

Alcohol Use among Boğaziçi University Students:
Differences by Drinking Motive, Gender, Grade Point Average,
Level of Academic Progress, Living Arrangement, Parental Education,
Participation in Social Activities and Perceived Harm of Alcohol

Thesis submitted to the
Institute of Social Sciences
in partial fulfillment of the requirements for degree of

Master of Arts

in

Educational Sciences

by

Ayfer Topuz

Bogazici University Library



39001102162495

14

Boğaziçi University

2004

ACKNOWLEDGEMENTS

First of all, I want to thank Assoc. Prof. Deniz Albayrak-Kaymak, who was my thesis advisor at the beginning of my study, for all the patience, support, and motivation she has given me. Although she took a sabbatical leave during data collection phase she continued advising me. I could not finish this study without her careful review, ideas and suggestions. It was a great pleasure to work with her. I also thank her for orienting me to this topic and helping me to realize my dream of completing the graduate degree in this field.

I also want to thank my dear clinic chief and committee member Assoc. Prof. Kültegin Ögel who inspired me with his limitless working energy and trust in people's potential, supported me in forming measurements, preparation of an handout on alcohol and running statistical analyses of this study. His vision, ideas, suggestions and constructive attitude motivated me. He also provided a role model for me both as a human being and a professional who devoted himself to the field of substance addiction.

I thank my committee member Prof. İlkey Kasatura for her constructive criticism, her warm attitude, and valuable suggestions. I wish to expand my thanks to my committee member Assist. Prof. Özlem Ünlühisarcıklı for accepting to be my official thesis advisor, for her support in the data collection and for the time she spent to review my study. I would like to thank Dr. Zeynep Hande Sart to be part of my thesis committee.

I would like to thank Prof. Mary Lynne Cooper, for the permission she granted and the materials she provided regarding the use of the Revised Drinking Motives Questionnaire from Canada.

I also would like to thank Dr. Ayşe Sim Diri who supported me in some parts of the statistical analyses.

I wish to add my thanks to my academic advisor Assoc. Prof. Fatoş Erkman for her support since the beginning of my graduate education.

I am also grateful to all my lecturers during my graduate studies at Boğaziçi University. They paved the way for me towards academic excellence, critical thinking and ethical responsibilities in this field.

I am also grateful to the personnel of Boğaziçi University Counseling Center (BUREM) especially to Gülbin Tüter Öztürk, for her valuable support during publication of the hand out on alcohol.

I am also grateful to all the instructors who gave me permission to use a portion of their lecture time for test application and students of Boğaziçi University who volunteered to share their experiences.

My special thanks go to assistants of our department Nimet, Selin and Suna and my friend Şükran for their friendly support during data collection. I would like to thank my lovely cousin Gülsen, who is studying to be a psychologist of the future, for her valuable support during data processing.

Finally, my love and thanks to my mother, father and brothers for their lifelong support, encouragement, love and faith in me since the very beginning of my life. It would have been impossible for me to complete my education without their support.

ABSTRACT

Alcohol Use among Boğaziçi University Students:

Differences by Drinking Motive, Gender, Grade Point Average,
Level of Academic Progress, Living Arrangement, Parental Education,
Participation in Social Activities and Perceived Harm of Alcohol

by

Ayfer Topuz

This research examined how set of student characteristics, particularly gender, grades, level of academic progress, living arrangement, parental education, participation in social activities and perceived harm of alcohol relate to drinking motives and amount of alcohol consumed, and how drinking motives and alcohol consumed relate to each other.

Participants were 842 female and 743 male prep to senior Boğaziçi University undergraduate students. The Drinking Motives Questionnaire (DMQ-R) was translated into Turkish. Factor analyses yielded four factors, namely Enhancement, Social, Coping and Conformity just like the original form. Reliabilities were satisfactory. Descriptive analyses indicated that the majority of students were nondrinker. The most common reason for not drinking was beliefs. The most common motives to drink were Enhancement, Social, Coping and Conformity, respectively. Gender, level of academic progress, parental education, participation in social activities and perceived harm of alcohol were related to drinking motives and amount of alcohol consumed, while grades and type of residence did not relate to either. Drinking motives and amount of alcohol consumed were positively and moderately correlated except for conformity motive. When nondrinking students were compared with those who were at dependency risk, differences were found in gender, level

of academic progress, presence, education and occupation of parents, number of siblings, students' social characteristics, pocket money and perception of harm in using alcohol, but in grades, type of residence and family visits. Findings indicated the importance of awareness about negative influences of alcohol as a manipulable factor in preventing excessive use of alcohol. (247 words).

ÖZET

Boğaziçi Üniversitesi Öğrencilerinde Alkol Kullanımı:
İçme Nedenleri, Cinsiyet, Genel Not Ortalaması, Sınıf Düzeyi,
Yaşanılan Yer, Ana-Baba Eğitim Düzeyi, Sosyal Etkinliklere Katılım ve
Alkol Zararı Algısına Göre Farklılıklar

Ayfer Topuz

Bu araştırma, cinsiyet, notlar, sınıf düzeyi, yaşanılan yer, ana-baba eğitim düzeyi, sosyal etkinliklere katılım ve alkol zararı algısının içme nedenleri ve içilen alkol miktarı ile olan ilişkisini ve içme nedenlerinin içilen alkol miktarı ile olan ilişkisini incelemiştir. Katılımcılar 842'si kız, 743'ü erkek, hazırlık okulu ile 4. sınıf arası okuyan Boğaziçi Üniversitesi lisans öğrencileri olmuştur. İçme Nedenleri Anketi (DMQ-R) Türkçe'ye çevrilmiştir. Faktör analizleri özgün formda olduğu gibi dört faktörün varlığını göstermiştir: Rahatlama, Sosyal, Başa Çıkma ve Uyma. Güvenirlikler yeterli bulunmuştur. Tanımlayıcı analizler öğrencilerin çoğunluğunun hiç içki içmediğini göstermiştir. En önemli içmeme nedeni inançlardır. En yaygın içme nedenleri, Rahatlama, Sosyal, Başa Çıkma ve Uyma Nedenleri olarak sıralanmıştır. Cinsiyet, sınıf düzeyi, ana-baba eğitimi, sosyal etkinliklere katılım ve alkol zararı algısı içme nedenleri ve içilen miktar ile ilişkili bulunurken notlar ve yaşanılan yer ilişkisiz bulunmuştur. Uyma Nedenleri dışında, içme nedenleri ve kullanılan alkol miktarı arasındaki ilişki olumlu ve orta derecelidir. Hiç içmeyenler ve bağımlılık riski taşıyan öğrenciler karşılaştırıldığında, cinsiyet, sınıf düzeyi, ana-baba

yaşam durumu, eğitim düzeyi ve mesleği, kardeş sayısı, öğrencilerin sosyal özellikleri, cep harçlığı ve alkol zararı algısında farklılıklar bulunmuş, ancak notlar, yaşanılan yer ve aile ziyaretlerinde fark bulunmamıştır. Sonuçlar, değiştirilebilir bir etken olarak alkolün olumsuz etkileri hakkındaki farkındalığın aşırı alkol kullanımını engellemede olan önemini göstermiştir. (203 Kelime).

TABLE OF CONTENTS

<u>Chapter Number</u>	<u>Page Number</u>
Approval.....	i
Acknowledgements.....	ii
Abstract.....	v
Özet.....	vii
Table of Contents.....	xi
I. INTRODUCTION.....	1
II. CONCEPTUAL BACKGROUND AND REVIEW OF LITERATURE.....	10
Early Conceptualization of Drinking Motives.....	10
Incentive Motivation.....	11
Alcohol Use.....	13
Four Factor Motivational Model of Alcohol Use.....	14
Enhancement Motives.....	18
Coping Motives.....	20
Conformity Motives.....	24
Social Motives.....	26
Alcohol Expectancies.....	29
Motivational Structure and Alcohol Use of University Students.....	33
Gender Differences in Drinking Motivation.....	41
Drinking in Relation to Academic Performance and	
Current Residence among college Populations.....	45

<u>Chapter Number</u>	<u>Page Number</u>
Drinking Motives and Alcohol Related Problems.....	51
Turkish Studies on Alcohol Use among Youth.....	57
Summary.....	62
Research Questions.....	69
 III. METHOD.....	 70
Pilot Sample.....	70
Main Sample.....	70
Instruments.....	81
Drinking Motives Questionnaire (DMQ)	81
Three Dimensional Drinking Motives Questionnaire.....	81
Four-Dimensional Version of Drinking Motives Questionnaire (DMQ-R).....	86
Demographic Form.....	95
Procedure.....	97
 IV. RESULTS.....	 99
Research Question 1.....	99
Research Question 2.....	107
Research Question 3.....	127
Research Question 4.....	137
Research Question 5.....	139
Summary.....	148

<u>Chapter Number</u>	<u>Page Number</u>
V. DISCUSSION.....	151
Limitations of the Study.....	161
Suggestions for Future Research.....	162
REFERENCES.....	164
APPENDICES.....	175
A: Revised Drinking Motive Questionnaire (DMQ-R).....	175
B: The Turkish Form of Revised Drinking Motives Questionnaire.....	177
C: Demographic Form.....	179
D: Handout on Alcohol.....	186
E: Additional Tables.....	199

LIST OF TABLES

Text Tables

<u>Table Number</u>	<u>Page Number</u>
1- Distribution of subjects by academic units in comparison to the population.....	70
2- Distribution of subjects by gender, age and marital status.....	71
3- Distribution of subjects by departments.....	72
4- Distribution of subjects by level of academic progress.....	73
5- Grade point averages of female and male subjects.....	74
6- Distribution of subjects by type of residence.....	75
7- Frequency of family visits.....	76
8- Presence and marital status of parents.....	76
9- Distribution of educational level of parents.....	77
10- Distribution of parental occupation.....	78
11- Distribution of subjects by socio-economic level.....	79
12- Sources of students expenses.....	80
13- Distribution of subjects by social characteristics.....	90
14- Exploratory rotated factor matrix of the original form of the 4 factor drinking motivation questionnaire.....	84
15- Exploratory rotated factor matrix of the Turkish form of The 4 factor drinking motives questionnaire.....	91
16- Variance Explained by the Factor of the Turkish Form of the Revised Drinking Motives Questionnaire.....	92

17-	Factor alphas and item remainder correlations of the original Revised Drinking Motives Questionnaire.....	93
18-	Factor alphas item remainder and item-total correlations of the Turkish form of Revised Drinking Motives Questionnaire.....	94
19-	Pearson product correlations matrix for the Turkish form of the Revised Drinking Motives Questionnaire.....	94
20-	Perceived harm of alcohol by female and male students.....	99
21-	First drinking age of female and male students.....	100
16-	Place/company during the first drinking of . female and male students.....	100
17-	Company during drinking of female and male students.....	101
18-	Types of drinks females and males prefer.....	102
19-	Drinking Habits of the Family.....	102
20-	Reasons for not drinking of female and male students.....	103
21-	Reasons to start drinking of female and male students.....	104
22-	Distribution of drinking frequencies of female and male students.....	104
23-	Distribution of number of standard drinks for female and male students.....	105
24-	Prevalence of having 6 or more drinks at once for female and male Students.....	106
25-	Last drinking time of female and male students.....	106

26-	Means and standard deviations of enhancement, coping, conformity and Social Motive Scores for Female and Male.....	108
27-	One-way analysis of variance of enhancement, coping, conformity and social motives by female and male students.....	109
28-	Means and standard deviations of enhancement, coping, conformity and social motives for level of academic progress.....	110
35-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by level of academic progress.....	111
36-	Means and standard deviations of enhancement, coping, conformity and social motives for type of residence.....	112
37-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by type of residence.....	113
38-	Means and standard deviations of enhancement, coping, conformity and social motives for grade point averages.....	114
39-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by grade point averages.....	115
40-	Means and standard deviations of enhancement, coping, conformity and social motives for parental education.....	116
41-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives scores by level of mother education.....	118
42-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by level of father education.....	119

<u>Table Number</u>		<u>Page Number</u>
43-	Means and standard deviations of enhancement, coping, conformity and motives for participation in social activities.....	120
44-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by participation in student clubs.....	122
45-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by participation in other activities.....	123
46-	Means and standard deviations of enhancement, coping, conformity and social motives for perceived harm.....	124
47-	One-way analysis of variance of enhancement, coping, conformity and social drinking motives by perceived harm.....	125
48-	Means and standard deviations of amount of alcohol consumed by female and male students.....	127
49-	One-way analysis of variance of amount of alcohol consumed by female and male students.....	127
50-	Means and standard deviations of amount of alcohol consumed for level of academic progress.....	128
51-	One-way analysis of variance of amount of alcohol consumed by level of academic progress.....	129
52-	Means and standard deviations of amount of alcohol consumed for grade point averages.....	129
53-	One-way analysis of variance of amount of alcohol consumed by grade point average.....	130

54-	Means and standard deviations of amount of alcohol consumed for type of residence.....	131
55-	One-way analysis of variance of amount of alcohol consumed by type of residence.....	131
56-	Means and standard deviations of amount of alcohol consumed for parental education.....	132
57-	One-way analysis of variance of amount of alcohol consumed by level mother education.....	132
58-	One-way analysis of variance of amount of alcohol consumed by level of father education.....	133
59-	Means and standard deviations of amount of alcohol consumed for participation in social activities.....	134
60-	One-way analysis of variance of amount of alcohol consumed by participation in student clubs.....	135
61-	One-way analysis of variance of amount of alcohol consumed by participation in other activities.....	135
62-	Means and standard deviations of amount of alcohol consumed by perceived harm of alcohol.....	136
63-	One-way analysis of variance of amount of alcohol consumed by perceived harm of alcohol.....	136
64-	Pearson product correlations between the drinking motives and amount of alcohol consumed for females and male students.....	138
65-	Distribution of male and female students by drinking status.....	138

<u>Table Number</u>		<u>Page Number.</u>
66-	Distribution of grade point average by drinking status.....	139
67-	Distribution of semesters by drinking status.....	140
68-	Distribution of type of residence by drinking status.....	141
69-	Distribution of home visits of student by drinking status.....	142
70-	Distribution of presence and marital status of parents by drinking status.....	143
71-	Distribution of educational level of parents by drinking status of students.....	143
72-	Distribution of mother occupation by drinking status.....	144
73-	Distribution of father occupation by drinking status.....	144
74-	Distribution of number of secondary sibling by drinking status.....	145
75-	Distribution of amount of pocket money students have by drinking status.....	145
76-	Distribution of social characteristics of students by Drinking Status.....	146
77-	Distribution of perceived harm of alcohol by drinking Status.....	147

Additional Tables

<u>Table</u> <u>Number</u>	<u>Page</u> <u>Number</u>
E1- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Female and Male Students.....	200
E2- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Level of Academic Progress.....	200
E3- Bonferonni Tests for Level of Academic Progress in Enhancement Coping, Conformity and Social Motives.....	201
E4- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Type of Residence.....	202
E5- Bonferonni Tests for Type of Residence in Enhancement Coping, Conformity and Social Motives by Type of Residence.....	203
E6- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Grade Point Average.....	204
E7- Bonferonni Test for Enhancement Motive, Coping Motive, Conformity Motive and Social Motive by Grade Point Average.....	205
E8- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Mother Education.....	206
E9- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Father Education.....	206
E10- Bonferonni Test for Enhancement Motive, Coping Motive, Conformity Motive and Social Motive by Mother Education.....	207

<u>Table Number</u>	<u>Page Number</u>
E11- Bonferonni Test for Enhancement, Coping, Conformity and Social by Father Education.....	207
E12- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Participation in Student Clubs.....	208
E13- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Participation in Other Activities.....	208
E14- Bonferonni Test for Enhancement, Coping, Conformity and Social by Participation in Other Activities.....	209
E15- Multivariate Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Participation in Student Clubs.....	209
E16- Bonferonni Test for Enhancement, Coping, Conformity and Social by Perceived Harm of Alcohol.....	210
E17- Bonferonni Test for Enhancement Motive, Coping Motive, Conformity Motive and Social Motive by Level of Academic Progress.....	211
E18- Bonferonni Test for Amount of Alcohol Consumed by Mother Education.....	212
E19- Bonferonni Test for Amount of Alcohol Consumed by Father Education.....	212
E20- Bonferonni Test of Amount of Alcohol Consumed by Participation in Student Clubs.....	213
E21- Bonferonni Test of Amount of Alcohol Consumed by Participation in Other Activities.....	213
E22- Bonferonni Test for Amount of Alcohol Consumed by Perceived Harm of Alcohol.....	214

Chapter I

INTRODUCTION

Alcoholic beverages have been used for a very long period of time, probably since the Paleolithic age and certainly since Neolithic (Knupfer, 1960, cited in Engs and Hanson, 1990). Historians have reported that the records of all ancient civilizations indicate use of alcoholic beverages. The earliest of these accounts are found on Egyptian carvings, Hebrew script, and Babylonian tablets (Patric, 1952, cited in Engs and Hanson, 1990). The Code of Hammurabi (cirr. 2 225 B.C) devoted several sections to problems created by the abuse of alcohol. In China laws that forbade making wine between 1 100 B.C and 1 400 A.D. (Alcoholism and Drug Research Foundation of Ontario, 1961, cited in Engs and Hanson, 1990). It seems that problems related to consumption of alcohol are not unique to present societies.

The role of alcohol in the United States (US) was ambivalent since the colonial period (Stratus and Bacon, 1953, cited in Engs and Hanson, 1990). Until recently, the attitude that “ladies don’t drink” has largely kept female drinking and alcohol abuse from public discussion. This attitude, however, has been prevalent only in North America for the last 100 years or so while alcohol and women have been entangled throughout history. In some ancient cultures women had an active part in drinking ceremonies and folklore, including presiding at the Greco-Roman cults of Dionysius and Bacchous and brewing beer in ancient Babylon as temple priestesses. The Egyptians considered the knowledge of how to

do beer as gift given to them by their goodness of nature (Hornik, 1977, cited in Engs and Hanson, 1990).

Beer was used to fortify a woman for breast-feeding. Hot toddies of various fruit tonics have been used for centuries for menstrual cramps and for premenstrual tension. In the later part of the 19th Century many women drank tonics with high alcohol contents to ease the frustrations of child rearing and depression. Women who were alcoholics during this period were often labeled hysterical. They were not called alcoholics because it conflicted with their role as good mother, wife or "well-mannered spinster" (Hornik, 1977, cited in Engs and Hanson, 1990).

Some archeological research in Anatolia showed that people had used different styles of cup for drinking. It is also known that Turkish emperors were drinking alcohol in their home or among their group of people following tradition ceremonies (Çakıroğlu, 1998).

Engs and Hanson (1985) pointed out that conceptualization of high and low alcohol use or abuse is not easy. However, drinkers can be classified into several categories according to the beverage (beer, wine or distilled spirits) they used most frequently and the amount they consumed on a typical occasion. This categorization is generally done as in the following:

Abstainer: drinking less than once a year or not at all. Infrequent drinker: drinking more than once a year but less than once a month. Light drinker: drinking at least once a month but not more than 1 to 3 drinks at any one sitting. Moderate drinker: drinking at least once a month with no more than 3 to 4 drinks, or at least once a week with no more than 1 to 2 drinks at any one sitting. Heavy drinker: drinking six or more at any one sitting more than once a week. Frequent heavy drinker: drinking an average of more than one drinking per

day in the past 30 days. Heavier drinker: drinking 3 to 4 drinks at least once a week or drinking 5 or more drinks at least once a month (Engs and Hanson, 1985).

Hester and Sheeby (1990) reviewed current and historical theories of alcohol. The theories help us to answer the question “why people drink” and to find appropriate ways for change. These theories are summarized below.

Moral Models: Moral models have historically emphasized deficits in personal responsibility or spiritual strength as the cause of excessive drinking or drunkenness.

While many might consider that the moral model is something of a historical artifact, it is still alive. Consider that driving under the influence of alcohol is a crime regardless of whether the individual is diagnosed as alcoholic or not.

The Temperance Model: In the late 1800s the temperance model was developed and emphasized the moderate use of alcohol. While sometimes confused with the moral models, the temperance model viewed alcohol itself as a dangerous drug which was to be consumed cautiously. As the temperance movement became more popular and increased its political influence, its perspective of alcohol became more extreme. Alcohol came to be viewed as an extraordinarily dangerous drug, which no one could use, even in moderation, without progressing down the road to ruination and death. Sustained moderate consumption in any form was not considered possible. Key assumptions of the temperance model have survived however, and they influence our thinking about alcohol and drugs to this day. The model emphasized the hazardous aspects of alcohol. The temperance model implies that prevention and intervention should be conducted by abstainers who can act as role models in exhorting others to abstain. Legislation to restrict the availability and promotion of alcohol is another appropriate intervention in this model.

The American Disease Model: The central assumption of this model is that alcoholism is a progressive, irreversible condition characterized primarily by loss of control over drinking. It cannot be cured, but only arrested by complete abstinence. Alcoholics are somehow constitutionally different from nonalcoholics and this individual difference makes it impossible for them to drink moderately or without problems for anything but short periods of time. Denial of alcoholism is another cardinal symptom of the disease. Until strongly confronted, alcoholics deny their disease. The disease model had an immediate advantage for alcoholics: Humane treatment rather than derision or prison. It also enabled society to accept moderate drinking for most but not all people. Eventually the disease model was accepted by the medical community. As a disease it required medical treatment. Finally, it was embraced by the liquor industry because of its implication that most people can drink with impunity without risk of becoming alcoholic. The American disease model implies that the most appropriate agents for intervention are recovering alcoholics. Because of the unique aspect of denial, recovering alcoholics are best able to spot it and intervene with confrontation. Prevention is best accomplished by early identification of those at highest risk from a constitutional standpoint for becoming alcoholic.

Educational Models: A central assumption in educational models is that alcohol abuse stems from a deficit in knowledge about the harmful effects of alcohol and heavy drinking. Once, because of this knowledge, individuals understand that alcohol abuse or alcoholism causes significant harm to themselves as well as to their families and society. Abstinence from drinking is then a logical conclusion. Then, educational lectures were given about the harmful effects of alcohol by educators.

Characterological Models: These models focus on psychopathology or deficits in personality functioning as the cause of alcohol abuse. They originated in psychoanalysis

and evolved after the World War II. Alcoholics were thought to be fixated at some stage in their personality development, usually the oral stage. Other psychoanalytic theories have considered alcoholism to be a manifestation of sex-role conflicts, latent homosexuality, or low self-esteem. Given these causes, the natural agent for intervention is the psychoanalytically oriented psychotherapist.

Conditioning Models: The premise of conditioning models, as they are applied to alcoholism, is that excessive drinking is a pattern of learned behavior, which has been reinforced. As a learned behavior it is subject to the same laws of reinforcement as other behaviors. It is also subject to change through relearning and different patterns of reinforcement. Treatment then, is a matter of counterconditioning (e.g., aversion therapies), changing probabilities for drinking and sobriety (e.g., community reinforcement approach or "disenabling"), and/or relearning new ways to reduce tension or deal with conflicts. Prevention efforts might focus on factors which create positive expectations about drinking (e.g., advertising) and incentives, which encourage heavy drinking. The agents of intervention are behavior therapists.

