard for the rules at times, when facing problems tend to focus only on outcomes and make decisions with carelessness, whereas the students with low risk are more sensitive, understanding of others, serious, perseverant, patient, and rules-conscious. These results correspond with the study of Ruiz et al (69) who found that

the profile of binge-drinking students often is disinhibition; deciding without reflectiveness, lack of planning or caution and acting without regard to rules or regulations (impulsivity and conscientiousness), sensation-seeking and gregarious; sociability but with the tendency to experience negative emotions caused by interpersonal relationship problems because they are often egocentric and treat others with in an abrasive and manipulative manner (low tender-mindedness and straightforward, high self-conscious and vulnerability).

2.2 Personality characteristics of female students with low and high risk of alcohol related problems

Female students who are at a low and high risk of alcohol related problems had different mean scores for personality characteristics in factors E (dominance), F (liveliness), G (rule-consciousness), H (social boldness), N (privateness), and Q4 (tension), where the low risk group had personality characteristics of G and N higher than the high risk group. The high risk group had higher mean scores in terms of personality characteristics of E, F, H, and Q4.

The results of the comparison showed that female students with a risk of alcohol related problems have more social boldness, agility and fluency, fun loving and excitement, but are easily stressed, temperamental, impatient, competitive, and unreserved, whereas those with a low risk are more shy and conservative, serious, and responsible. The characteristics of the students with high risk corresponds with the study of Gonet and Pirkle (14, 70) who found that female students who are binge drinkers, often consider themselves popular, need for attention and acceptance, that often express in the form of challenges, competitiveness, and manipulation. Additionally, they are easily stress, temperamental, intolerant, therefore they tend to have repeated and severe stress, hence the risk of using alcohol for coping with stress, even though there are consequential problems that follow (71, 72). Likewise, the study of Hair (73) found that female students who have alcohol related problems are often self-centered, negligent and reckless, and therefore have the tendency to drink without concern for the consequences.

2.3 Personality characteristics of male students with low and high risk of alcohol related problems

The comparison found that both male groups had different personality characteristics mean scores in factor F (liveliness), G (rule-consciousness) and I (sensitivity), where the group with the low risk had higher mean scores in terms of G and I than the high risk group, who had higher scores in factor F.

The result of the study show that students with a high risk of alcohol related problems have characteristics of expediency, regardlessness of rules, not understanding of others, and have a need for varied, novel and stimulated experiences. This corresponds with the study of William, Theakstan and Legrand (71, 72, 74) who found that male students with alcohol related problems often make irresponsible and immature decisions, are inconsiderate of others, excitement and novel seeking. These characteristics support the study of Wechsler and Lo (75, 76) who found that the negative consequences of alcohol on other people, such as quarrels, fights, physical abuse, vandalism, and legal disobedience, were more often conducted by males than females.

3. The relationship between personality characteristics and alcohol related problems

The results of the study found that personality characteristics were related to the risk of alcohol related problems at a moderate level (77), and be able to explain 18.4 percent of risk of alcohol related problems. The personality characteristics of F (liveliness) had the highest correlation with the risk of alcohol related problems, followed by G (rule-consciousness), I (sensitivity), M (abstractedness) and H (social boldness) respectively.

The factor F (liveliness) was related to the risk of alcohol related problems. High scores for this characteristic indicate a love of novelty and excitement, have a wide interest but is easily bored. Students with this characteristic high have a tendency to use alcohol to increase the fun and excitement, which corresponds with the study of Legrand et al (74) who found that high sensation-seeking was linked to binge drinking. The studies of Hampson and Magid (64, 76) found that high sensation-seeking was related to alcohol related problems ($r = .39$ and $.21$

respectively). Nevertheless, even though the results in this study indicate that factor F was the most correlated with the risk of alcohol related problems, but the F characteristics alone could only account for 12.2 percent of risks of alcohol related problems, therefore, the sensation seeking trait alone does not clearly cause alcohol related problems. Magid (76) explained that a sensation seeking groups may seek excitement and new experiences from activities that society accept and are less dangerous such as sports, movies, etc, other than alcohol.