Biological Models: Biological models have emphasized genetic and physiological factors resulting in alcoholism. The genetic models are supported by evidence of higher levels of alcoholism among the offspring of alcoholics, even if not raised by their biological parents. The implied intervention here is risk identification by diagnosticians and the urging of stimulus about the use of alcohol in individuals at high risk. The concept of pharmacological addiction represents another biological model. The assumed causal factor here is alcohol itself. The natural agents of intervention are physicians and the intervention is medically-oriented treatment.

Social Learning Models: These models go beyond the conditioning models by emphasizing the social context in which heavy drinking occurs. Causal factors include deficits in coping skills, peer pressures and modeling of heavy drinking, positive expectancies about drinking, and psychological dependence. In the latter, heavy drinking is seen as a strategy for altering psychological states or coping with problems. In these models the appropriate agents of intervention include cognitive-behavior therapists and role models.

General Systems Models: These models focus on the larger social system in which the alcohol abuser is one part of a whole. Most often the social system is the family. The implied causal factor is a dysfunctional family of which an individual is a part while he or she grows up. Because the family system is seen as having an inherent drive to maintain the status, changing the individual with treatment without addressing the family dynamics has a low chance of succeeding. Consequently the agents of intervention are family therapists and the intervention is systems-oriented family therapy.

Sociocultural Models: These models emphasize the roles of societal norms about drinking, the cost and availability of alcohol, and the nature of the drinking environment itself. For example, per capita consumption of alcohol is strongly influenced by its cost and availability. An important assumption here is that the more alcohol consumed in a society, the more alcohol-related problems arise. Recent moves to increase the commitment of those who serve alcoholic beverages is another recognition that the environment in which a person drinks is, in itself, an important influence on how much a person consumes. In the view of the sociocultural models, the agents of intervention include legislators and makers of social policy. The implied interventions include legislation to restrict access and to increase the price of alcohol and training of servers of alcohol.

The present study follows the cognitive motivational model of alcohol use that is originated from conditioning model and social learning models. It was based especially on Cox and Klinger's (1988) motivational model of alcohol use. Their theory focuses on motives that influence decision about alcohol use. The decision to drink is considered a conscious process, which has many classes of determinants. The theory explains that the decision to drink is influenced by that the person's desire to change the current affective state and the belief that the desired outcome is possible. This theory is explained in greater detail in the literature review section.

Studies abroad and in our country show that alcohol consumption especially among young adults increases every day. Stewart and Devine (2000) pointed out that heavy consumption of alcohol among young adults is normative and its prevalence is increasing in university population. Recent studies from abroad suggest that about one third of undergraduate students drink at a level that people produce acute physical psychological, social and academic problems (Stewart and Devine, 2000). In the 1993 survey of alcohol use among Ontario university students, 31.1% reported drinking 15 or more drinks per week (Gliksman, aylor, Adalf, Devis and Giesbrecht, 1995, cited in Goldstein, 1999). Studies from American colleges have found that up to 20% of undergraduate students are frequent heavy drinkers and 44% are binge drinkers (Wechsler, Davenport, Dowdall, Moeykens and Castillo, 1994).

According to the Core Institute at Southern Illinois-Carbondale, which conducted the national Core Alcohol and Drug Surve in US, alcohol is the overwhelming drug of choice among the college students population (Presley and Meilman, 1996, cited in Presly, Meilman, and Leichliter, 2002). Approximately 83% of college students drink alcohol regularly. The University of Michigan's Monitoring the Future Project found a binge-

drinking rate of 40% among college students (Johnston, O' Malley and Bachman, 1996, cited in Ketcham, 1998). Harvard School of Public Health study found that binge drinking rate of 44% on college and university campuses (Wechsler et al., 1994). The high rates of drinking associated with physical and sexual assault, unplanned or unintended sexual activity, unintentional injuries, interpersonal problems, drinking and driving, selected criminal violations and poor academic performance (Wechsler et al., 1994). Negative consequences of heavy drinking are not limited to the drinker him/herself. Wechsler and his colleagues (1994) found that 66% of students were experiencing adverse consequences from others' drinking. Since our knowledge about use of alcohol by our own university students is limited, as a graduate student of Bogaziçi University (BU) I decided to form the current research to identify the reasons and patterns of alcohol use in BU population, more specifically undergraduate students.

My interest in alcohol use started during my undergraduate education as I assisted a practicion program at Bakırköy State Hospital for Mental and Neurological Diseases for two months. For one month I made observations in the psychosis department and another month in Alcohol and Substance Abuse Treatment Center that is known as AMATEM. I observed patients as they received psychiatric and psychological treatments. I listened to their stories that led them get into alcohol use. Some of those people were young and some were older. During their group psychotherapy sessions they talked about their past experiences and reasons for their use of alcohol. Some of them complained about bad family environment, bad friendships, and frustrations or pleasures, while others complained about helplessness. For one month I listened to various real life stories. I grew interested in understanding the dynamics of alcohol dependency. I remember one person who was alcohol dependent and had to restart the treatment 19 times. Towards the completion of my thesis, I started working as a psychologist at the Volatile Substance

Abuse Treatment Centre, known as UMATEM, of the same hospital. Thus, my interest in dependency has grown towards a career path.

I believe that the results of this study provide us with valuable information about drinking habits of our undergraduate students. The results can help us to organize informative studies about alcohol use and impacts on people. Results can be used by the student counseling center of Boğaziçi University (BUREM) to design intervention studies for students who have alcohol problem. And finally, the information obtained from this study may add to the efforts to establish a growing body of knowledge about alcohol use of young people in Turkey.

Chapter II

CONCEPTUAL BACKGROUND AND REVIEW OF LITERATURE

Early Conceptualization of Drinking Motives

Cognitive-motivational models of alcohol use suggest a link between subjective reasons or motives for drinking and the amount of alcohol consumed. Cappell and Greeley (1987, cited in Carey and Correia, 1997) identified tension reduction (derived from earlier drive reduction research and theory) as the earliest motivational model of alcohol use. Tension reduction models maintain that drinking alcohol serves the function of eliminating or alleviating a negative or aversive condition. More recent motivational models do not focus exclusively on the reduction on tension. Cox and Klinger (1988) asserted that people choose to drink based on their expectation that drinking will have desired outcomes. Generally speaking, alcohol can either enhance positive mood states or alleviate negative mood states. Drinking can be considered a goal directed behavior motivated by one of these two outcomes. Initial drinking may be motivated by the desire to enhance positive states. However, drinking itself may result in negative outcomes that accumulate over time and manifest themselves during periods of sobriety. These negative outcomes can include depression and anxiety as well as disruptions in interpersonal relationships. As negative outcomes mount, alternative sources or positive reinforcement (friends, family, etc.) may diminish. Under these conditions, a positive feedback can develop, with increased desires both to alleviate negative states and to enhance positive experiences through drinking (Carey and Correia, 1997).

Researchers suggested that motivational construct plays a pivotal role in studying human behavior particularly with regard to psychological manifestations (Lecci, MacLean, and Croleau, 2002). Consistent with this idea Cox and Clinger (1988) developed a motivational model of alcohol use stating that an individual's decision to drink or not drink is based on whether he or she expects the positive consequences of drinking to be greater than those associated with not drinking. They further suggested that these expectations are in part influenced by an individual's current nonalcohol-related motives and incentives. This model also acknowledges that factors such as a persons's biochemical reactivity to alcohol, personality characteristics, and sociocultural environment help define an individual's past experiences with alcohol and the resultant expectancies. The assumption is that these influences shape the individual's current motivations regarding drinking, but that the alcohol-specific motives are the final pathway to alcohol use (Cox and Klinger, 1988).

There are multiple factors that influence drinking. According to motivational theorists psychological "drinking motives" are the final common pathway to alcohol use/abuse through which other risk factors exert their influences on drinking behavior and drinking-related outcomes (Stewart, Loughlin and Rhyno, 2001). Moreover, motivation to drink is closely tied to people's incentives in other life areas and to the affective changes that they derive from their incentives (Cox and Klinger, 1988).

Incentive Motivation

According to Cox and Klinger (1988) the term incentive motivation was introduced by Clark Hull in 1951 as a theoretical construct to account for the vigor intensity of behavior.

Previously, Hull had assumed that organism can perform a learned response to the extent that it has acquired habit strength (the learned association between a stimulus and the response) and that the response is energized solely by the organism's current level of drive (which was

assumed to be proportional to its physiological need). Other learning theorists Black and Spence (1965, cited in Cox and Klinger, 1988) modified and extended Hull's view of incentive motivation and elaborated on the manner in which it combines with other learning and motivational constructs. Stewart, de Wit and Eikelboom (1984, cited in Cox and Klinger, 1988) specifically interpreted drug taking behavior as an incentive-motivational phenomenon.

The concept of drive has a number of limitations as a motivational construct in addition to the one that Hull recognized. To Bindra (1968, 1976, cited in Cox and Klinger, 1988) drive states are neither necessary nor sufficient for the initiation behavior. Reinforcement can take place in the absence of drive reduction and powerful behavioral effect can be observed under extremely low drive states by the offering of appropriate incentives. In fact, under some circumstances, reinforcement takes place with increases in drive levels. Unlike the constructs of affect or emotion, the drive construct is unable to account for foresightful behavior. The class of effective incentives includes event that cannot reasonably be equated with drive reduction. Therefore, comprehensive models of motivation must include explanatory construct other than drive and drive reduction (Cox and Klinger, 1988).

Incentive motivation refers to an organism's motivation to pursue incentives: positive incentives to which it is attracted and negative incentives by which it is repelled. An incentive becomes a goal when an organism becomes committed to pursue it. Incentive motivation forms an integral part of organism's psychological functioning. In fact, in the case of human organism, human lives are organized around the pursuit and enjoyment of incentives. A person who is committed to pursue an incentive, moreover, is characterized by a distinctive motivational state, or current concern, that last from the time of the initial commitment until the incentive is either consummated or relinquished. According to motivational model of alcohol use, a person's motivation to use alcohol is intertwined with his or her incentive motivation in alcohol use and

other life areas (work, school, family e.t.c) and the affective changes that result from that motivation (Cox and Klinger, 1988).

Alcohol Use

Langenbucher and Nathan (1988, cited in Cox and Klinger, 1988) pointed out that there are two ways in which drinking alcohol can bring about affective changes, and two corresponding types of effects that people expect to achieve by drinking. The first way is through the direct, chemical effects of alcohol on emotion. Alcohol clearly has mood-altering effects that are usually described as either "tension reducing" or "mood enhancing." However, people's expectations about the mood-altering effects of alcohol are often a more potent source of actual changes in mood than is the pharmacological action of alcohol itself. The second way in which drinking brings about affective changes is indirect and occurs by virtue of the fact that drinking alcohol can be instrumental in regulating the other incentives in one's life. That is imbibing alcohol might either facilitate or interfere with a person's reaching nonchemical positive or negative goals, thereby indirectly bringing about affective changes. For instance, many of the social variables influence drinking do so indirectly through peer approval. Regardless of whether an affective change that is produced by drinking alcohol is direct or indirect, alcohol use is intertwined with peoples' incentive motivation and the affective changes that they experience as a result of the incentives in their lives. In turn, drinking alcohol, especially in excessive quantities, changes people's affect, their incentive motivation, and their subsequent motivation to use or not use additional alcohol. Thus either directly or indirectly, drinking alcohol influences and is influenced by the other incentive in people's lives (Cox and Klinger, 1988).

According to the motivational model different variables influence a person's expectations about the effect that drinking will have on his or her affect. Thus this model of alcohol use depicts people as deciding that what they expect to derive from drinking outweigh those that they expect to derive from not drinking. The motivational model views different drinking styles and the frequencies at which people drink (e.g., "addictive" versus "non addictive") not as discrete entities but as ranging along a continuum. According to the model, addictive drinking occurs when factors that contribute to the decision to drink (e.g., and individual's positive biochemical reactivity to alcohol) strongly outweigh factors that contribute to the decision not to drink (e.g., the interference with positive, nonchemical incentives that drinking will cause). Addictive drinking is mediated by the same decision-making process that governs all drinking, and this process is no less salient in addictive than in nonaddictive drinking. Like any decision, the decision to drink involves values as well as expectancy components, and values are based on emotional processes (Cox and Klinger, 1988).

Motivational model assumes that a person makes a decision about whether or not he or she will consume any particular drink of alcohol. Rational decision-making always involves values, which are emotionally based. The decision to drink is therefore a combination of emotional and rational process in that the decision is made on the basis of the affective change that the person expects to achieve by drinking compared with not drinking. For instance, the alcoholic may reasonably expect that continuing a binge will endanger his or her position at work and at home, and the thought of getting fired or divorced may be aversive enough to create apprehension. Nevertheless, the expected pleasure or relief of the present drinking situation may outweigh these more remote negative emotional consequences (Cox and Klinger, 1988).

A person, however, is not necessarily aware of either having made a decision to drink or not to drinking or the factors that affected the decision. In point of fact, decisions about drinking often

are nonconscious and automatized. As with any well practiced behavioral sequence, the conscious aspects of the decision process tend to occur toward the beginning of the sequence. For instance, a person consciously decides whether or not to play tennis, but decisions about individual strokes to make during the course of the game are more nonconscious and automatic. Similarly, a veteran drinker of alcohol consciously decides whether or not to take a drink of alcohol, but after an initial decision to drink is made, decision concerning the particular circumstances under which drinking will occur and the amount that will be consumed occur more automatically. The effect of automatization is therefore primarily to limit the range of decision factors to those that are already integrated into sequence. Nevertheless, these decisions are voluntary and a person can exercise control over them (Cox and Klinger, 1988).

According to Cox and Klinger's motivational model there are two main factors related to alcohol use. We can classify them as historical and current factors. Historical factors include biochemical reactivity to alcohol, personality characteristics, sociocultural environmental factors, past reinforcement from drinking and conditioned reaction to alcohol.

Biochemical reactivity to alcohol. The responsibility of biochemical mechanism for the reinforcing effects of alcohol is still hypothetical. However, there are wide differences among people in the manner in which they metabolize alcohol and its metabolic byproducts-differences that are controlled by the genetically determined level of metabolic enzymes in the body. People whose enzymes are insufficient for the rapid metabolism of acetaldehyde (the first metabolic product of alcohol) experience stronger negative physical effects of drinking than do people with adequate levels of the enzymes.

Personality characteristics. Certain personality characteristics have been observed among people who develop problems with alcohol such as conformity, impulsivity and reward seeking are

often seen before the problems with alcohol develop and among alcoholics undergoing treatment. Personality also effects the motivation to drink because of the impact that drinking has on the nonchemical incentives in a person's life. Thus, the impulsive reward seeker who tends not to place importance on traditional societal values is less likely than other people to pursue incentives that are difficult to achieve but that potentially will be enduring sources of emotional satisfaction. Such a person is also more likely than others to persevere when frustrated in goal pursuit and to turn to alcohol as means of coping. As a result of having fewer nonchemical resources that regulate his or her affect, this person's motivation to use alcohol would be further strengthened.

Sociocultural environmental factors. These factors can be listed as pervasive cultural factors.

Besides these cultural influences, there are additional social variables. For instance, individuals model their drinking behavior after that of family, friends and peer groups who also provide direct social rewards for drinking or not drinking. Also the mass media to which an individual is exposed help to install drinking habits, especially through the drinking practices.

Past reinforcement from drinking. It is likely that a person who has been strongly reinforced for drinking in the past will have become habitual heavy user of alcohol. Such a person would expect that he or she will be reinforced for drinking in the future, and when faced with a choice between drinking or not drinking so, this person would be more likely than other people to decide to drink.

Conditioned reaction to alcohol. Because of the historical variables a person will have developed classically conditioned emotional responses to alcohol and the stimulus that have been associated drinking. These conditioned responses will add further weight to the person's decision to drink or not.

Current factors include situational factors, current positive and negative incentives and cognitive mediating events. They are briefly explained in the following.

Situational factors. It means the immediate environmental context in which an individual located when he or she decides whether to drink or not. For instance, whether a person is alone or with other people, and if with other people, the degree to which they encourage or discourage drinking.

Current positive and negative incentives. The intensity of a person's current positive affect and current negative affect is determined by the quality and quantity of that person's current positive and negative incentives. If a person does not have satisfying positive incentives to pursue or is not making satisfactory progress toward reaching goals that will produce positive incentives, weight will be added to that person's expectations that he or she can better enhance positive affect by drinking.

Cognitive mediating events. The cognitive progress includes people's thoughts, perception, and memories that determine the nature of their expectations about the direct (chemical) and indirect (instrumental) effects that taking a drink will have on their effect. These expectations might concern both positive and negative effects of drinking and effects that immediate or delayed.

Four Factor Motivational Model of Alcohol Use

Cox and Klinger (1988) proposed a categorical model of drinking motives that are mentioned above. They describe motivations for alcohol use along two dimensions that refer to characteristics of the outcomes people desire to obtain by drinking. The first dimension is

“valence” (positive vs. negative): people might consume alcohol because they hope to obtain a positive outcome (positive reinforcement) or because they wish to avoid a negative outcome (negative reinforcement). The second dimension is “source” (internal vs. external): people might drink because they wish to obtain an internal reward (the manipulation of their own emotional state), or because they hope to achieve an external reward such as social approval. As Figure 1 captures crossing these two dimensions yields four categories of drinking motives: (1) internal positive reinforcement motives (drinking to enhance positive mood or well-being); (2) external, positive reinforcement motives (drinking to obtain positive social rewards); (3) internal, negative reinforcement motives (drinking to reduce or regulate negative emotion); and (4) external, negative reinforcement motives (drinking to avoid social condemn or rejection). These four motives have been referred to as Enhancement, Social, Coping, and Conformity motives, respectively (Stewart and Devine, 2000).

		Valence	
		Positive	Negative
Source	Internal	Enhancement 1	Coping 3
	External	Social 2	Conformity 4

Figure 1. Categorical model of drinking motives

Enhancement Motives are strongly related to drinking in situations where heavy drinking is condoned (e.g., with same sex friends and in bars), drinking in response to pleasant emotional states, and drinking in response to urges temptations (Stewart and Devine, 2000). Enhancement

motives involve the strategic use of alcohol to increase positive affective states or emotional experiences. Drinking to enhance is therefore conceptualized as an appetitive process as behavior emitted to achieve a desired state or outcome rather than avoid or minimize an aversive one. Individual differences in the propensity to seek, value, or need higher levels of stimulation, or greater variability in stimulation, may be an important predictor of enhancement drinking. Thus high sensation seekers, who have an increased sensitivity to positive reinforcement a greater need for more and more varied stimulations may be prone to drink to enhance. Several researchers have hypothesized that enhancement motivations mediate the link between sensation seeking and substance use (Cooper, Russell, Frone, Mudar, 1995).

Cooper and her colleagues (1995) studied 2 554 adolescents between ages 13-19 and 1 933 adult household residents. This research indicated that in cross-age comparison enhancement motives were more strongly related to alcohol use among adults than among adolescents. In cross-gender comparisons, enhancement motives were more strongly related to alcohol use among men than women. In addition, positive emotions were significantly negatively related to enhancement drinking among men but not women. In cross-race comparisons, enhancement motives were found strongly related to alcohol use among Whites than Blacks.

Carrigan, Samoluk, and Stewart (1998) used Annis's (1987) Inventory of Drinking Situations (IDS-42) and Drinking Motivation Questionnaire (DMQ) to assess relative frequency of drinking in each of eight drinking situations. These situations are Unpleasant Emotions, Conflict with others, Physical Discomfort, Testing Personal Control, Urges and Temptations, Social Pressure to Drink, Pleasant Times with others and Pleasant Emotions. Those are subscales made up three higher order factors, which included positively reinforcing, negatively reinforcing and temptation drinking situation. Respondents were 473 university students (338 females, 133 males, 2 unspecified). According to result of this study male students scored higher than

females on the Pleasant Times with Others and Social Pressure to drink subscales but also Urges and Temptations and Testing Personal Control subscales. Males did not score significantly higher on the Pleasant Emotions subscale, and female students did not score significantly higher than males on the Unpleasant Emotions subscale. Thus it seems that male university students are particularly likely to report higher frequencies of drinking than females in positively reinforcing and temptation drinking situations. Consistent with their hypothesis university students reported drinking more frequently in positively reinforcing situations than in negatively reinforcing or temptations situations

Mooney (1987, cited in MacLatchy-Gaudet and Stewart, 2001) pointed out that the specific alcohol outcome expectancies associated with drinking behavior appear to differ among men versus women. For university men, drinking frequency has been related to expectancies for increase social and physical pleasure, global positive changes, and sexual enhancement; for university women drinking frequency has been related to expectation for tension reduction. Williams, Conner and Ricciardelli (1998, cited in MacLatchy-Gaudet and Stewart, 2001) found that for university men, drinking quantity has been related to expectations of increased assertion, whereas drinking quantity has been associated with expectancies of increased assertion, affective change, and sexual enhancement among university women.

Coping Motives are strongly associated with drinking alone, drinking in response to unpleasant emotions and conflict with others, heavier drinking, drinking problems preoccupation with drinking and worries about controlling drinking (Stewart and Devine, 2000). Drinking to cope is defined as the tendency to use alcohol to escape, avoid or otherwise regulate unpleasant emotions. Correlational research examining motives for drinking consistently reveals that a substantial percentage of drinkers, typically ranging from 10% to 25%, report drinking to regulate negative emotion (Cooper, Russell and George, 1988). According to Abraham and

Niaura's social learning models of alcohol use (1987, cited in Cooper et. al., 1988) drinking to cope is a maladaptive coping response used when other, more adaptive means of coping are unavailable. Thus according to this perspective, use of alcohol to cope should be inversely related to coping ability, skill, or options. However, Cooper and her colleagues' research (1988) showed that drinking to cope was strongly related to maladaptive forms of emotion coping, such as avoidance and denial, but not to deficits in more active forms of problem focused coping.

Cooper and her colleagues (1988) assessed drinking to cope on 119 adults meeting DSM-III criteria for current alcohol abuse or dependence and a comparison group of 948 drinkers, all of whom drank within the past year and had no history of alcohol abuse or dependence. They wanted to test social learning perspective on alcohol abuse. This model sees the drinking to cope as proximal determinants and general coping skills and positive alcohol expectancies as more distal determinants. They used Polich and Orvis' Six Item Scale. Subjects were asked to report the reveal frequency on a 4-point scale (almost never, sometimes, often, almost always) with which they drinking for each of the following reasons: to forget your worries, to relax, to cheer up when you are in bad mood, to help when you feel depressed and nervous, to feel more self-confident and sure of yourself, and because there is nothing better to do (i.e., to relieve boredom). Results showed that drinking to cope is the most powerful predictor of abuse. Also individuals who drink to cope are more likely to experience problems indicative of abuse syndromes regardless of their level of consumption. An implication of this finding is that reasons for drinking are important determinants of the consequences of drinking and drinking to cope may be maladaptive. It can be speculated that individuals who rely on alcohol to cope with dysphoric feelings may become more psychologically dependent on alcohol. Increased psychological dependence may promote conditioned drinking.

Cooper and her colleagues (1995) showed that in cross-gender comparison coping motives were more strongly related to drinking problems among men than women. In cross-race (Blacks and Whites) comparisons, tension reduction expectancies were more strongly related to coping motives and coping motives were strongly related to drinking problems among Blacks.

Despite the predominant social influence on collegiate heavy drinking O'Hare (1990) estimated that 15% of college students drink when alone and Wechsler and Isaac (1992, cited in Christiansen, Vik and Jarchow, 2002) reported that a small percentage of female (5%) and male (7%) heavy drinkers reported drinking alone at home. Because college drinking occurs especially in social circumstances, students who drink heavily when alone may exhibit an unusual or atypical pattern of college drinking.