The factor G (rule-consciousness) was negatively correlated with the risk of alcohol related problems. A low G characteristic indicates a tendency for expediency, indulgence, disregard for rules, negligence of obligation, and low responsibility. The study of Kashdan et al (79) found that students who were high conscientious were more perseverant and motivated to complete the task and fulfill life goals. Conscientiousness was, therefore, a protective factor that prevents risky behavior such as drinking, or being in situations that stimulate alcohol consumption (25). Similarly Ruiz (69) found that low conscientiousness is able to predict alcohol related problems ($r = -.33$). As for the factor H (social boldness), it was positively correlated with the risk of alcohol related problems. A high H indicates a tendency to be brave to social expression, unafraid of risks. Students with these characteristics have a tendency to act without planning or contemplation, and when drinking even further reduces their inhibitions, resulting in the increased probability of more alcohol related problems (78). Ruiz and Nagoshi (69, 80) explained that students who were disinhibitive had a tendency to act with hasty and lack planning, never considering the consequences of their actions, hence having problems from the lack of control on their drinking. From this evidence, the characteristics G and H are very similar in the sense of self-control, and when considering them together with characteristic F, is able to explain that in groups of students who are sensation seeking using alcohol, a weak self-control will increase the risk of alcohol related problems.

The factor I (sensitivity) was negatively correlated to the risk of alcohol related problems. A low I indicates tough-mindedness, inattention to detail, not sharing their feelings with others, and are often unsympathetic. These characteristics have a tendency to cause misunderstandings and incompatibility with others. Along with times of distress, they were often repressed their problems and not seeking the help or

advise from others because they fear being seen as weak. If unable to deal with the problems or stress, they will contribute to the risk of alcohol use to reduce these negative emotions (69, 72). As for the trait M (abstractedness), it was positively correlated with the risk of alcohol related problems. A high M is initiative and highly imaginative, but when confronted with problems, they have the tendency to obsess with their own problem, thinking but lacking the action to solve the problem, often caring too much about their inner-feeling rather than the environment. Therefore, an individual who displays high levels of this characteristic is at risk of using alcohol to deal with the stress instead of dealing with the problems directly (72). This shows that the characteristics I and M are similar in terms of their tendency to use alcohol to eliminate emotional problems as a coping strategy. However, the samples of this study were from a non-clinical population. The drinking for coping only happens when other coping strategies fail, which is different from alcoholic groups who use alcohol as a habitual coping strategy (71), and hence the correlation coefficients of both characteristics were not so high (R^2 change = .015 and .010 respectively)

When analyzing in terms of gender differences, it was found that personality was able to predict the risk of alcohol related problems 17.3 percent in females, and 16.4 percent in males. Among the female students, the personality characteristics that were related to the risk of alcohol related problems include F (liveliness), H (social boldness) and L (vigilance), where F and H were positively correlated with the risk of alcohol related problems, corresponding with the general picture of students without the gender categorization. The factor L indicate suspicion, doubtfulness, adherence to their own beliefs as Gonet (14) explained that one of the characteristics of adolescents who use alcohol and substance is defensive; tendency to mistrust and blame others to reaffirm that drinking is not a wrong, and project their feelings of pain and self-hated to everyone. These defensive behaviors increase with the level of substance use. The users begin to believe that the one they can trust is the drug. In the end, only the substance is their companion. In males, the personality characteristics that were most related with alcohol-related problems were F (liveliness) and G (rule-consciousness), where F was positively correlated and G was negatively correlated, similar to the general. The results of the study is able to conclude that the personality characteristics that are able to predict the risk of alcohol related problems among male and female

students are different, even though male and female students had the factor F as the best predictor (sensation and experience seeking). However, in females, the characteristics of risk-taking, impulsive, and not listening to others are personality characteristics that help predict the risk of problems. In males, the characteristics of irresponsibility, doing what they need without respecting rules, are indicators. Therefore, low conscientiousness could explain why most male students who have drinking problems often socialize with drug-using peers and have a tendency to adopt the drinking values from them, rather than decent values from society (48, 49, 67). This corresponds with the study of William and Theakstan (71, 72) who found that the sensation seeking trait is related to drinking in both sexes. The motivation for drinking in females is often an enhancement, the internal motive, but for males it is more of a social, the external motive. Similarly, Legrand (74) found that stimulative and sensation seeking traits in both sexes, but female students who were binge drinkers often lacked inhibition and self-control, drinking as a form of social release more than males. On the other hand, male students who were binge drinkers were also disinhibitive, but are more related to the characteristic of experience seeking.

Research conclusions

This research is a study of the relationship between personality characteristics and the risk of alcohol related problems and a comparison study of the personality characteristics of students at low and high risk of alcohol related problems using the TPT, YAAPST and a demographic questionnaire. The samples were taken from the undergraduate population of Chiang Mai, both in private and public institutions, totaling 454 subjects. The results of the study are summarized as follows.

1. Personal Information

Most of the study groups were women studying in year 1 and 2 between the ages of 19-20 years old, half with a grade point average of 3.00 and above. There was a relatively close number of students living in university dorms, with parents and in dorms outside the university with friends. Most received a monthly income of less than 3,000 baht, and about 3 in 4 had been drinking from between the ages of 15 to 18

years old, the duration of drinking about 2-3 years. The most popular alcohol beverage was beer. In the past month, it was found that most had drunk for 1-2 days at about 1-2 standard drinks. Almost half had binge-drinking behaviors (more than 5 standard drinks in rows). The cause of drinking was often in social with friends and special festive occasions. The demographic data that were associated to the high risk of alcohol related problems include males, low GPA, science or social science students, living in dorms outside university, drinking for long duration, received money allowances of more than 3,001 baht and spend more than 5,001 baht a month.

2. Comparing the personality characteristics of students with low and high risk of alcohol related problems

The students that were categorized as the low risk of alcohol related problems number 231 individuals, moderate risk 68 individuals and high risk 155 individuals. The results of the comparison found that the high risk group are excitement and risk taking, self-indulgence, disregard for rules, seeing problems at the end, and jump to conclusion without being careful (high E, F, and H; low G, I, and MO)

When categorized by sex, it was found that female students who were at a high risk of alcohol related problems are socially bold, agile and easily changing, excitement and risk taking, somewhat stubborn, impatient, easily stressed, irresponsible, (high E, F, H and Q4; low G and N). Male students with a high risk were expediency, unsympathetic, disregard for rules, and are exciting- and sensation-seeking (high F, low G and I)

3. The relationship between personality characteristics and alcohol related problems

It was found that the personality characteristics were able to predict the risk of alcohol related problem at 18.4 percent, where it was found that F (liveliness) was the most correlated with the risk of alcohol related problems, followed by G (rule-consciousness), I (sensitivity), M (abstractedness) and H (social boldness) respectively.

When categorized by gender, it was found that amongst female students, the personality characteristics F (liveliness), H (social boldness) and L (vigilance)

predicted the risk of alcohol related problems. For male students it was the factor F (liveliness) and G (rule-consciousness). It can be concluded that sensation and seeking for excitement are able to predict the risk of alcohol-related problems both in males and females. Among female students other characteristics that help predict the risk of alcohol related problems are risk-taking, impulsive and regardless to others, for males it is the lack of responsibility, inconsideration of others, ignorant of rules or principle.

The personality characteristic that related with the risk of alcohol related problems were summarized below

Table 14 The conclusion of the personality characteristics which associated with the risk of alcohol use problems.

Personality Characteristics	Comparison			Relationship		
	Both gender	Female students	Male students	Both gender	Female students	Male students
Factor A	-	-	-	-	-	-
Factor B	-	-	-	-	-	-
Factor C	-	-	-	-	-	-
Factor E	*	*	-	-	-	-
Factor F	*	*	*	*	*	*
Factor G	*	*	*	*	-	*
Factor H	*	*	-	*	*	-
Factor I	*	-	*	*	-	-
Factor L	-	-	-	-	*	-
Factor M	-	-	-	*	-	-
Factor N	-	*	-	-	-	-
Factor O	-	-	-	-	-	-
Factor Q1	-	-	-	-	-	-
Factor Q2	-	-	-	-	-	-
Factor Q3	-	-	-	-	-	-
Factor Q4	-	*	-	-	-	-
Factor MA	-	-	-	-	-	-
Factor MO	*	-	-	-	-	-
Factor HO	-	-	-	-	-	-
Factor DP	-	-	-	-	-	-
Factor GD	-	-	-	-	-	-

Recommendations

Recommendation for this study

1. The result of this study have allowed the understanding of the importance of personality characteristics that is linked with the risks of alcohol related problems, which lead to creating and promoting appropriate student activities that serve the characters and can be substituted of alcohol drinking that are activities of exciting, fun and are less dangerous or more beneficial than drinking, improve problem-solving skills without the use of alcohol, increase self-control and self-discipline, etc.

2. The results of this study will benefit to understanding the personality characteristics of students who are at a high risk of alcohol-related problems, which can be useful in counseling, psychotherapy or interventions such as social skills, the promotion and development of positive characteristics, and the creation of proper attitudes such as responsibility, placing importance on education, in order to reduce the risk of alcohol related problems.

Recommendation for further study

1. These findings were not covered all Thai university student population who was at the risk of alcohol- related problem. Consequently, the relationship between personality characteristics and the risk of alcohol-related problem in university students in other regions could be investigated as it can represent nature of this population more properly.