Students may drink heavily when alone for several reasons. Solitary heavy drinkers might hold different alcohol outcome and self efficacy expectancies, experience more negative consequences from drinking, report more depressive symptoms and recognize to reduce drinking than students who restrain greater need heavy drinking to social settings. For example, a student who drinks heavily when alone might use alcohol to cope with stress. Solitary drinking might also reflect a loss of control over drinking (e.g., a student is unable to limit alcohol use to social context) (Christiansen, et. al., 2002).

Christiansen and his colleagues (2002) formed a study with 424 undergraduate psychology students who were under age 30 and mostly women. The group consisted nondrinkers, social heavy drinkers, and heavy drinkers when alone. Their primary hypothesis was that heavy drinking when alone reflects more severe drinking than heavy drinking only in social context. They examined the effect of drinking context on four groups of variables commonly associated with drinking severity; current drinking, drinking history, psychological factors (alcohol

expectancies, self-efficacy, motivation to reduce drinking, depressive symptoms) and alcohol related consequences. Results indicated that students who drink heavily when alone consumed more alcohol, experienced more alcohol related problems, and regressed to regular drinking at a faster rate than social heavy drinkers. These results are associated with risk factors for future drinking problems. Therefore findings supported the hypothesis that heavy drinking when alone is not typical of college students, and that students who drink heavily when alone are more vulnerable to future alcohol problems. Social heavy drinkers were more similar to non heavy drinkers than to students who drank heavily when alone with regard to emotional coping expectancies, emotional relief self efficacy, and depressive symptoms. In contrast, students who drank heavily when alone endorsed more beliefs that alcohol would reduce negative emotions and expressed less confidence in their ability to resist drinking when feeling emotionally upset.

Park and Levenson's study (2002) examined drinking to cope among college students. Their data were drawn from a sample of 275 undergraduates (164 women, 104 men, 7 subjects of unreported sex) in a cross-sectional sample. The mean age of participants was 19.8 years. Results showed that drinking to cope is very common among college students and is related to much higher levels of alcohol consumption episodes of heavy drinking and levels of both negative and positive alcohol related consequences. Analysis of gender differences suggested that men rely on to cope more than women do.

Stewart and Zeitlin (1995) constructed a design to examine the relationships between anxiety sensitivity and alcohol use motives. The Anxiety Sensitivity Index (ASI), the State-Trait Anxiety Inventory and the Drinking Motivation Questionnaire were administered to 314 university students (234 females; 80 males) and the mean age was 22.2 years. Results of this study showed a significant positive relationship between ASI scores and coping motive subscale scores on the DMQ, suggesting that higher anxiety sensitivity (AS) levels are associated with a

greater self-reported frequency of drinking for coping related reasons. Moreover, the relationship between coping motivated drinking and AS was stronger for women than men. Coping motivated drinking has been found to be more highly related to the frequency of heavy drinking among women than among men in community sample (Cooper, Russell, Skinner and Windle, 1992). The present result extend the Cooper and her colleagues (1992) findings, suggesting that women who have high AS levels are most susceptible to coping motivated drinking and, thus potentially at high risk for frequent heavy drinking.

Conformity Motives are strongly associated with drinking in situations where pressures to conform may be particularly strong (e.g., parties), and with drinking related problems (Stewart and Devine, 2000). About 80% of young people's alcohol consumption is consumed in public drinking places during weekend. Both experimental and observational studies in natural settings showed that drinkers also directly influence one another. Asch (1956, cited in Oostveen, Knibe and Vries, 1996) showed the importance of socializing and conformity. This importance was observed through the desire to be part of a peer group and instrumental reasons to participate in drinking situations like making new friends or getting to know the standards of a group in order to gain acceptance.

Although individual drinking behavior may governed by relatively stable cognitive predictors of drinking such as social norms and perception of modeling, situational factors pertaining to socializing in groups and conformity to direct social pressure might be more important to explain an individual's alcohol consumption in public drinking places, because these situations can be characterized as "time outs." Time out situations allow performing impulsive and expressive behaviors which, are socially approved or even stimulated. In time out situations where in alcohol drinking takes place during weekends, adolescents and young adults seem to define their own norms. Because of the nature of this time-out mechanism, we expect heavy

drinking during the weekend to be more strongly related with situational social factors (direct pressure and importance of socializing) than with cognitive social factors (norm and modeling). Also heavy drinkers tend to drink in larger groups and conform more to the drinking style of the group than moderate and light drinkers (Oostveen et al., 1996).

In an empirical study, Oostveen and his colleagues (1996) studied two samples aged 15-15 were from urban and rural areas. The first sample was from classes of secondary and vocational schools ($n=1001$). The second sample was from customers of public drinking places ($n=640$). This study was based on a model that includes the four types of social influence: social norms (norms of family and peers and norms of authorities), modeling (observed drinking of both family and peers), direct pressure (group size, pressure of family or boy/girl friend, pressure of friends and peers and frequency of remarks about not drinking alcohol, not keeping up with rounds, drinking at a lower rate) and importance of socializing (meeting new friends, drinking in groups while rounds are being offered, and the socializing power of drinking in a group). This theory explains more of the variance in heavy drinking than a model including only cognitive social influences like modeling and social norms. It is proposed that heavy drinking during weekends is more strongly related with situational social factors (direct pressure and importance of socializing) than with cognitive social factors (normed modeling). Results indicated that heavy drinkers tend to drink in larger groups and conform more to the drinking style of the group than moderate and light drinkers. No significant differences were found between groups on three of the four factors (except for group size) indicating effects of direct pressure, pressure of peers and family and frequency of remarks about drinking. This study tested the assumption that the situational predictors like direct social pressure and importance of socializing would be stronger predictors of heavy alcohol consumption than the cognitive concepts of modeling and norms.

Social Motives are strongly related to drinking in social-affiliative situations (e.g., mixed sex friends at parties, and in contexts involving pleasant times with others). But social motives are unrelated to heavy drinking, drinking-related problems, preoccupation with drinking, or worries about controlling drinking (Stewart and Devine, 2000). Studies also report that individuals with social anxiety and low self-concepts are more likely to expect alcohol to compensate for their social functioning than individuals without these difficulties. Similarly, research indicates that individuals who expect alcohol to compensate for their shyness, drink more than shy individuals not expecting such a compensation from alcohol (Lewis and O'Neill, 2000).

Lewis and O'Neill (2000) investigated the social deficits relating to problem drinking among 116 male and female undergraduates. Participants were classified as either problem or nonproblem drinkers based on the Rutgers Collegiate Substance Abuse Screening Test. The result of this study showed that within the same sample, problem drinkers are more likely to expect positive outcomes associated with drinking and experience more social functioning difficulties than nonproblem drinkers. This result suggested that although drinking is associated with long-term negative consequences problem drinkers have positive expectancies about the immediate effects of alcohol use.

In different stages of life, individuals are in more accord with one reference group than another. This may account for variations in behavior as an individual moves from adolescence to adulthood. People tend to extend their involvement with and be increasingly influenced by their peers beginning in early adolescence. The passage from high school to college is commonly marked by an increased opportunity for peer interaction, thus potentially creating and increasing the importance of peer norms. This transition is also a period marked by increased alcohol consumption and alcohol related problems (Read, Wood, Davidoff, McLacken and Campbell, 2002). Their study on 311 Greek university students revealed that perceived norms might play a

stronger role for men than for women in determining alcohol use and related consequences. This finding is consistent with Lo's (1995) research result where men were more susceptible to peer influences than were women. But parent as well as peer behaviors are significantly and positively related to individual drinking behavior.

Two social mechanisms have been suggested to explain parental and parenting and peer influences on individual substance use. These are modeling and normative influences. Individuals may see their friends both as models to imitate and as source of norms. Through association with friends, attitudes of individuals may change to more closely reflect the social norms shared by their group of friends. These social mechanisms don't necessarily operate in the same way for both gender groups. Some of the studies showed that males conform more readily to their perception of group norms than do females (Barnes and Welte, 1986; Lo, 1995; Oostveen, Knibbe and Vries, 1996). Other studies reached the opposite conclusion that females are affected more than males by drinking styles of peers because of their higher levels of sensitivity to environmental factors (Berkowitz and Perkins, 1986).

The perceived norms hypothesis maintains that youthful drinking is influenced by perceptions of peers' drinking practices. According to Perkins (1994, cited in Thombs, Wolcott and Farkash, 1997) social norms produce a strong desire in individuals to drink in accordance with their peers' drinking behavior, or at least perceptions of their peers' drinking behavior. Research on peer norms also shows that both adolescent and college student alcohol use are most closely associated with the perceived prevalence of close friend's drinking (Oostveen et al., 1996; Lo, 1995; Read, et. al., 2002).

Thombs and his colleagues (1997) studied 1 283 middle school students and 930 college students. They used two versions of a social context scale developed by Beck and Thombs in

1994 for high school and college students. Both versions have subscales. The adolescent version consists of Social Facilitation, Stress Control, Peer Acceptance, Family, and School-Defiance. The college version consists of Social Facilitation, Emotional Pain, Peer Acceptance, Family and Sex Seeking. Results showed that drinkers perceive that their close friends drink more than they do, and that most students drink more than their close friends. The data indicated that the motivations of young people for consuming alcohol are complex, varied, and they differ in the two age groups. In both groups of students, alcohol use is linked to social interaction. The drinking of high school students is also associated with motivations such as stress management and defiance of adult authority, whereas college students' drinking is linked to sex seeking. Perception of close friends' drinking intensity is related to consumption levels in both age groups.

Research suggests that heavy drinking among university students is most likely to occur in positive social contexts as opposed to negative contexts. Nonetheless, male and female university students appear to differ in their context-specific alcohol consumption patterns. For example, university men tend to drink more frequently than their female counterparts in positive and temptation situations such as those involving social cues to drink (Carrigan et al., 1998).

There are three types of social drinking contexts such as large mixed-gender groups, small mixed-gender group and small same-gender groups. MacLatchy-Gaudet and Stewart (2001) examined the context-specific positive alcohol outcome expectancies of 78 female undergraduate psychology students. In this study total positive expectancies were significantly higher in social and sexual contexts than in tension context, in which they were the smallest. Positive expectancies were also significantly higher in sexual context than in social context. Findings on sexual context indicated that university women expect more overall positive effect of alcohol consumption when anticipating a sexual encounter than they do when they are in

social or emotionally difficult contexts. Other findings suggest heavier- and lighter-drinking male university students can be most easily discriminated by their drinking in social context, whereas discrimination between heavier and lighter drinking university women is strongest in the context of emotional pain (MacLachy-Gaudet and Stewart 2001).

Senchak, Leonard and Greene (1998) evaluated social context of drinking with respect to the size and gender makeup of social drinking events on college campuses. Both group size and gender differences were observed. Men reported greater frequency of drunkenness in large groups of mixed sex and small groups of same sex individuals compared with small mixed sex groups. Women frequency of drunkenness was unrelated to gender mix or group size. It appears that women's presence in small groups may moderate male consumption. It is noteworthy in this study that men and women who reported drinking in large mixed sex groups were less depressed and less socially avoidant than those who preferred small groups, although depression and social avoidance did not account for differences in drinking in different social contexts.

Alcohol Expectancies

Brown (1985) showed that alcohol expectancies have better predictive capacity for college drinking than did demographic variables. Furthermore, social drinkers were shown to expect social enhancement from alcohol, whereas problem drinkers were more likely to expect tension reduction from alcohol. Thus alcohol expectancies not only increased the predictability of college drinking, but were differentially related to problematic and non problematic patterns of college drinking as well.

Other studies like Leigh and Stacy' study (1993, cited in Baer, 2002) used college samples and different methodologies and found that heavies drinkers report more positive effects

over all dimensions than lighter drinkers. They reported that positive expectancy was a stronger predictor of rates of drinking than was negative expectancy. Werner, Walker, and Greene (1995, cited in Baer, 2002) reported that heavier drinkers expected more positive effects on sociability and sexuality and expected less effect on cognitive and behavioral impairment. They studied 184 students who completed measures of drinking expectancy during the freshman and junior years. Results of this study showed that high risk drinkers had the greatest positive expectations for alcohol effects at both time points. Participants who moved into a problem drinking category had higher positive expectancies at both time points and developed less concern for negative outcomes over time.

The role of tension reduction expectancies has been demonstrated by Kushner, Sher, Wood and Wood (1994, cited in Rutledge and Sher, 2001), although only in men. They found that there was a stronger positive relationship between anxiety (arguably stress variable) and alcohol use in male college freshmen who held stronger tension-reduction alcohol expectancies than in male college freshmen who held weaker tension-reduction expectancies. No such interaction was observed for female college freshmen. Kushner and others' results are consistent with findings of Cooper and her colleagues (1992) on a random sample of adults ages 19-87. In contrast, compared with male high school students, female high school students evidenced a stronger relationship between alcohol involvement and being motivated to reduce stress, desire to change a negative self image, and coping with problems.

Rutledge and Sher (2001) followed heavy drinking from freshman year up into early young adulthood investigating the roles of stress, tension-reduction drinking motives, gender and personality. Participants were in the five existing waves (years 1, 2, 3, 4 and 7) of an ongoing longitudinal study of 489 young adults with negative and positive family

histories of alcoholism. Findings of this study were that men and women evidenced different developmental patterns in the strength of the relationships between tension reduction (TR), drinking motives and heavy drinking. At year 1, the relationship between TR, drinking motives and heavy drinking were of similar importance for both genders, indicating that during the collegiate freshman year, men and women were equal in the extent to which their heavy drinking was in accord with their TR drinking motives. During years 2, 3 and 4, however, TR drinking motives were a stronger predictor of heavy drinking for men than for women, indicating that after the freshmen year, men's heavy drinking was more in accord with their TR drinking motives than was women's heavy drinking. At year 7, when participants were in their mid twenties and generally were in or entering the adult workplace, gender differences in the relationship of TR drinking motives to heavy drinking increased. The role of TR drinking motives in heavy drinking became a great deal less important for women relative to men. According to Rutledge and Sher, (2001) this finding of gender differences in the strength of the relationship between TR drinking motives and heavy drinking across late adolescence and early young adulthood suggests that factors not modeled in the present analyses have differential effects on women and men as they enter the third decade of life. One possibility is that cultural norms are more supportive of stress motivated drinking in men than in women, particularly after the college years. Men may be encouraged to act on their TR drinking beliefs and motivations, whereas women may be discouraged from doing so.

Motivational Structure and Alcohol Use of University Students

University student's use of alcohol continues to be a matter of great concern (Baer, 2002; Carey and Corria, 1997; O'Hare, 1990). Many students drink excessive quantities of alcohol, and their common pattern of heavy episodic drinking can cause severe negative consequences. It is,

therefore, important to identify the factors that determine which students will drink problematically, and how these factors might place them at risk for greater drinking problems in the future (Cox, Schippers, and Klinger, 2002).

Shore, Rivers, and Berman (1983 cited in Presley et. al., 2002) suggested that the recognition that campus life is in some way isolated from the “real world” has been one of the most important factors in focusing on immediate environmental variables over earlier developmental influences such as religious orientation or parent’s drinking habits. This focus is consistent with Presley, Meilman and Cashin’s research (1996, cited in Presley et. al., 2002) results that indicated almost one-fifth of students in college report taking their first drink after reaching age 18.

Motivational variables that underlie students’ pattern of drinking warrant empirical scrutiny. One theoretical model (Cox and Klinger, 1988) shows how a variety of motivational variables interact with one another to produce drinking motives that can be subsumed into four categories. The four kinds of drinking motives result from the factorial combination of (1) the valence of the expected affective change from drinking (enhancement of positive affect or reduction of negative affect), and (2) whether the change comes directly, from the pharmacological effects of the alcohol, or indirectly, through the effects of drinking on other incentives. A student who drinks in order to gain the approval of his or her peers, for example, would do so to enhance positive affect through instrumental means. One who drinks to quell feelings of anxiety would counteract negative affect through alcohol’s direct chemical action.

Another key aspect of the motivational model (Cox and Klinger, 1988) emphasizes that an individual’s drinking goals must be viewed in the context of the other, nonsubstance related incentives in the person’s life. These other incentives, when they become goals, potentially

compete with the drinking goals. They do so in the sense of absorbing attention, time and energy that might be otherwise devoted to drinking activities, and in the sense of occasioning positive affect of relief from negative affect, thus reducing the need to use alcohol for improving affect. People's ability to gain access to these other, nonsubstance incentives reduces their motivation to achieve affective changes from drinking alcohol. According to the model's premise, university students' consumption of alcohol should be inversely related to their perceived ability to acquire other positive incentives in their lives (that would enhance positive affect) and to remove negative incentives (that intensify negative affect) (Cox et al., 2002).

Basing their approach on the motivational model, Cox and his colleagues (2002) studied alcohol use of university students across four nations. Their participants were undergraduate students from Czech Republic, Netherlands, Norway and United States universities. A total of 370 students (244 women) with a mean age of 21 responded to the Motivational Structure Questionnaire (MSQ). It was found that among students who did not report having alcohol related problems, there were two significant predictors of alcohol consumption: First, men drank more alcohol than women when they experience negative affect. Second, as students' negative affect increased, so did the amount of alcohol that they drank. The latter finding is consistent with the motivational model of alcohol use (Cox and Klinger, 1988) which predicts that people will be motivated to drink alcohol, in part to counteract the negative affect that they experience. They also found that experiencing alcohol-related problems would likely lead students to try to control their intake of alcohol. This outcome is again consistent with the motivational model of alcohol use. As the model predicts, if people are able to find emotional satisfaction through other areas of their lives (i.e., those with and adaptive motivational structure) they will be less motivated to find satisfaction by drinking alcohol.

People whose motivational structure is more dysfunctional will have less to lose by continuing to drink heavily, despite the fact that they have experienced negative consequences from doing so. In fact, such people will probably use alcohol in an attempt to cope with the negative feelings arising from lack of success in other areas of their lives. These results are also compatible with the findings of another study (Carey and Corria, 1997) which showed that students who both drink heavily and experience problems as a result of doing so are more controlled by negative-reinforcement than positive-reinforcement motives for drinking. The similarity in results across culturally diverse samples indicates a robust relationship between university students' motivational structure and alcohol consumption.

The relationship between two of the most widely studied reasons for drinking, social and coping motives, in alcohol consumption has received attention of Cooper (1994) who found that adolescent coping motives were associated with self-reported heavy drinking and drinking problems, even after controlling for usual alcohol consumption.

Cooper (1994) examined the relationship between drinking motives and alcohol consumption among 1 243 adolescents (49% female, 50.4% female) whose age ranged between 13 and 19. It was found that coping motives were more strongly related to drinking problems among younger than among older adolescents. This same pattern was not found with social motives and drinking behavior. Since a significant proportion of younger adolescents have not yet initiated alcohol use, one possible explanation is that socializing among young adolescents does not involve drinking. Therefore, those adolescents who are drinking are less likely to be doing so in order to gain positive social rewards and are more likely to be drinking for intrapersonal factors, such as coping reasons.

Bradizza, Reifman and Barnes (1999) studied the reasons for drinking. Their respondents were 699 Black and White adolescents and 54% of them were female. The mean age was 15.

Contrary to their predictions, social motive was a somewhat better predictor of alcohol misuse than was coping motive, particularly during mid to late adolescence. However, there was some limited evidence of a significant relationship between coping motives and alcohol misuse in the mid-adolescent age group. Some support was found for racial differences such that social motives are better predictors of alcohol misuse among Whites, and coping motives are better predictors among Blacks. It was predicted that coping reasons for drinking would be more strongly related to alcohol misuse in females as compared with males. This study provided limited support for this prediction. In the late adolescent wave cross-sectional analyses, coping motive predicted alcohol misuse only among females. However, no gender-based differences were found in any analyses. These results are not consistent with Cooper's 1992 study that found a strong relationship between coping motives and heavy or problematic drinking among females. Finally, it was predicted that coping motives would be more influential in alcohol misuse of younger adolescents, as compared with older adolescents. This hypothesis received limited support from the result of this study. There was no significant interaction between coping motive and age. All of these findings suggest a strong tendency for social and coping motives to influence alcohol misuse during mid to late than in early adolescence.

Brennan, Walfish, and Aubuchon (1986) identified eight studies examining different motives for alcohol consumption among college students. Two general types of drinking motives typically emerged: drinking for social purposes and drinking for emotional escape or relief. In their review, five studies associated escape motives with increased drinking and related problems among college students. However, at least one study documented increased frequency of intoxication associated with motives to drinking for "getting drunk."

Perkins (1999) conducted a study to examine stress motivated drinking and its potential contribution to alcohol problems for young adults in college and subsequent postcollegiate contexts, specifically focusing on the simultaneous influences of life course stage and gender. The undergraduate student data were drawn from three surveys conducted among 1982 ($N=1\,514$), 1987 ($N=6\,599$) and 1991 ($N=1\,151$). Survey administered to graduate students in 1987 and again in 1991. Results of this study showed that stress motivated drinking is somewhat more prevalent in undergraduate years as other drinking motivations, but stress related reasons for drinking are relatively more prominent among motivations and relatively more problematic in terms of consumption levels and consequences in the succeeding years after college. Furthermore, relative prevalence of stress-related reasons for drinking substantially increases, however, in post collegiate life. While drinking among graduates is generally lighter and with fewer consequences compared to undergraduates, using alcohol to cope with anxiety and stress becomes a much more prominent feature of the drinking that takes place after college. This pattern may reflect developmental changes where graduates depend less on alcohol to reduce inhibitions surrounding new social interactions outside the home, but they use alcohol more to cope with increased stresses from greater responsibilities and role demands associated with families and careers that are being established. It may also be reflecting the change from college environment where alcohol use is frequently encouraged in the context of parties and social life, and tied relatively less often to personal anxieties. Men in this research study, were much more likely than women to consume alcohol more often, in great quantities, and with more immediate consequences. The prevalence rates of stress-related reasons for drinking were very similar for women and men, however, both as undergraduates and as postcollegians. Thus, drinking perceived as a form of tension reduction seems to be an important aspect of drinking for both genders.

Kairouz, Gliksman, Demers, and Adlaf (2002) assessed the effect of the reasons for drinking on situational alcohol use above and beyond other environmental and individual (academic activities like arts, student occasions, cultural political activities; recreational activities like parties, athletics, other leisure activities) factors. The data were drawn from the Canadian Campus Survey, a national mail survey conducted in 1998 with a sample of 8864 students in 18 universities. Each student provided information on up to five drinking occasions, resulting in 2 5347 drinking occasion among 6 598 drinkers. At the individual level, this study focused on university life experience. At the situational level, information about alcohol intake was recorded as related to why, when, where and with whom drinking occurred. Results indicated that generally students are drinking for aesthetic reasons such as to enjoy the taste or to enhance meal (24,9%), and for social reasons such as to celebrate (21,3%), to be sociable or polite (16,9%), and, to a lesser extent, to comply with others (6,0%). By far, social reasons appear to be the main reasons for drinking for undergraduates. In 63% of the situations, a social reason was given as the primary motivation for drinking in that situation. Compensatory reasons for drinking such as to relax (7,5%), to feel good (6,4%), to forget worries (2,1%) and to feel less shy (2,1%) are less common but not trivial, since this type of motivation was provided for drinking in roughly of five drinking occasions. Results also suggest that the effects of all the reasons for drinking on alcohol consumption are different for men and women except for reasons to enhance positive states, which contrasts with previous findings. Men were more likely than women to report higher alcohol intake when they drink for social reasons such as to be sociable, to celebrate or to comply with others, and when they drink to get drunk. As for coping motives, the relationship between compensatory reasons for drinking, alcohol intake and gender is more complex. Thus, the effect of reasons to enhance positive states (to feel good and to relax) is more marked for men than for women, whereas the effect of reasons to alleviate negative or undesirable states does not differ significantly between genders. However, because gender interacts with several setting characteristics and reasons for drinking further

investigation may be required to examine different casual models for men and women that may underlie the relationship between reasons for drinking and alcohol intake.

There are some theoretical models and research on identification of psychological predictors of college student drinking tendencies in order to improve the efficacy of prevention efforts (Baer, Kivlahan and Marlatt, 1995; Martin and Hoffman, 1993; Wechsler, Dowdall, Maenner, Gledhill and Lee, 1998). The first model maintains that college students' drinking tendencies can be attributed largely to situational and normative influences. Research in this area has indicated that peers, residence and social activity (e.g., fraternity membership) heavily influence drinking tendencies (Baer, 1994, cited in Baer et al., 1995; Martin and Hofman, 1993; Wechsler et al., 1998). Accordingly, best approach to reducing heavy drinking is to alter the situation or normative environment on college campuses or in social groups. The second model (Model 2) asserts that patterns of college students drinking tendencies can be attributed, in part, to the weakening of parental control as students leave home for college. Studies have shown that individuals tend to drink more frequently and in larger quantities as college freshman than during their senior year in high school (Baer, 1994; Leibsohn, 1994, cited in Baer et. al., 1995). The third model posits that college student drinking tendencies tend to be most pronounced during the early years in college. Studies in this area showed that students tend to drink and experience more consequences during their first 2 years in college and then "mature out" (Klein, 1994; Saltz and Elandt, 1986, both cited in Wechsler et al., 1998).

Turrisi, Padilla, and Kimberly (2000) formed a study to examine these three models. Their research contrasted three groups of students: (1) traditional incoming freshmen who were approximately 18 years old, (2) non-traditional incoming freshmen who were approximately 22 years old and (3) upperclassmen who were approximately 23 years old. The sample consisted of college students (N= 363; 62.1% female) from introductory and upperdivision psychology

classes. Respondent completed a multi-item drinking tendency measure that included items assessing self-reported drinking quantity, consequences and beliefs. Self reported drinking quantity items asked the number of drinks the respondents have in a typical week and the number of times during the past two weeks that they had five or more drinks in a row on a single occasion. Drinking consequences were assessed using four items those are involvement in a physical fight, experiencing a blackout, regretting a sexual situation and experiencing a headache or other hangover symptom after drinking. The drinking beliefs measured by four dimensions as follow: negative affect, normative approval, inhibition of social relations and positive transformations. Results indicated that compared with each other, traditional freshmen and non-traditional freshmen consumed similar amounts of alcohol; they (traditional and nontraditional) consumed larger amounts of alcohol than upperclassmen. This observation provides empirical support for the first and third models. Second, examination of drinking consequences revealed that traditional freshmen were less likely to experience drinking-related consequences relative to non-traditional freshmen and upperclassmen. This observation provides empirical support for the second model. Third, examination of the drinking beliefs revealed that nontraditional freshmen and upperclassmen were significantly different on all beliefs except for normative approval. This observation provides empirical support for all of the models. This study explains perhaps why numerous studies that have examined different samples of college students have found divergent drinking beliefs to be important predictors of alcohol consumption and alcohol consequences (Baer et al., 1995; Carey and Correia, 1997; Cooper, 1994; Cox and Klinger, 1988).

Hensley's study (2001) included 114 participants (38 males, 76 females) who were traditionally raised, residential students attending a selective, liberal arts college in the southern United States. Age range was 18 to 22. The class distribution of the sample was 32 freshman, 32 sophomores, 25 juniors, and 25 seniors). Thirty nine participants were members of Greek

organizations. The purpose of this study was to examine relationships between college student development and alcohol consumption patterns. Although many biological and environmental factors are related to a college student's alcohol consumption choices this study explored additional variables to be considered in college counselors' understanding of student drinking behaviors. Participants were classified into one of four drinking categories according to their alcohol consumption patterns as in the following: abstainers, drinkers, binge drinkers and frequent binge drinkers. The instruments were the Core Alcohol and Drug Survey that assesses the nature, scope, and consequences of student drug and alcohol use as well as student awareness of relevant policies; The Erwin Identity Scale (EIS) that assesses three components of identity; confidence, sexual identity, the concern about body and appearance; the Defining Issues Test (DIT) that assesses student moral development by measuring conceptual framework and judgment of individuals and the Scale of Intellectual Development (SID) that assesses intellectual and ethical development. Regarding demographic variables, neither sex nor class standing was related to consumption patterns in this study. Contrary to the findings in past studies, male and female participants in this study had similar patterns of alcohol consumption. Participants who were frequent binge drinkers were less likely than abstainers to have made personal and intellectual commitments, as measured by SID. Furthermore, moral development and identity development were unrelated to participants' level of alcohol consumption.

Gerrard, Gibbons, Benthin, and Hessling (1996) found that though adolescents were aware of the risks involved in smoking, drinking, and reckless driving, they would "manipulate their cognitions" about these risks in ways that facilitated their continuation of the behavior. As they increase such behavior, they convince themselves that many others take the same risks, or they avoid thinking about the health and safety concerns. In focusing on cognitive approaches, which emphasize thought processes, researchers have examined adolescents' perceptions of various health risks. For example, several studies have

explored the relationship between adolescents' knowledge of health risks and their own risky behavior in real-life situations. In general, it has been found that adolescents do not seem to relate their knowledge about risks to their own risk-taking behaviors, whether they involve smoking, drinking, driving, or sex. Adolescents know the risks of using substances; they know it can affect their physical and mental health, their families, and future plans. Yet this knowledge does not seem to discourage them from engaging in risk-taking behaviors. In fact, for the past five decades increasing numbers of adolescents have been using substances, and at an earlier age (Gerard et al., 1996).

Gender Differences in Drinking Motivation

Recent investigations (Richardelli, Connor, Williams and Young, 2001; Richardelli and Williams, 1997) have found that the proportion of adolescent drinkers is increasing among females than among males. Trends suggest that the gap between young men and women's drinking is closing. This has sometimes been referred to as the "Convergence Hypothesis" or the "Disappearing Phenomenon Thesis (Engs and Hanson, 1990; Neve Drop, Lemmens and Swinkels, 1996). According to convergence hypothesis men and women drinking are more similar now than they were in the past because of the changing roles and positions of men and women in society. University population provides more evidence for the convergence hypothesis because both male and female students have more liberal attitudes toward drinking and their gender stereotypes are more equal. The other distinctive facet of drinking in student populations is that there is little restraint over drinking and the supportive drinking environment places students at higher risk of developing alcohol related problems (Richardelli and Williams, 1997). Wilsnack and Wilsnack (1987, cited in Engs and Hanson, 1990) explained disappearing phenomenon and pointed out that increased drinking among females might be a result of the

women's movement and changes in women's, roles, especially changes that involve exposure to formerly masculine environments and roles. They suggested that changes in sex roles might increase women's exposure to alcohol and opportunities to drink; might modify traditional norms against female drinking, furthermore, making drinking more permissible and might offer females new goals and aspirations, thus causing stress that alcohol might be used to reduce.

Richardelli and Williams (1997) found no difference in men and women's drinking levels in university residential environments where gender roles are less stereotyped. The women living on campus were drinking at higher levels than the other women and their drinking levels did not differ significantly from men living on campus. The campus was seen as the least gendered environment as these women rated themselves no differently from men on any of the gender scale. There were no sex differences on the drinking indices for subjects living at home, either. Again, the lack of sex differences in their drinking corresponded to a lack of differences in their gendered stereotypes.

Richardelli and his colleagues (2001) examined gender stereotypes and drinking cognitions as indicators of moderate and high risk drinking among 301 female 118 male university students. All participants completed a battery of measures administered in the following order: a) self efficacy for alcohol refusal, b) restrained drinking, c) alcohol dependence, d) reported drinking, and e) gender stereotypes. Results suggested that the high risk drinking women scored significantly lower on all three of the self efficacy subscales and significantly higher on four of the five drinking restrain subscales. They demonstrated a lower capacity to refuse drinking in social situations, when in negative emotional states, and when faced with other temptations and cues (watching tv). This was despite the fact that the high risk drinking women were trying harder to control their drinking and were more worried about the amount of alcohol they consumed. Furthermore, women were more likely to report alcohol use as a means of dealing

with negative affect than men. One of the scales that assessed gender stereotypes, positive femininity, also differentiated between the moderate and high risk drinking women. Specially, the high risk drinking women were found to score significantly lower on positive femininity.

Despite the findings of diminishing sex differences in drinking, many researchers continue to find consistent and large sex differences in drinking (Lo, 1995; Neve et. al., 1996). They argue that many reasons may help explaining gender differences in collegiate alcohol use. Larger drinking of males may be attributed, in part, to the fact that they are physically bigger than females. These differences may also be explained by different socialization styles typically applied to the two groups; styles that perpetuate different outlooks on alcohol use. As self directed behavior, drinking is learned through association and hold of drinking tends to become one's own definitions, providing one's own standards of what kind of drinking is appropriate in given circumstances. Individual definitions affect behavior, thus, if males in general hold more favorable definitions about drinking than females do, males should be more likely to use alcohol (Lo, 1995).

Lo's study (1995) among 808 freshmen students showed that male drinking is subject to greater approval from significant others than is female drinking behavior. For both male and female samples, associations with alcohol using friends did not show the expected direct effect on respondents' pro-drinking norms. Observing peers while they drink do not apparently make male alcohol use definitions more positive. On the other hand, having friends who approve one's drinking has a significant impact on male behavior. This impact is weaker but still significant for females.

Blingham, Parrillo, and Gross (1993, cited in Baer, 2002) suggested that gender differences exist in the functions of drinking motivations. They found more reasons for drinking that

actually related to drinking categories (moderate versus heavy) for women than for men. For women, factors such as “drinking to get drunk,” “forget disappointments,” “feel good” and “get along better on dates” were all significant predictors of drinking behavior. For men, fewer factors emerged, and one, “drinking to get drunk” accounted for most of the prediction.

Carey and Correia (1997) tested the relationship between motive for drinking and alcohol related problems in a college sample. Subjects were 139 undergraduates with a mean age of 18 and 61% of them were female. They first found that drinking motives did contribute significantly to the prediction of alcohol related problems. Second, the results of the mediational analysis indicated that both positive and negative reinforcement motives contribute directly to the prediction of drinking problems. Finally, no gender difference was found in drinking motives and there was no significant contribution of gender in the prediction of alcohol related problems.

The principle of gender congruence primarily predicts that individuals who identify with traditional gender roles and sex-typed traits conform to behaviors consistent with cultural norms. Regarding alcohol consumption, gender congruence predicts that individuals who identify with masculine traits are at greater risk of developing alcohol related problems than those who do not. Conversely, a closer identification with femininity is predicted to provide protection against problem drinking (Bem, 1997 cited in Williams and Ricciardelli, 1999). Williams and Ricciardelli (1999) believe that gender congruence may work in at least two main ways. High masculinity relates to high level of alcohol consumption and alcohol-related problems can be described as confirmatory drinking. The label confirmatory is used to depict as style of drinking that reinforces an existing image of self. Masculine characteristics are typically associated with high levels of alcohol consumption. However, there is also evidence that low scores on masculinity and femininity scales also predict problem drinking. The motivation in

these cases can be described as compensatory. Whereas confirmatory drinking reinforces an existing image of self, compensatory drinking emphasizes the use of alcohol as a psychological and emotional agent for changing perceptions of self. That is individuals who rate themselves low on masculinity and femininity may use alcohol to heighten their sense of masculinity or femininity.

Williams and Ricciardelli's study (1999) among 179 male and 243 female psychology students was designed to examine the relationship between gender stereotypical traits and drinking behaviors. They also examined both positive and negative gender stereotypical traits and found that men scored significantly higher than women on quantity of drinking, frequency of drinking, positive masculinity and negative masculinity. Women scored significantly higher on positive femininity. Compared with women, men drank more often, and in greater quantity per occasion. Men also reported more problems related to their drinking. These results are consistent with the view that the more men and women resemble each other on gender dimensions such as masculinity and femininity, the more similar are their behaviors in a range of areas, including self-esteem, delinquent behavior, and substance abuse.

Drinking in Relation to Academic Performance and Current Residence among College Populations

Brennan, Walfish and AuBuchon (1986 cited in Ham and Hope, 2003) suggested that level of involvement and/or performance in academic work during college is associated with drinking behavior. Grade point average (GPA) was found to be an important predictor of binge drinking. Athletes with higher GPAs were somewhat more likely to refrain from in-season drinking than other athletes (Thombs, 2000 cited in Ham and Hope, 2003). On the other hand, McCabe (2002), found that low academic performance, as measured by GPA,

was not a significant risk factor for heavy episodic drinking and argued that academic performance measured by missed classes and late assessments due to drinking was found to be a significant risk factor for heavy and frequent binge drinking. It could be that GPA does not fully assess academic involvement, as some students may be able to have an above average GPA with less effort than others. However, these relations among drinking and academic performance could be interpreted as consequence of problematic drinking rather than a cause and thus should be interpreted with caution. Alternatively, poor academic functioning may be another aspect of the nonconforming/sensation seeking type of individual that is at a higher risk for problematic alcohol use.

Maney (1990 cited in Durkin, Wolfe and Clark, 1999) stated that drinkers (especially heavy drinkers) earn lower GPAs than non-drinkers and excessive drinking may have detrimental effects on the student's academic performance. He continued that "a student's grades may suffer because the time required to academically succeed is being spent pursuing or consuming alcohol" (p.47). Franklin (1999 cited in Durkin et al., 1999) found that among moderate drinker and binge drinkers females reported having higher GPAs than males. Additionally, GPAs of female appeared to be less affected by the presence of binge drinking than GPAs of males. These findings support the hypothesis that gender specific patterns of alcohol use have more detrimental impact on the academic achievement of males than it has on that of females. Pullen (1994 cited in Durkin, Wolfe and Clark, 1999) showed that there is a relationship between the alcohol consumption patterns of college students and their college GPA. That is college students who consumed more alcohol generally tended to have lower GPAs.

Wechsler (2001) showed that Binge drinking also affects students' academic performance, Half of binge drinkers reported that they missed at least one class as a result of their

alcohol use, and more than a third stated that they fell behind in their schoolwork due to drinking. Binge drinkers are also more likely to report lower grades than non-bingers.

Harford, Wechsler and Muthen (2002) reported that recent national surveys in the United States indicate that college students who are male, white, younger in age, have never married, live in fraternity or sorority houses, adopt a party-centered lifestyle, spend considerable time socializing with friends and initiate heavy episodic drinking prior to college have higher rates of heavy drinking and alcohol related problems in college. Indeed, Wechsler, Dowdall, Davenport and Castillo (1995) indicated that fraternity/sorority residence is one of the most powerful predictors of heavy episodic drinking in college. They also reported that students who live in campus or independently off campus tend to drink more than students living at home with their parents.

In an article on environmental correlates of underage alcohol use, Wechsler, Lee, Kuo, Lee (2000) repeated their 1993 Harvard School of Public Health alcohol study. They reported that when compared with students residing in single-gender dormitories, college students residing in coed dormitories and fraternity/sorority houses, were more likely to report binge drinking (the consumption of five or more drinks in a row for men, and four or more for women, at least once in the 2 weeks). College students residing in and off-campus coed housing did not differ from single-gender dormitory students in their drinking amount of alcohol. Two out of 3 students who live in fraternity or sorority houses were binge drinkers. Binge drinking rates were high among students living off-campus and were low among students living in dormitories.

Harford and his colleagues (2002) studied students between ages of 18-22 who were never married and who reported alcohol use in the past month ($N= 8\ 208$ and 55.6 % of the sample was female). They hypothesized that alcohol problems would vary by residence, students who

live in coed, dorms would report more alcohol related problems and students who live off-campus with parents would report lower alcohol related problems when compared to single gender dorms. It was further hypothesized that heavy episodic high school drinking would relate to alcohol problems independent of residence. Measures of college residence were provided by information on current location and current living companions. Heavy episodic drinking prior to college was defined as having five or more drinks in a row or more times during the last year in high school. Findings showed that whereas all other students in the study reported use of alcohol in the past 30 days, students living off campus with parents reported significantly lower levels of heavy episodic drinking in college. Despite the difference in drinking levels between off-campus students living with and without parents, both off-campus groups reported higher probabilities of drinking /driving when compared with on-campus students living in dormitories. Another finding indicated that students living in coed dormitories, when compared with students in single gender dorms, incurred more problem consequences related to drinking but reported significantly lower probabilities associated with designated driving and drinking/driving. Interactions between gender and residence were not significant.

Harford and Muthen (2001) argued that alcohol and other drug use rates tend to increase as students leave their homes and move to on campus and off-campus college residence. Compared with students living at home with parents, students residing in dorms or off campus without parents reported significant elevations in the growth trajectories for heavy drinking. The analysis of change of residence from living with parents to dorms or off campus without parents yielded time specific increase in the alcohol trajectories associated with change of residence in the past year.

Harford and Muthen (2001) examined the relationship between residence and prior problem behaviors and the drinking patterns of college students over a 3 year period. Examination of

factors associated with residence (e.g., parental education, parental drinking problems, prior conduct problems) and college characteristics (e.g., year in school, 2 year vs 4 year programs) are additional study objectives. Fifty one percent of the sample was female while the remaining 75% was White. The college sample was distributed by grade in 1982 as follows: first year, 696; second year, 570; third year, 396 fourth year, 288, during the three year period. Current residence for each year was coded as follows: (1) living at home with parents, (2) living in a college dorm, fraternity or sorority, and (3) living in own dwelling unit. A 7 day measure of alcohol use was used and a cross sectional analysis was done with 30 day measures. Cross-sectional findings showed that there were significant and consistent effects in the following variables: gender, race, marital status, conduct problems, illicit substance involvement, early onset of alcohol use and residence. Age was not systematically related to drinking measures. Parental education was related to drinking frequency but not to average consumption or frequency of heavy drinking. Parental drinking problems were unrelated to students' alcohol use. For each drinking measure, dormitory residence, when compared with living with parents was significantly and positively related to increases in alcohol consumption above would be expected by the growth trajectory. The pattern of dwelling residence was similar to that of dormitory residence. The cross-sectional analyses of students attending college indicated that upperclass students reported increased drinking frequency but lower frequency of heavy episodic drinking. Findings also showed that students with prior problems in high school were more likely to reside in their own dwelling units, in settings further removed from both parental and other adult controls. The analysis of change of residence was related to time specific increases in the alcohol trajectories associated with change of residence in the past year, also indicated significant longer-term impacts on drinking.

Baer, Kivlahan and Marlat (1995) examined the transition from high school to college in a sample of high-risk drinkers ($N=366$) and found that students living in fraternities or sororities,

when compared with students living in dormitories, reported increased rates of drinking frequency and average consumption. A smaller sample of off-campus students ($N=35$) reported lower rates of increased consumption when compared with on-campus students but they did not differ in terms of alcohol-related problems.

O'Hare (1990) found that there were differences in drinking rates depending on the living arrangements. Commuters living at home were more likely to be lighter drinkers than students who lived on campus. Men were twice as likely to be heavy drinkers if they lived on campus. However, women living independently had higher rates of heavy drinking than women living on campus or at their parent's homes. These findings are consistent with Harford, Wechsler and Rohman's study (1983, cited in O'Hare, 1990) which revealed that the number of roommates was positively related to drinking contexts. Students living at home were more likely to drink in nightclubs and bars, and residence hall students were more likely to drink in large, mixed gender groups in their residences.

College students' heavy alcohol use has been tied to their living arrangements. Three out of four fraternity and sorority house residents are heavy episodic drinkers, a rate twice as high as that of other students (Wechsler, Kelley, Weitzman, Giovanni and Seibring, 2000 cited in Wechsler, Lee, Nelson, 2001). Students who live on campus, particularly in co-educational housing, and students who live independently off-campus are more likely to drink at higher levels. The association between students' alcohol consumption and their living arrangements may be a result of peer influence. Alcohol use in college is a highly social behavior. Students who are heavy episodic drinkers have more friends and are more likely to be members of fraternities, sororities or athletic teams (Wechsler et al., 1998).

Students may choose their living arrangements to fit their preexisting level of alcohol use. Schall, Kemeny, and Maltzman (1992) found that students who planned to join a sorority or fraternity drank more heavily than those who lived in the same living arrangements but did not plan to join. Newcomb and Bentler (1985, cited in Schall et al., 1992) found that high school substance use impacts on choice of later young living environment and career, and that living arrangements shape alcohol use from high school to young adulthood. Wechsler and his colleagues (1998) found that fraternity and sorority house residents were more likely to be heavy episodic drinkers in high school, and that high school drinking was strongly related to the level of alcohol use in college.

Drinking Motives and Alcohol Related Problems

Empirical research has supported an association between drinking motives and alcohol disorders. Farber, Khavari, Douglas (1980) found that having been treated for drug or alcohol abuse was associated with stronger negative reinforcement motives for drinking in a sample of psychiatric outpatients, providing indirect evidence for the association between negative reinforcement and alcohol disorders.

Johnson, Schwitters, Wilson, Nagoshi and McLearn (1985) investigated the relationship between drinking motives and alcohol consumption in a sample of Hawaiian residents. Drinking for pathological reasons (i.e., when conscience bothering) was found to be more predictive of both amounts of alcohol consumed and alcohol-related problems than drinking for celebrative reasons (i.e., when looking for fun). Cooper (1994) found that the four motives proposed by Cox and Klinger (1988) accounted for 14% to 20% of the variance in quantity and frequency of alcohol consumption in a large sample of adolescents. Enhancement motives (positive internal) and coping motives (negative-internal) were both significant predictors of drinking problems,

with coping motives being the stronger of the two predictors. Conformity motives (negative-external) were also significantly related to drinking problems. It is noteworthy that only the negative motives, coping and conformity, continued to predict problems after controlling for usual alcohol consumption (Cooper, 1994).

Carey and Correia (1997) evaluated the relationship between drinking motives and alcohol related problems in a 139 female and male undergraduate students. Three main findings emerged from their study. First, drinking motives contributed significantly to the prediction of alcohol-related problems. Second, the result of the mediational analyses indicated that both positive and negative reinforcement motives contribute directly to the prediction of drinking problems. Finally, no gender differences in drinking motives and no significant contribution of gender in the prediction of alcohol-related problems were found. Consistent with cognitive-motivational models and previous research, the results of this study suggest that gathering information on why individuals drink may aid in the identification of students experiencing alcohol-related problems. Individuals who strongly endorse a wide variety of reasons for drinking, particularly those who strongly endorse negative reinforcement reasons, are more likely to drink heavily and to experience alcohol-related problems (Carey and Correia, 1997).