2. Further studies may examine the influence of personality characteristics toward the risk of alcohol use problems in other population such as high school and vocational students, or may test whether how far the finding from this study can be generalized to others.

3. The longitudinal research design is necessary to identify what personality characteristics are the cause of or the effect from the risk of alcohol related problems.

Research limitations

1. This study used 3 instruments, which in total is a lot of questions and very time consuming. To have reliable and appropriate information, the researcher should do the best convince respondents to cooperate.

2. The samples were divided into male and female groups to study characteristics that relate to a risk of alcohol use problems in both genders. The relatively small male sample size may influence on the multiple regression analysis of this group.

3. The samples in this study are in Chiang Mai, with domiciles in the northern region and studying in the undergraduate level. Using the data to generalize of other groups with other characteristics must be done with caution.

4. This was a cross-sectional study, therefore the results can only indicate the relationship between the personality characteristics and the risk of alcohol related problems and the tendency of occurrence.

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APPENDIX

APENDIX A

Approval from The Committee on Human Rights Related to Human Experimentation



No. MU 2007-147


**Documentary Proof of Ethical Clearance
The Committee on Human Rights Related to
Human Experimentation
Mahidol University, Bangkok**

Title of Project. Personality Characteristics and the Risk of Problem-Used Alcohol in University Students
(Thesis for Master Degree)

Principle Investigator. Mr. Chaiyan Sakulsriprasert

Name of Institution. Faculty of Medicine Siriraj Hospital

Approved by the Committee on Human Rights Related to Human Experimentation

Signature of Chairman. 
(Professor Dr. Srisin Khusmith)

Signature of Head of the Institute. 
(Professor Dr. Pornchai Matangkasombut)

Date of Approval. - 1 AUG 2007

Date of Expiration. 31 JUL 2008

APENDIX B

YAAPST

ตัวอย่างแบบคัดกรองความเสี่ยงต่อการเกิดปัญหาจากการดื่มสุราในนักศึกษา (YAAPST)

1. คุณเคยขับขีรถขณะที่คุณรู้สึกว่าคุณดื่มสุรามากเกินกว่าที่จะขับขีรถปลอดภัยหรือไม่?

_____ ไม่เคยเลย

_____ เคย แต่ไม่ใช่ในปีที่ผ่านมา

_____ เคยในปีที่ผ่านมา :

_____ 1 ครั้ง	_____ 2 ครั้ง	_____ 3 ครั้ง
_____ 4-6 ครั้ง	_____ 7-11 ครั้ง	_____ 12-20 ครั้ง
_____ 21-39 ครั้ง	_____ 40 ครั้งหรือมากกว่า	

2. คุณเคยมีอาการปวดหัว(เมาค้าง) ในเช้าวันรุ่งขึ้นหลังจากคุณดื่มสุราหรือไม่?

_____ ไม่เคยเลย

_____ เคย แต่ไม่ใช่ในปีที่ผ่านมา

_____ เคยในปีที่ผ่านมา :

_____ 1 ครั้ง	_____ 2 ครั้ง	_____ 3 ครั้ง
_____ 4-6 ครั้ง	_____ 7-11 ครั้ง	_____ 12-20 ครั้ง
_____ 21-39 ครั้ง	_____ 40 ครั้งหรือมากกว่า	

3. คุณเคยเข้าเรียนหรือไปทำงานสาย เนื่องจากการดื่มสุรา, จากอาการเมาค้าง หรืออาการเจ็บป่วยต่าง ๆ ที่เกิดขึ้นเนื่องจากการดื่มสุราหรือไม่?

_____ ไม่เคยเลย

_____ เคย แต่ไม่ใช่ในปีที่ผ่านมา

_____ เคยในปีที่ผ่านมา :

_____ 1 ครั้ง	_____ 2 ครั้ง	_____ 3 ครั้ง
_____ 4-6 ครั้ง	_____ 7-11 ครั้ง	_____ 12-20 ครั้ง
_____ 21-39 ครั้ง	_____ 40 ครั้งหรือมากกว่า	

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APENDIX C

Thai Personality Test

BIOGRAPHY

NAME	Mr. Chaiyun Sakulsriprasert
DATE OF BIRTH	March 21, 1983
PLACE OF BIRTH	Chiang Mai , Thailand
INSTITUTIONS ATTENDED	2001 – 2004: Bachelor of Science(Psychology) Chiang Mai University 2005 – 2007: Master of Science (Clinical Psychology) Mahidol University
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