According to O'Hare and Sherrer (1997) students with a greater belief that even moderate alcohol consumption can increase confidence in social situations or relieve tension are more likely to report more serious socio-emotional problems such as depression, anxiety, family and other relationship problems, and negative feelings toward oneself. In addition, those with greater expectancies of social assertiveness and tension reduction are also more likely to report more acute effects of drinking, spend too much money on alcohol or other drugs, drive while under the influence, and are more likely to report problems with the law. O'Hare and Sherrer conducted a study on 315 undergraduate students. The percentage of females was 39.7%, and

males was 60.3%. The mean age of the respondents was 18.8, and standard deviation was .96. Results indicated that the expectancy of enhanced sexual relations have more discriminant validity for alcohol related problems than other, overlapping alcohol expectancies. Students with high levels of socio-emotional and community problems were more likely to consume excessive amounts of alcohol across all three drinking context. These include convivial (e.g., partying) and personal-intimate situations (e.g., dating or sexual encounters) as well as occasions where drinking was being used to actively cope with anxiety, depression, and relationship problems. These results suggest that higher expectations for alcohol's reinforcing effects and excessive drinking in both positive and negative social situations are almost indiscriminately associated with more socio-emotional and community problems (O'Hare and Sherrer, 1997).

Perkins (1992) conducted a study to examine gender differences in alcohol-related problems among college students. Its data obtained from four surveys carried out at an undergraduate institution in New York State between 1979 and 1989. The results did not support the hypothesis about the convergence of gender differences with regards to alcohol abuse. Trends in collegiate alcohol misuse indicated that problems with public or legal consequences were more common in men than in women, while no significant gender differences were found in alcohol problems with private repercussions.

Heavy episodic alcohol use on college campus is associated with such "second hand" effects as having studies interrupted, being assaulted, having property vandalized or, in the case of women, being victims of unwanted sexual advances resulting from the alcohol use of other students. Students living on campuses with high rates of heavy episodic drinking were as two or more times more likely to experience such serious second hand effects as students living on campus with low rates (Weschler et al, 2001).

Motivational models of alcohol use rest on the premise that all people make choices between drinking and alternative actions, and that problem drinking is mediated by the same decision process that governs all drinking (Cox and Klinger, 1988). People decide to drink or not to drink on the basis of whether positive consequences that they expect from drinking outweigh those that they expect from not drinking (Strizke and Butt, 2001). Strizke and Butt (2001) formed a study to develop a measure of motives for not drinking (Motives for Abstaining from Alcohol Questionnaire- MAAO) derived from three domains of variables central to Cox and Klinger's (1988) motivational model of alcohol use. These domains included historical or dispositional risk items reflecting specific aversions to alcohol associated with medical condition, medication regimen, or genetic predisposition, and concerns due to a personal or family history of alcohol problems. Situational items reflected indifference toward drinking, and constraints such as disapproval by family or friends, religious proscriptions and not being old enough. Items reflecting cognitive mediating events focused on fear of negative consequences such as concern about study and job performance, general health, losing self-control, getting in trouble with authorities, and poor athletic performance. The resulting 35 items were randomly ordered. Respondents were 171 (49% female) Australian high school students from years 10 ($n=94$) and 12 ($n=77$) who had a mean age of 15, for year 10 and a mean age of 17 for year 12. Results indicated that, the most strongly endorsed factors were fear of negative consequences, indifference, and family constraints. Fear of negative consequences items reflecting adverse negative health consequences and fear of becoming an alcoholic did not reliably load on fear of negative consequences or any other factor. Instead, the items on fear of negative consequences scale suggested that adolescents were primarily concerned about negative effects most salient to their current life circumstances, such as interference with school work, impairment of behavioral control, loss of respect due to drunken comportment, and increased vulnerability to suffering personal harm (Strizke and Butt, 2001).

Religious orientation has also been included in the literature to be related to alcohol use (Payne, Bergin, Bielema, and Jenkins, 1991 cited in Templin and Martin, 1999). Khavari and Harmon (1982, cited in Templin and Martin, 1999) studied religious belief and alcohol consumption and found that subjects who considered themselves very religious drank significantly less than those who felt they were not religious at all. Hanson and Engs (1987) surveyed college students about their alcohol use, using the Student Alcohol Questionnaire (Engs, 1977), in the 1982-83 academic year ($N=6\ 115$) and again in the 1984-85 academic year ($N=4\ 266$). Students' religious denomination and professed importance of religious belief were assessed and compared with their drinking patterns. Catholics had the highest percentage of drinkers (90.1%), followed by Protestants who were not prohibited from drinking by their religion (86.2%), Jews (85.2%), and finally, Protestants who were prohibited from drinking by their religion (60.3%). In addition, the study found that 66.3% of those who believed religion was very important to them drank, while 89.5% who claimed that religion was not important to them drank, a difference of over 20%. In a study of high school seniors by Benson and Donohue (1989 cited in Oleckno and Blacconiere, 1991) subjects' lack of religious orientation was found to be one of the most powerful predictors for at-risk behaviors, including binge drinking.

Oleckno and Blacconiere (1991) also studied the relationship between religion and alcohol use. Religion was determined by asking college students about their frequency of attendance at religious services and by asking how religious they were and then combining these variables to produce an index. In general, those subjects who were less religious on the index drank more heavily and frequently than those who reported high religiosity. The authors noted, however, that their definition of religiosity was somewhat narrow, and that a measure such as Allport's Religious Orientation Scale (ROS) (Allport, 1967) should be used in future research exploring the relationship between religion and health. Allport

defined two types of religiosity: intrinsic and extrinsic. Intrinsic religiosity describes an approach toward religion that is internally motivated, sincere, and committed in terms of living by religious beliefs regardless of consequences. Extrinsic religiosity describes an approach to religion that is poorly committed and externally motivated in which religion is used as a means of obtaining status, security, and sociability (Allport, 1967, cited in Oleckno and Blacconiere, 1991).

Templin and Martin (1999) examined the relationship between religious orientation and alcohol drinking patterns of 318 undergraduate and graduate students. The majority of the subjects were between 19 and 22 years of age. They used Religious Orientation Scale (ROS) (Allport, 1967) and the Student Alcohol Questionnaire (SAQ) developed by Engs (1977). The results indicated that intrinsic motivations toward religion were associated with fewer total drinks consumed per week ($r = -.1085$, $p = .037$, $N = 273$) and fewer total problems experienced over the previous year due to drinking ($r = -.1258$, $p = .023$, $N = 251$). Extrinsic motivation toward religion were not associated with either total drinks consumed per week ($r = .0029$, $p = .481$, $N = 273$) or total problems experienced over the previous year due to drinking ($r = .0194$, $p = .380$, $N = 251$). The results of the t-tests indicated that there were no significant differences in the mean scores for intrinsic or extrinsic motivations toward religion between males and females. Males, however, consumed a significantly higher mean number of drinks per week compared to females ($t = 2.20$, $p = .029$). Similarly, males had a significantly higher mean number of problems associated with drinking compared to females ($t = 3.25$, $p = .001$). Having an extrinsic approach toward religion was not related to drinking behavior and consequences for either males or females. This finding is important because it qualifies past findings that people who are more "religious" tend to drink less.

Turkish Studies on Alcohol Use among Youth

Just like their foreign counterparts, Turkish researchers recently tend to do more research on drinking by youth. Efforts are oriented towards understanding the reasons for, patterns of and consequences of drinking. Some of these studies are summarized below.

Bilir and Mağden (1984) investigated the use of alcohol and other substances among high school students from 36 schools in Ankara city center. This study showed that alcohol use among high school students change by their age, amount of pocket money, and socioeconomic status of their family. Male students use more alcohol more than female students.

Uslanmaz (1993) investigated alcohol and cigarette use among students who were selected from high schools in Ankara metropolitan center. She investigated the influence of gender, age, socioeconomic status, amount of pocket money, leisure activities and peer relationships on alcohol and cigarette use. Results showed that male students use alcohol and other substances more than females. Alcohol and other substance use also increased with age. Students from high socioeconomic level consumed alcohol more than students from low socioeconomic level. Students who participated in leisure activities like sports, art and music consumed less alcohol than students who did not. In addition, students who have drinking friends had more drinks. These findings point out to the influence of social learning on drinking behavior.

Delikaya (1999) surveyed the students in five different schools in the center of Ankara to study the student attitudes regarding smoking and alcohol use. A questionnaire was administered to a student sample ($N=501$) that was made up of 45.3% of boys and 54.7 of

girls. The average age for the students was 16.55. Results of this study showed that 22.2% of the students were smokers. About 20.7% of them were male and 23.4% of them were female. The mean age for starting to smoke was 14.55. Reasons for smoking were noted as wanting to be like others (26.1%) followed by curiosity (21.6%) and family problems (17.1%). A high percentage of students (64.4%) didn't smoke and noted that they don't smoke because it is harmful to their body. And 68.4% of students who used alcohol noted that they drink because it gives pleasure. Others (14.9%) noted that they use alcohol to forget their problems, and some others (12.1%) use it out of curiosity. On the other hand, 52.3 % of the students who didn't use alcohol noted that they don't use it because they know it is harmful to their body. There were significant differences between male and female students' drinking behaviors. In the sample, 27.0% of female and 44.4% of male students were categorized as drinkers.

Ögel, Tamar, Evren and Çakmak (1998) conducted a research to examine the prevalence of cigarette, alcohol and drug use among second grade high school students. The research included 15 different cities (Adana, Ankara, Antalya, Denizli, Diyarbakır, Eskişehir, Erzurum, İstanbul, İzmir, Kocaeli, Malatya, Muğla, Sivas, Trabzon and Van). The sample was made up of 20245 high school students between ages 15-17. The questionnaire surveyed revealed that while the rate of smoking at least one cigarette in a lifetime was 63.9%, the rate of smoking cigarette every day was 22%. In addition, 17.3% of students stated that they had alcohol at least once during the past month and 9% of them stated that they had alcohol once in a week. Rates of cigarette and alcohol use were more than what was expected by the researchers. Percentages for use of substance at least once in a life was 3.6% for cannabis, 8.6% for volatile, and 3.3% for other substances.

Ögel, Tamar, Evren, and Çakmak (1998) evaluated the Istanbul data of their 1998 study which was done in 15 cities in Turkey. A questionnaire was given to 7849 second grade high school students. It was seen that 65.1% of students used tobacco at least once in a lifetime, 22.55% of them used at least one cigarette every day and 15% of them used alcohol at least once within the last 30 days.

Yıldız (1984) was interested in the impact of social factors in alcohol use. Subjects of this study were 50 patients who were under treatment at Cerrahpaşa Medical Faculty, Psychiatry Clinic. He found that 50% of the alcoholic people started to use alcohol by modeling effects, 33% of them with peer pressure, 7% of them to forget their worries.

Çakıroğlu (1998) studied the alcohol and cigarette consumption among students attending Balıkesir University and its relation to a set of variables such as age, sex, birth order, number of siblings, education of parents, family features and relation with the family and friends. Students ($N=525$; 200 females, 323 males) were at faculties of Engineering, Science, Literature and Education. According to the results of this research, 33.9% of the students used alcohol and 46.86% of them used cigarette. Furthermore, 24.75% of the female students and 39.5% of the male students were drinkers. Whereas, 39.11% of the females and 51.70% of the males were cigarette user. Results showed that gender was important in drinking behaviors. Males drank more than females and drinking behavior increased with age. Another factor was birth order; first children drank more (37.23%) than second (36.14%) and third children (20.65%). Educational level of parents didn't have a significant effect on drinking, but subjects who had university graduate parents drank more (46.46%) than subjects who had low (35.65) and middle level (28.42%) educated parents. It was found that family characteristics were important as reasons to

drink because subjects who had problematic family environments drank more. Students who had no friends or had poor social relations drank more than others.

Mangır, Aral and Boran (1992) investigated the cigarette and alcohol use among university students who stayed at public dormitories in Ankara. They investigated effects of gender, number of sibling, birth order, educational level of parents, features of family environment, and relationship with peers and family on alcohol use. Results showed that 41.67% of female and 46.29% of males used alcohol. Females preferred light drinks while boys preferred hard drinks. Most of the students (65.26%) reported that they started to drink before they started university. A high rate of the students (56.84%) argued that they started to drink because it gives them a pleasant feeling. Students (30.53%) reported more peer influence on their drinking behavior than their family. Results indicated that number of siblings and birth order were not significant ($p>0.05$ for both) on drinking behavior but educational level of parents was influential on alcohol consumption. Students who had university graduate parents drank more (27.78%) than students who had parents with primary school (5.74%) or high school (10.20%) levels of education. As educational level of parents increased, drinking level of subjects increased too. This was in the opposite direction of Çakıroğlu's study, which showed no effect of family and social environment on drinking.

Akvardar, Demiral, Ergör and Ergör (2002) studied the use of alcohol, cigarette and sedative hypnotic drugs use at Dokuz Eylül University Medical Faculty. They investigated effects of academic level, anxiety and depression. Respondents were 114 undergraduate students, 100 graduate students, 300 assistants and professionals. Results showed that alcohol was the most common substance among undergraduate students, assistants and

professionals. The first grade students had the highest rates of alcohol use, while the professional doctors had the lowest rate.

Tot, Yazıcı, Yazıcı, Erdem, Bal, Metin and Çamdeviren (2002) assessed the prevalence of cigarette smoking and alcohol use as well as related sociodemographic variables among students of Mersin University. A total of 901 students were asked to answer 45 items of a questionnaire. The mean age of the population was 20. Of the total sample, 47% was female and 53% was male. The question “do you use alcohol?” was answered “yes” by 43% of the students (female 15%, males 28%). Rate of alcohol use was significantly higher among students whose parents used alcohol and whose mothers smoked. Frequency of drinking alcohol increased by educational level of mothers but not by economic level of family, death or separation of parents and school achievement. Students stated that they drink because it’s fun (46%), to forget their problems (35%), for the pleasant feeling it gives (34%), to pass time (30%), to fit in with their peers (25%), to reduce tension (19%), out of curiosity (17%), and to sleep (8.8%).

Dur’s study (1994) focused on drinking styles and individual psychological reasons that influenced the alcohol use of Bilkent University students ($N=1142$). Results of this study indicated that 30.6% of students started to use alcohol to conform to their peers, 27.6% was curious to see its effects; 70% felt more relaxed and happy when they were drunk. Age, gender, socioeconomic level, family and peer alcohol use were related to drinking behaviour of students. Drinking increased with age and socioeconomic level of family. Like in previous studies (Akvardar, Demiral, Ergör and Ergör, 2002; Çakıroğlu, 1998) males were found to drink more than females and students who had friends who drank tended to drink more.

Özer, Eradamlar, Karamustafaoğlu, Alpan and Beyazyürek (1990) investigated psychosocial characteristics of 93 male college graduate inpatients, who were treated at Bakırköy Neuro-Psychiatric Hospital, Alcohol and Substance Dependence Research and Treatment Center. Results showed that beer was the most commonly used alcohol, wine was the second and rakı was the third. A total of 61% patients reported that they had their first drink at home, in a pub or at picnic, respectively. A high rate of patients (44%) reported that they drink to be like others, to celebrate an occasion (16%), to conform to others (15%) and out of curiosity (14%).

Summary

People drink alcohol for different reasons. Some use it to reduce or manage difficulties, some to enhance positive emotional experiences, and others for social acceptance by their group. Research on alcohol consumption aims to understand why people drink or what the consequences are for doing so. Theories on alcohol use include moral, educational, personality as well as conditioning, biological, learning and sociocultural factors (Engs and Hanson, 1985). This study followed a cognitive motivational model of alcohol use, which is a combination of conditioning and learning models.

The earliest motivational model of alcohol use was identified with tension reduction. According to this model, drinking alcohol serves the function of eliminating or alleviating a negative or aversive condition (Cappel and Greeley, 1987 cited in Carey and Correia, 1997). Cox and Klingers' (1988) motivational model does not only focus on the tension reduction. This model asserts that an individual's decision to drink or not drink is based on whether he or she expects positive consequences of drinking to be greater than those associated with not drinking. This model also underlies factors such as person's biochemical reactivity to alcohol, personality characteristics, sociocultural environment, past experiences with alcohol and expectancies.

These influences shape the individual's current motivations regarding drinking (Cox and Klinger, 1988).

Cox and Klinger (1988) argue that motivation to drink is closely related to people's incentives in other life areas and to the affective changes that they derive from their incentives. In addition to the incentives, expectations and values, which are emotionally based, have an impact on people's decision to drinking alcohol. This model depicts that the person expects to achieve some affective changes by drinking.

Cox and Klinger (1988) describe motivations for alcohol use along two dimensions. The first dimension is valence: people might consume alcohol to obtain positive outcome or to avoid a negative outcome. The second dimension is source: people might drink to obtain an internal reward or to achieve an external reward such as social approval. Cooper, Russell, Frone, Mudar (1995) crossed these two dimensions and constructed four categories of drinking motives. These are 1) internal, positive reinforcement motives, 2) external, positive reinforcement motives, 3) internal, negative reinforcement motives, and 4) external, negative reinforcement motives. These four motives refer to Enhancement, Social, Coping, and Conformity motives, respectively.

Enhancement motives are related to drinking in response to pleasant emotional states, and drinking in response to urges and temptations. They involve the strategic use of alcohol to increase positive affect or emotional experiences (Stewart and Devine, 2000). Researchers (Carrigan, Samoluk and Stewart, 1998; Cooper, Russell, Frone and Mudar, 1995; Mooney, 1987 cited in MacLachy-Gaudet and Stewart, 2001) found that university students are drinking more in positively reinforcing situations than in negatively reinforcing situations. It was also found that enhancement motives were more strongly related to alcohol use among men than women.

Coping motives are associated with drinking alone, drinking in response to unpleasant emotions conflicts with others, heavier drinking. People might drink alcohol to escape, avoid or regulate unpleasant emotions (Cooper, Russell and George, 1988). It was shown that drinking to cope is very common among college population and is related to heavy episodic alcohol consumption. (Cooper et al., 1988; Cooper et al., 1995; Christiansen, Vik and Jarchow, 2002; Park and Levenson, 2002).

Conformity motives are associated with drinking in situations where pressures to conform and drinking related problems exist. Being part of a peer group, making new friends and gaining acceptance are very important in keeping youth in drinking situations. These situations also lead them to heavy drinking (Oostven, Knibbe and Vries, 1996; Stewart and Devine, 2000).

Social motives are related to drinking in social situations (e.g., mixed sex friends at parties) and in contexts involving pleasant time with others. This drinking motive is unrelated to heavy drinking (Stewart and Devine, 2000). But some of the research suggests that heavy drinking among university students is most likely to occur in positive social contexts (Carrigan et al., 1988). MacLachy-Gaudet and Stewart (2001) talked about three types of social contexts such as large mixed-gender groups, small-mixed gender group and small-same gender groups.

Brown (1985) argued that alcohol expectancies have predictive capacity for patterns of college drinking. He showed that social drinkers expect social enhancement from alcohol while problem drinkers expect tension reduction from alcohol. Leigh and Stacy (1993; Werner, Walker and Greene, 1995 both cited in Baer, 2002) reported that heavier drinkers have more positive expectations on sociability and sexuality.

Kusher, Sher, Wood and Wood's (1994, cited in Rutledge and Sher, 2001) findings showed that is a strong positive relationship between anxiety and alcohol use among male college students who had strong tension reduction alcohol expectancies. Rutledge and Sher (2001) showed a strong relationship between heavy drinking of college students and tension reduction expectancies.

According to motivation model, university students' alcohol consumption is related to their perceived ability to acquire other positive incentives in their life and to remove negative incentives (Cox, Schippers, and Klinger, 2002). Cox and his colleagues found that among university students, men drink more than women. They also found that alcohol intake increases together with students' negative affect.

Brennan, Walfish, Aubuchon (1986) reviewed eight studies on drinking motives and alcohol consumption among college students. Findings showed that two types of drinking motives had great importance: drinking for social reasons and drinking for emotional escape or relief.

Perkins (1999) found that stress motivated drinking is more prevalent for undergraduate college students. Kairouz, Gliksman, Demers, and Adlaf (2002) showed that social reasons appear as the main reasons for undergraduates' drinking. They also found that men drink more than women for social reasons.

According to literature (Richardelli, Connor, Williams and Young, 2001; Richardelli and Williams, 1997) the gap between men and women's drinking is closing among young people. Richardelli and Williams (1997) found no difference between men and women's drinking levels in university residential environments where gender roles are less stereotyped. Richardelli and his colleagues (2001) showed that female university students have lower capacity to refuse drinking in social situations. On the other hand, Lo (1995) and Neve, Drop, Lemmens, and

Swinkels (1996) found large sex differences in drinking and argued that physical power, and different socializing styles influence men's higher drinking behaviors.

Grade point average (GPA) was found to be an important predictor of binge drinking by Brennan, Walfish and AuBuchon (1986 cited in Ham and Hope, 2003). Maney (1990) and Pullen (1994) (both were cited Durkin, Wolfe and Clark, 1999) showed that drinkers (especially) heavy drinkers) earn lower GPAs than nondrinkers. It was also found that GPAs of females were less affected by binge drinking than GPAs of males (Franklin, 1999 cited in Durkin et al., 1999). However, McCabe (2002) found that low GPA was not a significant risk factor for heavy episodic drinking.

Harford, Wechsler, Muthen, (2002) argued that alcohol use and problems vary by students' residence. They reported that college students living off campus with their family drink at lower rates when compared to single gender dorms. Harford and Muthen (2001) argued that alcohol use increases as students leave their homes and move to on campus and off-campus college residence. O'Hare (1990) found that drinking rates change depending on the living arrangements. Students, living at home were more likely to be lighter drinkers than students who lived on campus. Men also were more likely to be heavy drinkers if they lived on campus. However, living women who live independently were more heavy drinkers than women who live on campus or at their family home.

Research showed that some of the drinking motives are better predictors than of drinking problems than others. Johnson, Schwitters, Wilson, Nagoshi, and McClearn (1985) found that drinking for pathological reasons was predictive of both amounts of alcohol consumed and alcohol related problems. Cooper (1994) found that Enhancement, Coping and Conformity motives were significant predictors of drinking problem. Carey and Correia (1997) reported that

individuals who endorse negative reinforcement reasons (coping and conformity) are more likely to drink heavily and to experience alcohol related problems.

Gerard, Gibbons, Benthin and Hessling (1996) found that adolescent do not seem to relate their knowledge about risk to their own risk taking behaviors. Although they know the risk of using substances they continue to engage in risk taking behavior.

Strizker and Butt (2001) studied the reasons for not drinking as derived from Cox and Klinger's motivational model and found presence of fear of negative consequences (concern about study and job performance, general health, losing self control, getting in trouble with authorities, and poor athletic performance). Indifference and family constraints were the reasons for not drinking among 12-17 years old adolescents.

Religious orientation was found relate to alcohol use (Payne, Bergin, Bielema and Jenking, 1999 and Khavari and Harmon, 1982 both cited in Martin and Templin and Martin, 1999).

Subjects who considered themselves very religious drank significantly less than those who felt they were not religious at all. Hanson and Engs' study (1987) showed that a high rate of students considers religion important in their drinking patterns. Benson and Donohue (1989 cited in Oleckno and Blacconiere, 1991) found that lack of religious orientation was one of the most powerful predictors for binge drinking among high school students.

Like its foreign counterparts, alcohol use is increasing among youth in Turkey (Bilir and Mağden, 1984; Çakıroğlu, 1998; Delikaya, 1999; Dur, 1994; Ögel, Tamar, Evren and Çakmak, 1998; Usulanmaz, 1993; Yıldız, 1984). Bilir and Mağden's (1984) and Usulanmaz's (1993) studies showed that prevalence of alcohol use was very high among adolescents. . Male students

drink more than females. Results also indicated that students' drinking rates change by their age, amount of pocket money, socioeconomic status of their family, peer influence and gender

Studies on drinking among university students (Akvardar, Demiral, Ergör and Ergör, 2002; Çakıroğlu, 1998; Dur, 1994; Mangır, Aral and Boran, 1992; Tot, Yazıcı, Erdem, Bal, Metin and Çamdeviren, 2002) showed that male students drink more than females. Results also indicated that family and peer alcohol use, socioeconomic level, and age were related to drinking behavior of students. Students from high socioeconomic level drink more than students from low socioeconomic level and students who have drinking friends drink more than students don't have drinking friends. Drinking rate increases with age.

Both in Turkey and abroad theoretical and empirical studies indicate that young people drink for different reasons (or have different motives) in different situations and this can change by gender, age, socioeconomic level and relationship with family and friends. In existing Turkish literature, alcohol using habits of students were examined through demographic questions which generally asked about reasons to start drinking or not drinking, generally consumed drinks, places where drinking occurs and family and friends drinking habits. These studies did not use a standardized measure of drinking motives. They did not follow a particular theoretical model of alcohol use, either. The current study attempts to fill these gaps by basing itself on a motivational model and using a standardized measure of drinking motives.

The aim of this study was to investigate the motives that underlie alcohol use among Boğaziçi University (BU) undergraduate students. More specifically, this study examined what alcohol related characteristics BU students have, which of the four motives namely, Enhancement, Social, Coping and Conformity, are more common reasons for their alcohol use, whether gender, grade point average (GPA), level of academic progress, type of residence, parental

education, participation in social activities, and perceived harm of alcohol relate to drinking motives and amount of drinking and finally, how drinking motives and amount of drinking relate to each other. The following research questions were formed.

Research Questions

1. What are the alcohol related descriptive characteristics of male and female BU students?
2. Do drinking motives change by student gender, grade point average, level of academic progress, type of residence, parental education, participation in social activities and perceived harm?
3. Does amount of alcohol consumed change by student gender, grade point average, level of academic progress, type of residence, parental education, participation in social activities and perceived harm?
4. How are the drinking motives and amount of alcohol consumed by male and female BU students related to each other?
5. Are there differences between the demographic characteristics of male and female BU students who don't drink and who are at risk for alcohol dependency?

Chapter III

METHOD

Pilot Sample

To test the face validity of the instruments used in this study, a pilot study was conducted on 38 (33 females and 5 males) senior students of the Department of Educational Sciences. They were given an extra credit for participation. Their data were not added to the data of the main study.

Main Sample

The target population in this study was Boğaziçi University (BU) undergraduate students, from the English preparatory division (YADYOK) to senior grades. The sample was selected from all four faculties, school of applied disciplines and English preparatory division. The purpose was to obtain a fair level of representation of undergraduate BU students. Table 1 presents the frequencies and percentages of subjects by academic units in comparison to the population frequencies and percentages. Information on the population was obtained from the records of the Registrar's Office.

The total sample of 1585 subjects was made up of 842 females and 743 males. Distribution of subjects in terms of gender, age and marital status are presented in Table 2. The majority (77%) was between the ages, 20 and 23, and they were single (99.8%).

Table 1: Distribution of Subjects by Academic Units in Comparison to the Population

	Population (N=8809)		Sample (n=1585)	
	N	%	f	%
Faculty of Arts and Sciences	1755	20	362	22.8
Faculty of Economics and Administrative Sciences	1654	19	125	7.9
Faculty of Education	1501	17	424	26.8
Faculty of Engineering	1822	21	300	18.9
The School of Applied Disciplines	756	9	142	9.0
The School of Foreign Languages				
English Preparatory Division (YADYOK)	1321	15	232	14.6

Table 2: Distribution of Subjects by Gender, Age and Marital Status

		f	%
Gender	Female	842	53.1
	Male	743	46.9
	Total	1585	100
Age	19 and below	187	11.8
	20	318	20.1
	21	338	21.3
	22	340	21.5
	23	227	14.3
	24 and above	175	11
Marital	Single	1582	99.8
Status	Married	3	0.2

As can be seen in Table 1 distribution of most academic units in the sample was comparable to the ones in the population, except for faculties of Economics and Administrative Sciences which was underrepresented, (19% in the population, 7.95 in the sample), and of Education which was overrepresented (17% in the population, 26.8% in the sample). The highest percentage of students in the sample belonged to the Faculty of

Education (26.8%), while the lowest percentage came from the Faculty of Economics and Administrative Sciences (7.9%). Different levels of representation by academic units were due to the differences in cooperation of instructors who allowed time for data collection. However, the cumulative representation of the population was fair for a survey study (about 18%; $N=8\ 809$, $n=1\ 585$).

Table 3 gives frequencies and percentages of departmental distribution of subjects.

Table 3: Distribution of Subjects by Departments

	f	%
Molecular Biology and Genetics	64	4.0
Mathematics	59	3.7
Psychology	46	3.0
Sociology	44	2.8
Chemistry	41	2.6
History	26	1.6
Western Languages and Literatures	26	1.6
Department of Translation and Interpretation	25	1.6
Philosophy	20	1.3
Turkish Language and Literature	18	1.1
Physics	11	0.7
Economics	41	2.7
Management	43	2.7
Political Sciences and International Relations	39	2.5
Primary Education	152	9.7
Secondary School Science and Mathematics Education	85	5.5
Foreign Language Education	73	4.6
Educational Sciences	61	3.9
Computer Education and Educational Technology	43	2.7
Chemical Engineering	97	6.1
Mechanical Engineering	72	4.5
Computer Engineering	45	2.8
Industrial Engineering	45	2.8
Civil Engineering	29	1.8
Electrical and Electronics Engineering	12	0.8

Cont. Table 3: Distribution of Subjects by Departments

	f	%
English Preparatory Division (YADYOK)	232	14.2
Tourism Administration	91	5.7
Management Information Systems	42	2.6
International Trade	3	0.2

In terms of departmental distribution of subjects, the highest percentage (14.2%) of the subjects came from the YADYOK, and that was followed by the Primary Education Department (9.7%) and Chemical Engineering (6.1%). Some departments were underrepresented, namely, Physics (0.7%), Electrical and Electronics Engineering (0.8%), and International Trades (0.2%).

Table 4 shows the frequencies and percentages of level of academic progress of the subjects.

Table 4: Distribution of Subjects by Level of Academic Progress

	f	%
Preparatory classes (YADYOK)		
Advanced	51	3.2
Intermediate	109	6.9
Beginner	64	4.0
Semesters		
1-2	339	21.4
3-4	366	23.1
5-6	313	19.7
7-8	272	17.2
9 and above	71	4.5

Majority of the YADYOK students were at intermediate level (6.9%), students of the academic studies were mostly from the third and fourth semesters (23.1%) and from the first and second semesters (21.4%).

Table 5 gives frequencies and percentages of grade point averages (GPA) of the subjects.

Table 5: Grade Point Averages of Female and Male Subjects

	Gender					
	Female (n=531)		Male (n=501)		Total (N=1032)	
	f	%	f	%	f	%
0-1.50	1	.2	8	1.6	9	0.9
1.50-2.00	24	4.5	48	9.6	72	7.0
2.00-2.50	121	22.8	158	31.5	279	27.0
2.50-3.00	176	33.1	154	30.7	330	32.0
3.00-3.50	149	28.1	91	18.2	240	23.3
3.50-4.00	60	11.3	42	8.4	102	9.9

*Preparatory classes and 1st semester students were excluded since they don't yet have GPA.

As can be seen in Table 5, the highest percentage (32.0%) of the subjects reported a GPA between 2.50-3.00. Students who scored at either extremes of GPA were less in number, especially those at the lower end. Therefore in analyzing results, GPA level grouping between 0-1.50 were combined with GPA grouping of 1.50-2.00. Female students seemed to have higher GPAs than male students in the sample.

Table 6 presents the frequencies and percentages of type of residence that subjects have.

Table 6: Distribution of Subjects by Type of Residence

	f	%
Family	569	35.9
Dormitory	578	36.5
Girls' Residence 1	82	5.2
Girls' Residence 2	132	8.3
Boys' Residence 1	51	3.2
Boys' Residence 2	110	6.9
Hisar Boys' Residence	49	3.1
Uçaksavar Residence	43	2.7
Superdorm Residence	58	3.7
Kilyos Residence	33	2.1
Out of University Dormitory	32	2.0
Relatives	30	1.9
Friends	286	18.0
Alone	40	2.5
Siblings	74	4.7
Spouse	2	0.1
No answer	6	0.4

As can be seen in Table 6, the highest percentages of participants lived in dormitories (36,5%), and with their families (35.9%). Living with friends constituted the third option of residence (18.0%). While analyzing results, similar residence types were regrouped to have comparable sample sizes. Groups of relatives and siblings were combined, and group of spouse was excluded.

Table 7 shows the frequencies and percentages of family visits of students who do not live with their families.

Table 7: Frequency of Family Visits

	f	%
Several times in a week	24	1.5
Every weekend	61	3.8
Once in a few weeks	168	10.6
Once in a few months	422	26.6
Semester breaks	267	16.8
Only summer	45	2.8
Never	5	0.3

In terms of family visit frequencies among the students who lived apart from their families, 26.6% of them had visits over several months, and 16.8% of them had visits over semester breaks.

Table 8 gives frequencies and percentages of presence and marital status of parents.

Table 8: Presence and Marital Status of Parents

	f	%
Present/Absent		
Both Alive	1495	94.3
Both Died	4	0.3
Father Died	74	4.7
Mother Died	11	0.7
No answer	1	0.1
Marital Status		
Married	1408	92.7
Divorced	111	7.3
No answer	66	4.2

As can be seen in Table 8, the highest percentage (94.3%) of the parents were alive and most of them were married (92.7%).

Table 9 presents the frequencies and percentages of educational level of parents.

Table 9: Distribution of Educational Level of Parents

	Mother		Father	
	f	%	f	%
Illiterate	63	4.0	11	0.7
Literate	52	3.3	23	1.5
Primary school drop out	24	1.5	17	1.1
Primary school graduate	382	24.1	230	14.5
Secondary School drop out	32	2.0	46	2.9
Secondary School graduate	85	5.4	81	5.1
High School drop out	40	2.5	52	3.3
High school graduate	379	23.9	286	18.0
University drop out	39	2.5	59	3.7
University graduate	421	26.6	624	39.4
Graduate drop out	9	.6	10	.6
Graduate	36	2.3	96	6.1
Doctorate drop out	2	.1	2	.1
Doctorate	19	1.2	38	2.4
No answer	2	0.1	10	0.6

In terms of educational level of mothers and fathers, 26.6% of the mothers were reported to have university education, which was followed by primary school education (24.1%) and high school education (23.9%). Fathers were reported to have university education (39.4%), which was followed by 18.0% high school education and 14.5% primary school education. These numbers indicated that fathers were more educated than mothers, and the average level of education was middle to high.

Educational levels of parents were grouped for the analysis of results. Levels from illiterate to secondary school drop out were combined as low educational level, levels from secondary school graduate to high school drop out were grouped as middle education level and levels from high school graduate to doctorate were grouped as high level of education

Table 10 shows the frequencies and percentages of parental occupation of subjects.

Table 10: Distribution of Parental Occupation

	Mother		Father	
	f	%	f	%
Housewife/ Unemployed	892	56.3	41	2.6
Merchandiser	23	1.5	123	7.8
Tradesman	28	1.8	119	7.5
Doctor, lawyer, engineer, academician	70	4.4	202	12.7
Staff, teacher, nurse, technician	205	12.9	288	18.2
Army officer	-	-	66	4.2
Upper level manager	23	1.5	19	1.2
Blue color worker	42	2.6	136	8.6
Farmer	1	0.1	12	0.8
Retired	291	18.4	515	32.5
No answer	10	0.6	64	4.0

In terms of maternal occupation, 56.3% of the mothers were reported to be housewives, 18.4% were retired 12.9% were either staff, teacher, nurse, technician (12.9%). In terms of father occupation, 32.5% of them were reported to be retired, 18.2% were staff, teacher, nurse or technician and 12.7% were doctor, lawyer, engineer or academician (12.7%). These numbers indicated that a significant number of parents were not actively at work and working parents tended to have middle income jobs.

Parental occupations were grouped for the analyses of results according to educational level and skills they require. Housewife/unemployed, retired and doctor, lawyer, engineer and academician levels remained the same, but merchandisers were combined with upper level managers; tradesmen were combined with blue collar workers and farmers; staff, teachers, nurses and technicians were combined with army officers.

Table 11 gives frequencies and percentages of subject distribution by socio-economic level.

Table 11: Distribution of Subjects by Socio-economic Level

	f	%
Low	169	10.7
Middle	1289	81.3
High	122	7.7
No answer	5	0.3

In terms of socioeconomic level, 81.3% of subjects reported that they were from middle class, 10.7% reported to be low and 7.7% reported to be high in socioeconomic level.

Table 12 presents the frequencies and percentages of subjects by sources of expenses.

Table 12: Sources of Student Expenses

	f	%
Family support	1327	83.7
Scholarship	704	44.4
Working	264	16.7
Support of relatives	96	6.1

As can be seen in Table 12, the highest percentage (83.7%) of subjects were financially supported by their families. A significant portion received scholarship (44.4%) and some were working (16.7%).

Table 13 gives frequencies and percentages of subjects by their social characteristics like number of friends they have, dates and participation in students clubs and other social activities.

Table 13: Distribution of Subjects by Social Characteristics

	f	%
Friends		
Many	435	27.4
Enough	992	62.6
A few	152	9.6
No	6	0.4
Dating		
Yes	537	33.9
No	1048	66.1
Students Club Activities		
Very Active	165	10.4
Active	271	17.1
Somewhat active	422	26.6
Barely active	727	45.9
Other Activities		
Very Active	211	13.3
Active	676	42.6
Somewhat active	425	26.8
Barely active	273	17.2

Social behaviors of subjects were identified by four dimensions: number of friends, dates, activities in student clubs and other social activities. Most of the subjects (62.6%) reported that they have enough friends, and 66.1% of the subjects were not dating. Students did not seem to be active at clubs (barely active, 45.9%) but most of them (42.6%) reported being active in other social activities out of school.

Based on the information, described in tables 1-13 it can be summarized that BU students in our sample were mostly female. Majority of them were between ages of 20 and 23, and single. Most were from 3-4 semesters and majority had GPAs of 2.50-3.00 and lived at dormitory. Majority of their parents were alive and married with high education. Most of mothers were housewives while majority of fathers were retired. Majority of the subjects

from middle class and had family support for their expenses. Most stated having enough friends but no date. They were not active in student clubs, but were active in other activities outside the school.

Instruments

Drinking Motives Questionnaire (DMQ)

Three Dimensional Drinking Motives Questionnaire. The drinking motives questionnaire (DMQ) was developed by Cooper, Russell, Skinner and Windle in 1992. This form had three dimensions including enhancement, social and coping motives. There were 15 items. These items were developed by reviewing previous published studies (Beckwith, 1987; Cahalan, 1969; Mulford & Miller, 1963; Polish & Orvish, 1979; Snow & Wells-Parker, 1986, all of cited in Cooper et al., 1992). Items were independently judged by two trained graduate students. They rated as the face validity indicators of drinking motives and 8 items were retained to assess social and enhancement motives. In addition, 5 of the 6 coping motive items used by Polish and Orvish (1979, cited in Cooper et al., 1992) were retained. The resulting pool of 15 items was administered in random order to a convenience sample of 170 male and 146 female undergraduate students whose ages were 17 to 26 years. Items were factor-analyzed by using both principal-axis (PAF) and principal components (PC) extraction procedures, followed by varimax and oblique rotations. Although the magnitude of individual loadings varied across procedures, the number of factors and item content were invariant. Item selection was guided primarily by result of the PAF procedure with oblique rotation (Cooper et al., 1992).

For the psychometric properties of three-dimensional questionnaire 15 items was administered as a part of a longitudinal studies follow-up study of random sample of

household residents ($N=1\ 206$). This group was dominantly female (61%) and about half were Black (52%). Their average age was 43 years. Respondents rated the frequency of drinking for each of the 15 reasons on a 1 to 4 scale on which 1 equals almost never/never and 4 equals almost always (Cooper et al., 1992).

Three phases of analyses were conducted. In the first phase, the hypothesized three-factor structure of the drinking motive items was examined using confirmatory factor analytic techniques. In the second phase, the resulting best fit model was examined for invariance across male ($n=466$) and female ($n=740$) respondents and across Blacks ($n=615$) and Whites ($n=569$). Twenty-two respondents who were neither Black nor White were excluded from all analyses involving cross-race comparison. Finally, both hierarchical multivariate and univariate multiple regression analyses were conducted to assess the extent to which drinking motives independently predict alcohol and use and the extent to which these effects are invariant across race and gender (Cooper et al., 1992).

In the first phase, multiple fit indexes were used to evaluate the model's goodness of fit. Three fit indexes are reported for all analyses: the Normed Fit Index (NFI), the Comparative Fit Index (CFI), and the standardized root mean square residual (RMR). Because each fit index has different limitations, consistency across indexes may be regarded as the most reliable indicator of goodness of fit. Both the NFI and CFI range in value from 0 to 1, with values of .90 or higher indicating a good fit. The RMR is the standardized average absolute difference between the original and reproduced matrixes. Goodness of fit indexes for the three models (one factor model, two factor model and three factor model) indicated by the chi-square difference test and the correlated three-factor model fits the data significantly better than do either the one factor model or the correlated two factor model. Finally, the three-factor model provided an acceptably good fit to the

data as indicated by values in excess of .90 for both the NFI and CFI and a relatively small RMR. All items loaded significantly on their hypothesized factors (t values=16.0-33.4, $p < .001$). Descriptive statistics suggests that the drinking motives scales are internally consistent and moderately inter correlated sharing from 22% to 46% overlapping variance (Cooper et al., 1992).

To determine the extent to which the correlated three-factor model was invariant across gender and race groups, a series of within group models was specified and independently tested among men and women and among Whites and Blacks. Analysis of the fit indexes suggests that the correlated three-factor model fits well for both men and women and for Whites and Blacks. Values for NFI and CFI ranged from .88 to .94 for all within group models and the RMS were uniformly small (.04 to .05). In addition to the within group models two simultaneous between group models were specified. First, a model tested in which a common factor was specified across gender and race groups, but the magnitude of factor loading was allowed to vary. Values for NFI and CFI of .90 or higher, combined with the relatively small RMRs, indicate that the specified three-factor model provided an equally good fit to the data across men and women and Whites and Blacks. A factor loading equivalent model was tested in which both the factor pattern and factor loadings were constrained equivalence across groups. Examination of the fit indexes for this model indicated that the factor loading equivalent model also provided reasonably good fit data across gender groups. Values for NFI and CFI ranged from .89 to .92 and RMRs were acceptably (.06 for both men and women) (Cooper et al., 1992).

Despite the lack of complete factor loading invariance, all items loaded significantly on their respective factors in both racial groups (t values=13.3-23.4 among Blacks and 9.0-23.5 among Whites, $p < .001$). Internal consistency estimates of reliability (coefficients

alpha) were .80 to .81 for Coping Motives, .84 to .86 for Enhancement Motives and .76 for Social Motives both groups. For comparison of mean differences in drinking motives across race and gender a two-way race-gender multivariate analysis of covariance was conducted, followed by two-way univariate analyses of covariance to search significant effects. Results indicated no significant race x gender interactions (male vs. female < 1.0 ; $p > .50$). Results also showed that middle age men reported higher relative frequencies of drinking for Social Motive, Coping Motive and Enhancement Motive than middle age women (Cooper et al., 1992).

Psychometric properties of the DMQ (i.e. internal consistency, degree of shared variance between subscales, and factor analytic structure) were examined in university population by Stewart, Zeitlin and Samoluk in 1996. Three hundred and fourteen university students (80 males, 234 females) with a mean age of 22.2 years old were participants.

For analyses of variance subject were divided into two age groups, based on an appropriate split of the sample on the age variable. The two resultant age groups were younger students (20 year and under; $n=117$) and older students (21 year and over; $n=149$). A $2 \times 2 \times 3$ (gender x age group x drinking motives) ANOVA with repeated measures was three performed on the DMQ data. Scores on the subscales of DMQ served as repeated measures. The ANOVA showed three significant main effects: gender [$F(1, 262)=5.17$, $p<0.05$], age group [$F(1, 262)=4.36$, $p<0.05$], and drinking motives [$F(1, 95, 510.05)=72.68$, $p<0.0001$]. The gender main effect was due to higher DMQ scores among men than among women overall. The age group effect was due to higher DMQ scores among younger as compared to older students overall. In drinking motive, the main effect was due to a higher relative frequency of drinking for Social Motive relative to Coping Motive; Enhancement Motive in middle between Social Motive and Coping Motive. The

ANOVA also showed a significant age group x drinking motives interaction $p < 0.0001$ (Stewart et al., 1996).

A 2 x 2 (gender x age group) ANOVA was performed for each of the drinking motive variables (i.e. social motive, coping motive, and enhancement motive subscale scores. The ANOVA revealed a significant main effect for age group in the Enhancement Motive subscale scores [$F(1, 262) = 16.96, p < 0.0005$], with younger students scoring higher than older students. The ANOVA also revealed a significant main effect gender in the Social Motive subscale scores [$F(1, 262) = 2.84, p < 0.10$]. Consistent with community sample of adolescents and middle-age adults (Cooper, 1994; Cooper et al., 1992), both of these gender effects were due to higher scores among men than women (Stewart et al., 1996).

Pearson correlation coefficients were computed to examine the shared variance between subscales on the DMQ. Results showed that each of the subscale scores was significantly correlated with the other two, with the most significant degree of shared variance occurred between the Social Motive and Enhancement Motive subscales (26%), and the least occurred between the Coping Motive and Social Motive subscales (4%), (Stewart et al., 1996).

The reliability of the three DMQ subscales was examined using the split half method. The Spearman-Brown corrected reliability estimates were $r = 0.66, 0.85,$ and 0.83 , for the Social Motive, Coping Motive and Enhancement Motive subscales respectively. These values suggest adequate to high reliability on all subscales, with the Social Motive subscale showing the least, and the Coping Motive and Enhancement Motive subscales showing the greatest degree of internal consistency (Stewart et al., 1996).

Items on the Enhancement Motive subscale were highly inter-correlated with one another, but also with some items on the other two subscales. The mean inter-item correlation for items on the Enhancement Motive subscale was statistically significant ($r = 0.57$, $p < 0.001$). Similarly items on the Coping Motive subscale were generally highly inter-correlated with one another but were generally unrelated to items on the other two subscales. The mean inter-item correlation for items on the Coping Motive subscale was also statistically significant ($r = 0.51$, $p < 0.001$). The items on the Social Motive subscale were not highly inter-correlated like Enhancement Motive and Coping Motive subscales. However, the mean inter-item correlation for items on the Social Motive subscales was statistically significant ($r = 0.31$, $p < 0.001$) but less effective than the mean inter-item correlations of the Enhancement Motive and Coping Motive subscales (Stewart et al., 1996).

Four-Dimensional Version of Drinking Motives Questionnaire (DMQ-R). In 1994 Cooper added 5 items to the Three-Dimensional Drinking Motives Questionnaire and developed the Revised Drinking Motives Questionnaire (DMQ-R) (See Appendix A). This version of Drinking Motives Questionnaire included social, coping, enhancement and conformity motives items. Five items were used to measure each of the four drinking motives. Coping, social and enhancement motive items were taken from Cooper and others' earlier study in 1992. Conformity items were prepared from the existing literature and from focus group discussion with adolescents. Individuals indicate their relative frequency of alcohol use for each the indicated reason, when they drink. Each of which is answered to complete the statement "How often do you drink..." Relative frequencies of drinking for each of the 20 reasons are rated on a 1 to 5 scale (1=almost never/never, 2=some of the time, 3=half of the time, 4=most of the time, 5=almost always/always). Subscale scores were computed as the mean of the relative frequency ratings for each of the 5 items on each subscale

(possible range of 1-5). Thus high scores on a particular drinking motives subscale refer to individuals who usually attribute their drinking to that motive, independent of how often they drink. For the psychometric properties of Four-Dimensional Drinking Motives Questionnaire 1 243 respondents were assessed with a mean age of 17.3 years. Fifty-eight percent of them were White. Gender comparison of sample was 50.4% females and 49.6% male. Ninety-five percent of the adolescents had drunk alcohol within the past 6 months (Cooper, 1994).

In the first phase the adequacy of fit to the data for 3 alternative models was compared: 1) a single factor model, 2) two correlated two factor model, 3) a correlated three factor model, 4) the hypothesized correlated four-factor model. The one-factor model tests the adequacy of a common factor to account for the underlying structure of the data, and provides a more reasonable baseline comparison than the null model, which assumes no covariation among individual motive items. The two-factor model tests the adequacy of models that collapse across the internal-external distinction to compare positive versus negative drinking motives (enhancement/social vs. coping/conformity) and collapse across the positive-negative distinction to compare internal versus external motives (coping/enhancement vs. social/conformity). The viability of model is supported Cooper and others' 1992 studies (Cooper, 1994).

All confirmatory factor analyses were conducted with the EQS structural equation-modeling program. Three fit indices were reported for all analyses: the Normed Fit Indexes (NFI), the Comparative Fit Index (CFI) and Standardized Root Mean Square Residual (RMR). Chi-square difference test indicated, the correlated four-factor model fit the data significantly better than the other three models. Moreover, the four factor-model

provided an acceptably good fit to the data as indicated by values above .90 for both the NFI and CFI and a relative small RMR (Cooper, 1994).

All items loaded significantly on their hypothesized factors (t values ranged from 15.2 to 24.3, $p > .001$). Descriptive statistics and factor intercorrelations data suggests that the drinking motives scales are adequately reliable and, with the exception of social and enhancement motives, which are not highly correlated. Also, positive reinforcement motives (Social, Enhancement) were on average more strongly endorsed and showed greater variability than did either negative reinforcement motive (Coping, Conformity) (Cooper, 1994).

To examine invariance across groups, a series of within group models was specified and independently tested between male and female. Analysis of the fit indices suggests that the correlated four-factor model fits well across all groups. Values for NFI and CFI ranged from .90 to .94 for all within group models, and the RMRs were uniformly small ($p < .06$). Values for the NFI and CFI $> .91$ and relatively small RMRs indicate that the specific four factor structure was invariant across gender, race and age groups (Cooper, 1994).

Factor loading equivalence was demonstrated across race groups for all scales, and across gender groups for Social, Enhancement, and Conformity motives, but not for Coping motives. Loading for four of the five coping items differed across gender groups similar with middle age community sample with one exception: adolescent males and females did not differ in relative frequency of Coping Motives. The magnitude of factor loadings also significantly differed across age groups. It was found that older adolescents were more likely than younger adolescents to report drinking for Social Motive, Coping Motive and Enhancement Motive (Cooper, 1994).

Translation and Adaptation of DMQ-R into Turkish

DMQ-R was translated into Turkish independently by the author and her thesis advisor. The Turkish form of the DMQ-R (See Appendix B) was obtained by comparison of the original items with their translation. In the Turkish form of the DMQ-R all subscale names that appeared at the top of the related items (enhancement, coping, conformity and social) were omitted by recommendation of a committee member.

Factorial Structure. Exploratory factor analyses were done for factorial comparison of the Turkish form of the DMQ-R. Table 14 shows the results of exploratory rotated factor analyses of original form of the DMQ-R. Exploratory factor analysis results of the original DMQ-R were obtained through personal communication. Rotated matrix suggested 4 factors as seen in Table 14. In the original form the first factor consisted of 5 items (1, 2, 3, 4, and 5) and was named Enhancement Motives. They ranged between .54 and .88. The second factor consisted of 5 items (11, 12, 13, 14, 15) corresponded to the Conformity Motives. Loadings ranged from .63 to .79. The third factor consisted of 5 items (6, 7, 8, 9 and 10) made up the Coping Motives. Loadings ranged between .20 and .92. Item 9 that had the lowest loading, actually had higher loading with Factor 4 (Social), but was placed under factor 3 (Coping), instead. The fourth factor consisted of remaining 5 items (16,17,18,19, and 20) indicated the Social Motives. Loadings ranged from .45 to .85.

Table 14: Exploratory Rotated Factor Matrix of the Original Form of The 4 Factor Drinking Motivation Questionnaire

Items	Factor 1 (Enhancement)	Factor 2 (Conformity)	Factor 3 (Coping)	Factor 4 (Social)
1 like feeling	.88			
4 pleasant feeling	.87			
3 get high	.73			
2 exciting	.54			
5 fun	.70			
14 to be liked		.79		
12 not to be kidded		.78		
15 not to be left out		.76		
13 fit in group		.68		
11 friends pressure		.63		
10 forget problems			.92	
6 forget worries			.79	
7 help depressed			.77	
8 cheer up			.61	
9 feel more confident			.20	-.35
19 gather more fun				.85
18 improve celebration				.82
16 enjoy party				.68
20 celebrate with friends				.66
17 to be sociable				.45

The exploratory factor analysis that was conducted on the Turkish form of the R-DMQ suggested 4 factors just like the original form. Item distribution to factors was also similar to the original DMQ-R and loadings were generally higher than the original form (Table 15). The first factor consisted of 5 items (6, 7, 8, 9 and 10) and corresponds to the Coping Motives of the original DMQ-R. Unlike in the original form, Item 9 loadings were distinctive. Its loadings were between .48 and .87. The first factor accounted for the 17.65% of the total variance. The second factor consisted of 5 items (16, 17, 18, 19, 20), which were same as the Social Motives of the original R-DMQ. Loadings ranged from .51 to .84. This second factor accounted for the 16.35% of the total variance. The third factor consisted of 5 items (1, 2, 3, 4 and 5), which were the corresponding 5 items of the original Enhancement Motives items. Its loadings were between .66 and .80. This third factor accounted for 16.31% of the variance. The fourth factor

consisted of the remaining 5 items (11, 12, 13, 14 and 15), which were the original Conformity Motives items. The loadings ranged from .67 to .81. The last factor accounted for 15.67% of the variance. All four factors together accounted for 65.99% of the variance.

Table 15 represents the results of exploratory factor analyses of Turkish form of DMQ-R and Table 16 represents the variance explained by each factor.

Table 15: Exploratory Rotated Factor Matrix of the Turkish Form of The 4 Factor

Drinking Motives Questionnaire

Items	Factor 1 (Coping)	Factor 2 (Social)	Factor 3 (Enhancement)	Factor 4 (Conformity)
6 to forget worries	.841	.105	.200	9.440E-02
7 help depressed	.841	8.177E-02	.172	5.575E-02
8 cheer up	.869	.140	.209	5.666E-02
9 feel more confident	.480	.192	.138	.322
10 forget problems	.839	8.305E-02	.127	.132
16 enjoy party	.106	.724	.268	.111
17 improve celebration	.225	.551	7.176E-02	.457
18 to be sociable	.120	.816	.231	.104
19 gather more fun	.122	.841	.301	3.911E-02
20 celebrate with friends	9.207E-02	.710	.324	-1.425E-02
1 like feeling	.151	.309	.790	-6.050E-02
2 exciting	.123	.137	.719	.176
3 get high	.373	.149	.660	5.604E-02
4 pleasant feeling	.203	.329	.802	-3.504E-02
5 fun	.157	.381	.749	1.009E-04
11 friends pressure	.166	-6.064E-02	2.960E-02	.665
12 not to be kidded	3.353E-02	-6.819E-02	5.066E-02	.812
13 fit in group	-5.813E-02	.248	-4.158E-02	.667
14 to be liked	5.853E-02	7.298E-02	4.067E-02	.803
15 not to be left out	.221	.138	2.731E-02	.731

Table 16: Variance Explained by the Factors of the Turkish Form of the Revised Drinking Motives Questionnaire

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Coping	6,867	34,334	34,334	3,530	17,651	17,651
Social	2,941	14,705	49,039	3,270	16,350	34,001
Enhancement	2,253	11,266	60,305	3,263	16,314	50,315
Conformity	1,137	5,683	65,988	3,135	15,673	65,988

Internal Consistency. Alpha reliabilities of the original R-DMQ were high. The alpha reliability coefficient of the Enhancement Motives was .88. The alpha reliability coefficient of the Conformity Motives was .85, it was .85 for the Conformity Motives and it was .85 for the Social Motives. Table 17 shows the alpha values of the four factors as well as the item-remainder reliabilities, which ranged from .77 (item 7) to .88 (item 2).

Table 17: Factor Alphas and Item Remainder Correlations of the Original Revised Drinking Motives Questionnaire (N=1242)

Items	(Enhancement) $\alpha=.88$	(Conformity) $\alpha=.85$	(Coping) $\alpha=.83$	(Social) $\alpha=.85$
1 like feeling	.84			
4 pleasant feeling	.84			
5 fun	.85			
3 get high	.87			
2 exciting	.88			
12 not to be kidded		.81		
15 not to be left out		.80		
14 to be liked		.81		
13 fit in group		.82		
11 friends pressure		.84		
10 forget problems			.77	
7 help depressed			.77	
6 forget worries			.79	
8 cheer up			.79	
9 feel more confident			.87	
19 gather more fun				.79
18 improve celebration				.79
16 enjoy party				.81
20 celebrate with friends				.84
17 to be sociable				.86

Alpha reliabilities of the Turkish Form of the DMQ-R were high like original form. The alpha reliability coefficients were .88 for Coping .88 for Enhancement, .86 for Social and .79 for Conformity motives. Reliability of the conformity motives was slightly lower (.79) than the original (.83). Reliability of the coping motives (.88) however, was slightly higher than the original (.83). Item remainder reliabilities ranged from .73 (items 12,14,15) to .91 (item 9). Item total reliabilities were also calculated for the Turkish form and presented in the same table. These reliabilities ranged from .22 (items 11, 12) to .69 (item 4) (See Table 18). Lowest item total reliabilities were in conformity motives.

Table 18 shows the alpha values of the four factors as well as the item-remainder and item total reliabilities of the Turkish form of the DMQ-R.

Table 18: Factor Alphas, Item Remainder and Item-Total Correlations of the Turkish Form of the Revised Drinking Motives Questionnaire (N=946)

Items	(Coping) $\alpha=.88$		(Social) $\alpha=.88$		(Enhancement) $\alpha=.86$		(Conformity) $\alpha=.79$	
	Rem. α	Total α	Rem α	Total α	Rem. α	Total α	Rem. α	Total α
6 to forget worries	.84	.58						
7 help depressed	.84	.54						
8 cheer up	.83	.61						
9 feel more confident	.91	.47						
10 forget problems	.85	.54						
16 enjoy party			.84	.58				
17 improve celebration			.88	.54				
18 to be sociable			.87	.62				
19 gather more fun			.83	.66				
20 celebrate with friends			.84	.56				
1 like feeling					.83	.63		
2 exciting					.87	.54		
3 get high					.81	.62		
4 pleasant feeling					.79	.69		
5 fun					.83	.67		
11 friends pressure							.77	.23
12 not to be kidded							.73	.22
13 fit in group							.77	.24
14 to be liked							.73	.29
15 not to be left out							.73	.38

To further examine the internal consistency of the Turkish Form of the DMQ-R, correlations among the four factors were calculated (Table 19).

Table 19: Pearson Product Correlations Matrix for the Turkish Form of the Revised Drinking Motives Questionnaire Factors (N=944)

Motives	Coping		Conformity		Social	
	r	p	r	p	r	p
Enhancement	.47	.000	.11	.001	.62	.000
Coping			.27	.000	.37	.000
Conformity					.27	.000

*Significance tests were two-tailed

Although all factors were significantly and positively related to one another, Enhancement and Social motives were closest ($r=.62$) and Enhancement and Conformity motives were less related ($r=.11$).

Pilot Study

This research was composed of essentially two stages; development of instrumentation and investigation of alcohol related behaviors of students. A pilot study was conducted to help the first stage.

After the translation of the DMQ-R a pilot study was formed to make sure that wording of the questions in the Demographic Form and Drinking Motives Questionnaire are understandable. Results of this pilot study indicated a need for modification of the instruments. First, two questions were added to the demographic form; one on perceived harm of alcohol (26) another on reasons for not drinking (33). To avoid unnecessary waste of time a warning was written after question 33 so that the students who never drink would stop answering the rest of the form. This last change made the "never" response to questions 34-44, redundant, so this response alternative was omitted.

Demographic form

A demographic form was developed to obtain some information about student background and past and current drinking behaviors (See Appendix C). Completion of the entire demographic form takes approximately 15 minutes. Information that could reveal student identification was not asked to assure the validity of responses.

The form has two parts: demographic information and drinking behaviors. Questions from 1 to 26 constitute the first part, which was developed by the author and her thesis advisor. It contains questions on age, gender, current semester at the university, residence, whether parents are alive, educational, occupational and financial background of the family, presence of friends and perceived harm of alcohol.

The second part of the demographic form (questions 27-46) relate to alcohol use. This part is essentially made up of two sections: drinking background and drinking level. Drinking background section (questions 27-34) contains questions on age of starting to drink, first drinking environment, persons that alcohol consumed together, type of alcohol, family history about alcohol use, reasons for not drinking and reasons to start drinking. There are eight questions in this first section. Some of the questions in this section were written by the author and her thesis adviser (questions, 28, and 31). Questions 27, 29, 30 and 34 were based on the form used by Coşkunol (1996) and were slightly modified. These questions were used to describe the drinking related profile of students.

Because there was no instrument available to measure drinking level, essentially and a new system of measurement was formed by use of other forms available in the literature (Coşkunol, 1996; Erol Kılıç, Ulusoy, Keçeci, and Şimşek, 1998). Drinking level section (questions 35-46) serves this purpose and contains questions that capture the problematic nature of the alcohol use. Questions 35 and 38 were based on the form used by Coşkunol (1996) and were modified to fit the rating format. Questions 36, 37 were based on a form used by Erol and her colleagues (1998) to measure amount of alcohol consumed. These questions were slightly changed and rearranged to fit the rating format and scoring.

There are 12 questions in this second section. Some of the questions in this section (questions 35 and 38) were rated on a scale of 1-4, but question 36 was rated on a scale of 1-6 and question 37 was rated on a scale of 0-4. Score that can be obtained from these questions ranges between 3-18. Amount of alcohol scores were counted by adding scores of 35-38 questions. Some other questions (39-46) are answered on a categorical format (Yes or No). The categorical scoring changes between 0 and 1 ("yes" takes 1 point, and "no" takes no point).

Some of the questions are about problem drinking (questions 39-42), one of them about deprivation of alcohol (46) and some others about addiction criterias (43-45). Scores on these 8 questions were computed and people who had 3 scores and above were categorized as having a risk for addiction.

Procedure

The pilot data were collected in the spring semester of 2002-2003, while the data for the main study were collected in the fall semester of 2003-2004.

For the purpose of high level of representation and easy delivery the data for the main study were collected during some common core courses of 1st and 2nd semester students. For the junior and senior years, however, departmental courses had to be chosen because they no longer had common core courses. After the selection of the courses an e-mail message was sent to the instructors of the selected courses. After permissions were granted, instruments were delivered during the class time of some courses and they were completed and collected at the end. But in some other courses where instructors did not permit using their class time, they were distributed in one meeting and then collected in the next one and this resulted in some loss in returned instruments. A handout on alcohol use was distributed to students after forms were collected

(See Appendix D). Having more or less supportive contact with instructors led some faculties overrepresented (Faculty of Education) and some others underrepresented (Faculty of Economics and Administrative Sciences).

Chapter IV

RESULTS

Results are presented in the same order of the research questions. Descriptive statistics (means and standard deviations, frequencies and percentages) were conducted for 1st and 2nd questions. Descriptive statistics, Repeated Measures of Multivariate Analyses of Variance (MANOVA) and one way analysis of variance (ANOVA) were conducted for each dependent variable by the independent variable for the 3rd and 4th questions. Pearson Product Moment Correlations was conducted for 5th question and descriptive statistics (frequencies and percentages) and chi-squares were calculated for the 6th question.

Research Question 1

What are the alcohol related descriptive characteristics of male and female BU students?

Mean values, standard deviations, frequencies and percentages are calculated for each of the alcohol related characteristics of students, namely, perceived harm, first drinking age and company, general drinking company and drinks, family drinking habits, reasons for not drinking and reasons to start drinking for male and females.

Table 20 shows descriptive statistics of perceived harm of alcohol by female and male students.

Table 20: Perceived Harm of Alcohol by Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Very Harmful	278	33.0	292	39.3	570	36.0
Harmful	332	39.4	223	30.0	555	35.0
A bit harmful	195	23.2	162	21.8	357	22.5
Not harmful	35	4.2	58	7.8	93	5.9
No idea	2	0.2	8	1.1	10	0.6

As can be seen in Table 20, high percentages of subjects think alcohol either as very harmful (36.0%) or harmful (35.0%). Males tend to find alcohol more harmful (39.3%) than females (33.0%).

Table 21: First Drinking Age of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Non drinker	298	35.4	300	40.5	598	37.8
10 and below	37	4.4	53	7.1	90	5.7
11-15	241	28.6	185	24.9	426	26.9
16-20	185	22.0	158	21.3	343	21.6
21 and above	6	0.7	8	1.1	14	0.9
Don't remember	75	8.9	38	5.1	113	7.1

A large proportion (37.8%) of students were nondrinkers. Among those who did drink, the majority (26.9%) had their first drink between the ages of 11 and 15. Females and males seemed rather similar in their first drinking.

Table 22 shows the frequencies and percentages of first drinking place/company of female and male students.

Table 22: Place/Company During the First Drinking of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
At home with family	260	30.9	139	18.7	399	25.2
At home with friends	99	11.8	92	12.4	191	12.1
In pub with friends	82	9.7	87	11.7	169	10.7
In a meeting and party	71	8.4	64	8.6	135	8.5
Out of home with friends	24	2.9	29	3.9	53	3.3
In school	8	1.0	31	4.2	39	2.5

As can be seen in Table 22, students had their first drink at home either with family (25.2%) or with friends (12.1%). Compared to females less males had their first drink at home with family (30.9% vs 18.7%) but more at pub with friends (9.7% vs 11.7%).

Table 23 shows the frequencies and percentages of drinking company of female and male students.

Table 23: Company During Drinking of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
With boy and girl friends	427	50.8	252	34.0	679	42.9
With boyfriends	39	4.6	146	19.7	185	11.7
With parents	137	16.3	46	6.2	183	11.5
With boy/girl friend	71	8.4	45	6.1	116	7.3
With girlfriends	63	7.5	21	2.8	84	5.3
Alone	28	3.3	32	4.3	60	3.8

In terms of general drinking habits there were some gender differences in drinking company. Both females and males drink with their boy and girl friends (42.9%). This was true for female (50.8%) and male (34.0%) subjects in differing degrees. However, the second choice of drinking company was parents for females (16.3%), while it was boyfriends for males (19.7%). Drinking alone seemed much less common for both gender (3.8%; 3.3% and 4.3% for females and males, respectively).

Table 24 represents the frequencies and percentages of types of drinks that female and male students generally prefer.

Table 24: Types of Drinks Females and Males Prefer

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Beer	382	45.4	371	49.9	753	47.5
Wine	365	43.3	185	24.9	550	34.7
Hard Drinks	187	22.2	247	33.2	434	27.4
Mixed Drinks	88	10.5	56	7.5	144	9.1

As can be seen in Table 24, 47.5% of the subjects generally drink beer, which is true both for males (49.9%) and females (45.4%). Gender difference appears in the second generally preferred drink. Females have wine (43.3%), males have hard drinks (33.2%). Mixed drinks are the last choice for both gender (9.1%; 10.5% for females, 7.5% for males).

Table 25 shows the frequencies and percentages of presence of family drinking at meals and problem drinkers.

Table 25: Drinking Habits of the Family

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Drinks at Family Meal						
Yes	196	23.3	100	13.5	296	18.7
No	646	76.7	643	86.5	1289	81.3
Problem Drinkers						
None	760	90.3	658	86.6	1418	89.5
Mother	4	0.5	9	1.2	13	0.8
Father	38	4.5	36	4.8	74	4.7
Sibling	6	0.7	8	1.1	14	0.9
Relatives	38	4.5	36	4.8	74	4.7

Table 25 indicates that although majority of the families (81.3%) do not have drink during meal, nearly 20% of them (18.7%) have drinks at meal. Similarly, majority of subjects

(89.5%) have no family member who has drinking problem. Some fathers and relatives (4.7% each) do have such drinking problem.

Table 26, represents the frequencies and percentages of reasons for not drinking of female and male students.

Table 26: Reasons for Not Drinking of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
It's against my beliefs	227	64.5	235	70.6	462	67.4
I don't like its taste and smell	196	55.4	150	44.8	346	50.2
To protect my health	189	53.5	154	46.2	343	50.0
I witnessed its consequences	98	27.8	106	31.8	204	29.7
I don't enjoy drinking	113	32.2	75	22.7	188	27.6
No one around me drinks	43	12.3	39	11.7	82	12.0
I don't like the feeling after	42	11.9	37	11.1	79	11.5
My upbringing doesn't allow	18	5.1	45	13.5	63	9.2
My friends don't drink	15	4.2	31	9.3	46	6.7
I don't have enough money	4	1.1	18	5.4	22	3.2

In terms of for not drinking, the majority stated that it was against to their belief (67.4%; 64.5% females, and 70.6% males). The second and third reasons changed depending on gender. It was disliking the taste and smell of alcohol for females (50.2%; 55.4% females, 44.8% of males) while it was protection of health for males (50.0%; 53.5% for females, 46.2% for males). Fourth reason was witnessing its consequences (29.7%; 27.8% for females, 31.8% males) for males, while it was not enjoying drinking (27.6%, 32.2% of females, 22.7% males) for females. So the second and third as well as the fourth and fifth reasons changed their relative standing by gender.

Table 27 shows the frequencies and percentages or reasons to start drinking for females and males.

Table 27: Reasons to Start Drinking of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Curiosity	342	61.7	262	57.0	604	59.6
Good feeling	141	25.5	137	29.8	278	27.4
Upbringing environment	48	8.7	51	11.1	99	9.8
To forget troubles	37	6.7	50	10.9	87	8.6
Test anxiety	5	0.9	6	1.3	11	1.1
Pressure of friends	25	4.5	46	10.0	71	7.0
To escape from troubles	29	5.2	40	8.8	69	6.8
To feel more confident	17	3.1	21	4.6	38	3.8
To look cool	8	1.4	14	3.1	22	2.2
To help concentration	5	0.9	7	1.5	12	1.2

In terms of reasons to start drinking, the highest percentage (59.6%) of the subjects both female (61.7%) and male (57.0%) had started to drink for curiosity. This was followed by feeling good (27.4%; 29.8% of male and 25.55 % of female). They also mentioned the environment they were brought up (9.8%; 11.1% males and 8.7% of females,).

Table 28 shows the frequencies and percentages of drinking frequencies of female and male students.

Table 28: Distribution of Drinking Frequencies of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Once in a year	202	36.4	142	30.9	344	33.9
Once or twice in a month	272	49.0	199	43.4	471	46.4
Once or twice in a week	80	14.4	114	24.8	194	19.1
Everyday	1	0.2	4	0.9	5	0.5

As can be seen in Table 28, majority (46.4%) of the subjects drink once or twice. In terms of gender differences, 43.4% of males and 49.0% of females do so. A large group of students (33.9%; 36.4% of females, 30.9% males) drinks once in a year. Weekly drinking constitutes 14.4% of females and 24.8% of males (about 1/5 of the entire group). These findings indicate that males drink more frequently than females.

Table 29 shows the number of standard drinks consumed in a day by female and male students.

Table 29: Distribution of Number of Standard Drinks for Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
1	169	30.5	106	23.1	275	27.1
2	190	34.2	97	21.2	287	28.3
3	131	23.6	107	23.4	238	23.5
4	43	7.7	78	17.0	121	11.9
5	16	2.9	36	7.9	52	5.1
6 and above	6	1.1	34	7.4	40	3.9

As can be seen in Table 29, the highest (28.3%) percentage of students drink 2 and 27.1% of students drink 1 standard drink a day. Having 4, 5 or more drinks was more common among males (17%, 7.9% and 7.4% respectively) than females (7.7%, 2.9% and 1.1%, respectively).

Table 30 indicates the frequencies and percentages of prevalence of having 6 or more drinks at one sitting for females and males.

Table 30: Prevalence of Having 6 or More Drinks at Once for Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Never	259	46.7	163	35.5	422	41.6
At most once in a year	233	42.0	164	35.7	397	39.2
At most once in a month	54	9.7	98	21.4	152	15.0
Once in a week	7	1.3	30	6.5	37	3.6
Everyday	2	0.4	4	0.9	6	0.6

In terms of frequency of drinking six and more drinks in a one sitting, 41.6% of the total drinker sample claimed having no such experience, 39.2% of them did that once in a year, 15% once in a month, 3.6% once in a week and 0.6% once in a day. This excessive drinking was less prevalent among females than males. About 1/5 (21.4%) of males had such an experience on a monthly and more than 5% (6.5%) of them had that on a weekly basis.

Table 31 shows the frequencies and percentages of the timing of last drinks of females and males.

Table 31: Last Drinking Time of Female and Male Students

	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
Approximately one year before	108	19.5	97	21.1	20.2	20.5
Approximately one month before	222	40.0	138	30.0	360	35.5
Last week	153	27.6	135	29.3	288	28.4
These days	72	13.0	90	19.6	162	16.0

About 1/5 of all students had their last drink a year ago, while the majority (35.5%) of them had it last month. Recent drinking was more common among males. About 1/5 of males (19.6%) claimed to have it these days, while 13.0% of females claimed to have it these days.

In summary, tables between 20-31 represented the alcohol related descriptive characteristics of male and female students. Results showed that males tend to find alcohol more harmful than females, majority of students never drink, and those who do, start drinking as teens (ages 11-15), they generally drink with their boy and girl friends, but second choice of males was always their boyfriends while it was parents for females. Both males and females prefer beer but the second choice of females was wine, and it was hard drinks for males. The main reason for not drinking was their belief for both gender but the second reason was disliking the taste and smell of alcohol for females, while it was protection of health for males. Both females and males started drinking out of curiosity. Male drinking was more than female drinking. Most families didn't have a regular drinking habit or drinking problem.

Research Question 2

Do drinking motives change by students' gender, level of academic progress, type of residence, parental education, participation in social activities and perceived harm?

Mean values and standard deviations were calculated for each of the four dependent variables (drinking motives), namely, enhancement motive score, coping motive score, conformity motive score and social motive scores as grouped by each independent variable, namely, gender, level of academic progress, type of residence, parental education, participation in social activities and perceived harm. To avoid Type I Error a multiple analysis of variance (MANOVA) was conducted for each independent variable and if the overall effect was significant then unvaried analysis of variance (ANOVA) was conducted to examine their separate effects in each of the four drinking motives. When the independent variable had more than two levels, group differences were examined by Bonferroni follow-up tests.

Table 32 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motive scores for females and males.

Table 32: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Female and Male Students

	Female			Male			Total		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Enhancement	526	13.33	5.41	419	13.25	5.28	945	13.29	5.35
Social	527	11.93	4.56	418	12.60	4.83	945	12.23	4.69
Coping	525	8.44	4.05	418	9.29	4.70	943	8.82	4.37
Conformity	526	5.86	1.78	417	6.53	.74	943	6.15	2.28

As seen in Table 32, except for the enhancement motive all means seemed higher for males indicating higher use of most motives for them. Females scored slightly higher in enhancement. In terms of commonality of motives, however, there was no gender difference. Both females and males had the highest score in enhancement, and then in social, coping, and conformity motives. So differences that could be observed were not in what motivates female and male drinking, but rather how much they were influenced by each motive.

To test for overall group differences for females and males, on all four drinking motives a MANOVA was conducted (Table E1). Hotellings test indicated an overall difference between males and females (F (error df: 934.000) = 7.454; $p=.000$). Then separate ANOVAs were conducted in each motive. Table 33 shows the results of these ANOVAs.

Table 33: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Motives by Female and Male Students

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	1.278	1	1.278	.045	.833
	Within	26976.940	943	28.608		
	Total	26978.218	944			
Social	Between	106.202	1	106.202	4.842	.028
	Within	20685.337	943	21.936		
	Total	20791.539	944			
Coping	Between	166.234	1	166.234	8.780	.003
	Within	17817.028	941	18.934		
	Total	17983.262	942			
Conformity	Between	103.873	1	103.873	20.425	.000
	Within	4785.522	941	5.086		
	Total	4889.396	942			

One-way analyses of variance showed that gender difference was significant in all motives except for enhancement. All the existing gender differences were in the same direction, i.e., males scored higher than females (Table 33). The largest gender difference was observed in conformity ($F(1, 941)=20.425$; $p=.000$), while the smallest was observed in social ($F(1, 943)=4.842$; $p=.028$) motives. Gender differences in coping was also significant ($F(1, 941)=8.780$; $p=.003$).

Table 34 summarizes the mean values and standard deviations of enhancement, coping, conformity motive and social motive scores for prep school, 1-2 semesters, 3-4 semesters, 5-6 semesters, 7-8 semesters and 9 and above semesters students. Regarding Enhancement Motive, students in 7-8 semesters had the highest mean and the students in 3-4 semesters had the highest second mean and the 9 and above semesters students had the third highest mean although the

differences among the 6 groups seemed ignorable except those between 7-8 semesters and prep students. For Social Motive students from 3-4 semesters to 9 and above semesters had the highest means and the students in prep school had the lowest mean. For Coping Motive 9 and above semester students had the highest mean, and the rests of the groups were very close to each other. For Conformity Motive, semester students who are at their academic programs had higher means and prep school students had the lowest mean.

Although there are ignorable exceptions, an examination of drinking motives by level of academic progress indicates that students tended to have increasing motivation of all four types as they progressed in their academic programs. Prep and last year students (two extremes) seem rather different and the difference favors the prep students.

Table 34: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Level of Academic Progress

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Prep.	90	12.19	5.40	90	10.82	4.99	89	8.55	4.31	89	5.94	2.05
1-2	202	12.75	5.58	202	11.64	4.66	201	8.61	4.41	200	6.25	2.52
3-4	225	13.72	5.39	224	12.46	4.60	225	8.92	4.44	225	6.25	2.52
5-6	186	12.76	5.27	186	12.46	4.80	185	8.68	4.29	186	6.19	2.19
7-8	190	14.36	4.93	191	12.92	4.36	191	8.99	4.32	191	6.19	2.32
9 and above	52	13.50	5.19	52	12.54	4.97	52	9.46	4.55	52	6.63	3.22

To test for overall group differences for prep, 1-2 semesters, 3-4 semesters, 5-6 semesters, 7-8 semesters, and 9 and above semesters groups, on all four drinking motives a

MANOVA was conducted (Table E2). Hotellings test indicated that there was an overall difference among the groups on all four drinking motives (F (error df: 3714.000) = 1.594; $p=.045$). Based on this result, ANOVAs that are presented in Table 35 were conducted.

Table 35: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Level of Academic Progress

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	483.890	5	96.778	3.430	.004
	Within	26494.328	939	28.215		
	Total	26978.218	944			
Social	Between	365.507	5	73.101	3.361	.005
	Within	20426.032	939	21.753		
	Total	20791.539	944			
Coping	Between	48.488	5	9.698	.507	.771
	Within	17934.774	937	19.141		
	Total	17983.262	942			
Conformity	Between	27.417	5	5.483	1.057	.383
	Within	4861.979	937	5.189		
	Total	4889.396	942			

Table 35 shows that there were no statistically significant differences among prep, 1-2 semester, 3-4 semester, 5-6 semester, 7-8 semester, and 9 and above semester groups for Coping Motive (F (5, 937)=.507; $p=.771$) and Conformity Motive (F (5, 937)=1.057; $p=.383$). However, significant differences were observed in Enhancement Motive (F (5, 939)=3.430; $p=.004$), and Social Motive (F (5, 939)=3.361; $p=.005$). Existing group differences were followed by Bonferroni tests (Table E3).

The results of Bonferroni tests showed that students from 7-8 semesters had significantly higher Enhancement ($p=.023$) and Social ($p=.005$) motives than prep students. The rest of the group differences were not statistically significant.

Table 36 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motive scores for students who live with their family, in dormitory, with relatives and siblings, with their friends and alone.

Table 36: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Type of Residence

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Family	375	13.17	5.39	375	12.49	4.82	375	8.44	4.15	375	6.03	2.08
Dormitory	333	13.14	5.49	334	11.68	4.58	331	8.89	4.38	332	6.02	2.15
Relatives/ Sibling	68	13.22	4.92	68	12.29	3.98	68	8.81	4.69	68	6.54	2.65
Friends	132	14.05	5.07	131	12.95	4.71	132	9.52	6.65	131	6.52	2.62
Alone	32	13.00	5.45	32	11.44	5.13	32	9.31	4.66	32	6.75	3.23

Regarding Enhancement Motive, students who live with their friends had the highest mean and students who live had alone had the lowest mean although the differences among the 5 groups seemed minor. For Social Motive, students who live with their friends had the highest means and the students were living alone had the lowest mean. For Coping Motive, students living with their friends had the highest mean, and the students living with their families had the lowest mean and the mean differences among the group seemed ignorable. For Conformity Motive, students living alone had the highest mean and dormitory students had the lowest mean. A general observation of the means of motives by residential type seems to indicate that except

for Conformity motives, living with friends tends to increase drinking motives and students who live alone seem to have more conformity motives to drink.

To test for overall group differences a MANOVA was conducted (Table E4). Hotellings test indicated that there was an overall difference among living with family, living in dormitory, living with relatives and sibling, living with friends and living alone (F (error df: 3698.000) = 1.770; $p=.029$). Therefore, unvaried analyses were conducted (Table 37).

Table 37: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Type of Residence

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	92.249	4	23.062	.805	.522
	Within	26790.478	935	28.653		
	Total	26882.728	939			
Social	Between	215.555	4	53.889	2.468	.043
	Within	20414.465	935	21.834		
	Total	20630.020	939			
Coping	Between	127.597	4	31.899	1.674	.154
	Within	17774.476	933	19.051		
	Total	17902.074	937			
Conformity	Between	50.594	4	12.648	2.441	.045
	Within	4834.054	933	5.181		
	Total	4884.648	937			

Table 37 shows that there were no statistically significant differences among different types of residence for Enhancement (F (4, 935)=.805; $p=.522$) and Coping (F (4, 933)=1.674; $p=.154$) motives. However, Conformity (F (4, 933)=2.441; $p=.045$), and Social (F (4, 935)=2.468;

$p=.043$) motives yielded significant differences among the five resident types, yet these differences were rather small since the Bonferroni tests showed no significant differences among any of the groups (Table E5).

Table 38 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motive scores for the following levels of (GPAs): 0-2.00; 2.00-2.50; 2.50-3.00; 3.00-3.50; 3.50-4.00.

Table 38: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Grade Point Averages

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
0-2.00	54	13.85	5.08	54	13.30	4.82	54	10.09	5.11	54	6.83	3.90
2.00-2.50	172	13.27	5.27	171	12.23	4.73	172	9.49	4.93	172	6.35	3.90
2.50-3.00	210	13.28	5.30	211	12.06	4.40	211	8.68	4.05	211	6.28	2.73
3.00-3.50	159	14.97	4.98	159	13.31	4.64	158	8.62	3.95	159	5.91	2.31
3.50-4.00	66	12.89	5.28	66	12.65	4.64	66	7.88	3.65	66	6.21	1.66

Regarding Enhancement Motive, students who had GPAs of 3.00-3.50 had the highest, and the students who had GPAs of 3.50-4.00 had the lowest means. The rest of the groups had similar means. For Coping Motive, students who had bottom GPAs (0-2.00) had the highest, while students who had the top GPAs (3.50-4.00) had the lowest means. For Conformity and Social motives, means of different GPA groups were largely similar.

To test for overall group differences for different GPA levels (0-2.00; 2.00-2.50; 2.50-3.00; 3.00-3.50; 3.50-4.00) on all four drinking motives, a MANOVA was conducted

(Table E6). Hotellings test indicated that there was an overall difference among the groups ((F (error df: 2598.000) = 2.825; $p=.000$) on all four drinking motives, thus differences were examined by unvaried ANOVAs (Table 39).

Table 39: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Grade Point Averages

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	423.669	4	105.917	3.917	.004
	Within	17736.957	656	27.038		
	Total	18160.626	660			
Social	Between	191.246	4	47.812	2.255	.062
	Within	13909.008	656	21.203		
	Total	14100.254	660			
Coping	Between	227.313	4	56.828	3.032	.017
	Within	12293.598	656	18.740		
	Total	12520.911	660			
Conformity	Between	38.708	4	9.677	1.625	.166
	Within	3913.166	657	5.956		
	Total	3951.875	661			

Among the ANOVAs, that were carried out to figure out whether mean differences among the GPA groups were statistically significant for Enhancement, Coping, Conformity and Social Motives showed that there were no statistically differences in Conformity (F (4, 657)=1.625; $p=.166$) and Social (F (4, 656)=2.225; $p=.062$) motives. However, significant differences existed for Enhancement (F (4, 656)=3.917; $p=.004$), and Coping (F (4, 656)=3.032; $p=.017$) motives which were followed-up by Bonferonni tests (Table E7).

The results of Bonferroni tests for Enhancement Motives showed that students who had 3.00-3.50 GPA had significantly higher Enhancement motives for drinking than students who had 2.50-3.00 GPAs ($p=.003$) and students who had 2.00-2.50 GPA ($p=.030$) and students who had 3.50-4.00 GPAs ($p=.052$). For coping motive although there was a gradual decrease in motive by increases in GPA there were no significant differences among any GPA levels.

Table 40 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motives for mothers and fathers with low, middle and high education levels.

Table 40: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Parental Education

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Mother Education												
Low	286	12.39	5.55	286	10.99	4.54	285	8.92	4.52	284	6.18	2.24
Middle	276	13.68	5.46	277	12.51	4.75	275	8.69	4.42	276	6.29	2.57
High	381	13.74	5.01	380	12.98	4.57	381	8.85	4.22	381	6.05	2.08
Father Education												
Low	211	12.43	5.72	211	11.07	4.48	210	9.02	2.30	210	6.15	2.30
Middle	191	13.16	5.46	192	11.67	4.82	191	8.46	2.31	190	6.11	2.25
High	537	13.67	5.13	536	12.88	4.64	536	8.89	2.25	537	6.16	2.27

Table 40 indicates that for Enhancement Motive, students whose mothers had higher education had the highest mean and the students whose mothers had low education had the lowest mean.

The trend was the same for fathers. For Social Motive students who had highly educated mothers and fathers, had the highest means and the students who had low educated mothers and

fathers, had the lowest means. For Coping Motive, students whose mothers and fathers had low education had the highest means, and the students whose mothers and fathers had middle education had the lowest means. For Conformity Motive, students whose mother had middle education had the highest mean and the students whose mother had higher education had the lowest mean. Group means for father education were very close to one another. Findings related to mother and father education levels were very similar in general.

To test for overall group differences for different levels of education of mothers and fathers on all four drinking motives a MANOVA was conducted (Table E8 and E9). Hotellings test indicated that an overall difference for mothers (F (error df: 1860.000) = 5.572; $p=.000$), and fathers (F (error df: 1854.000) = 4.332; $p=.000$). Thus, a separate ANOVA was conducted in each four motives by mother and father education (Table 41 and 42).

Table 41: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives Scores by Level of Mother Education

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	350.975	2	175.487	6.227	.002
	Within	26489.364	940	28.180		
	Total	26840.339	942			
Social	Between	671.336	2	335.668	15.734	.000
	Within	20053.979	940	21.334		
	Total	20725.315	942			
Coping	Between	7.473	2	3.737	.195	.823
	Within	17946.595	938	19.133		
	Total	17954.068	940			
Conformity	Between	9.085	2	4.543	.874	.418
	Within	4877.637	938	5.200		
	Total	4886.723	940			

Table 41 shows that there were no statistically significant differences among the education groups of mothers for Coping ($F(2, 938) = .195$; $p = .823$) and Conformity ($F(2, 938) = .874$; $p = .418$) motives. However, Enhancement ($F(2, 940) = 6.227$; $p = .002$) and Social ($F(2, 940) = 15.734$; $p = .000$) motives of students changed depending of their mothers' level of education.

The results of Bonferroni tests showed that students who had mothers with low education had lower Enhancement Motives to drink than students who had mothers of middle and high education ($p = .016$ and $p = .005$) (Table E10). Students whose mothers had low education had significantly lower Social Motives to drink than students whose mothers had middle and high

education ($p=.000$ and $p=.000$). Middle and high groups did not differ from one another in either of these motives.

One-way ANOVAs were carried out to figure out whether means were different for different levels of father education (Table 41).

Table 42: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Level of Father Education

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	238.892	2	119.446	4.188	.015
	Within	26697.897	936	28.523		
	Total	26936.788	938			
Social	Between	570.870	2	285.435	13.241	.000
	Within	20177.611	936	21.557		
	Total	20748.481	938			
Coping	Between	36.460	2	18.230	.952	.386
	Within	17890.234	934	19.154		
	Total	17926.694	936			
Conformity	Between	.396	2	.198	.038	.962
	Within	4815.864	934	5.156		
	Total	4816.260	936			

Table 42 summarizes the findings that there were no statistically significant differences among educational groups of fathers in Coping ($F(2, 934)=.952$; $p=.386$) and Conformity ($F(2, 934)=.038$; $p=.962$) motives. However, differences existed for Enhancement ($F(2, 936)=4.188$; $p=.015$), and Social ($F(2, 936)=13.241$; $p=.000$) motives and were followed-up by Bonferroni tests (Table E11).

The result of Bonferroni tests showed that students who had fathers with low education had significantly lower Enhancement Motives to drink than students who had fathers with high education ($p=.017$). Students who had fathers with low and middle levels of education had significantly lower Social Motives to drink than students who had fathers with high education ($p=.000$ and $p=.009$).

Table 43 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motives for being very active, active, somewhat active and barely active in student clubs and other social activities.

Table 43: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Participation in Social Activities

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Student Clubs												
Very Active	131	13.34	5.13	131	12.93	4.87	131	8.23	3.53	131	6.07	2.15
Active	195	13.61	5.12	194	12.18	4.56	195	8.48	4.07	194	6.00	2.19
Somewhat active	254	13.27	5.20	255	12.29	4.48	254	9.12	4.44	255	6.09	2.04
Barely active	365	13.12	5.65	365	11.96	4.84	363	8.99	4.72	363	6.32	2.51
Other Activities												
Very Active	144	14.46	5.35	145	12.96	5.00	145	8.81	4.38	145	5.92	1.88
Active	425	12.95	5.24	424	12.17	4.48	423	8.48	4.07	422	6.08	2.27
Somewhat active	241	13.45	5.26	241	12.16	4.67	240	9.17	4.56	241	6.26	2.35
Barely active	135	12.87	5.68	135	11.74	5.00	135	9.27	4.84	135	6.46	2.54

For Enhancement Motive, students who were active in clubs and very active in other activities had the highest means while the students who were barely active had the lowest means in both

activities. For Social Motive, students who were very active in student clubs and in other activities had the highest means and the students who were barely active in student clubs and in other activities had the lowest means. For Coping Motive, students who were somewhat active in student clubs, and barely active in other activities had the highest means. In this motive, students who were very active in students clubs, and active in other activities had the lowest means. For Conformity Motive, students who were barely active in student clubs and in other activities had the highest means and those who were active in students clubs and very active in other activities had the lowest means.

To test for overall group differences for level of participation in student clubs and in other activities on all four drinking motives, two MANOVAs (Table E12 and E13) were conducted. Hotellings test indicated significant differences both in student club activities (F (error df: 2792.000) = 1.752; $p=.015$) and in other activities (F (error df: 2792.000) = 2.085; $p=.051$). Thus, unvaried ANOVAs were conducted to see the effects of these two social activities on each drinking motive. They are reported in tables 44 and 45.

Table 44: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Participation in Student Clubs

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	29.622	3	9.874	.345	.793
	Within	26948.596	941	28.638		
	Total	26978.218	944			
Social	Between	93.292	3	31.097	1.414	.237
	Within	20698.247	941	21.996		
	Total	20791.539	944			
Coping	Between	103.272	3	34.424	1.808	.144
	Within	17879.990	939	19.042		
	Total	17983.262	942			
Conformity	Between	16.344	3	5.448	1.050	.370
	Within	4873.051	939	5.190		
	Total	4889.396	942			

Table 44 shows no statistically significant differences among levels of participation in student clubs in any of the four motives.

Table 45: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Participation in Other Activities

Motives		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	280.302	3	93.434	3.293	.020
	Within	26697.916	941	28.372		
	Total	26978.218	944			
Social	Between	110.488	3	36.829	1.676	.171
	Within	20681.050	941	21.978		
	Total	20791.539	944			
Coping	Between	106.987	3	35.662	1.873	.132
	Within	17876.275	939	19.038		
	Total	17983.262	942			
Conformity	Between	25.912	3	8.637	1.668	.172
	Within	4863.483	939	5.179		
	Total	4889.396	942			

Table 45 shows no statistically significant differences among levels of participation in other activities out of school for Social ($F(3, 941)=1.676$; $p=.171$), Coping ($F(3, 939)=1.873$; $p=.132$) and Conformity ($F(3, 939)=1.668$; $p=.172$) motives. However, significant difference was observed in Enhancement Motive ($F(3, 941)=3.293$; $p=.020$). Existing group differences were followed by Bonferroni tests (Table E14).

The result of Bonferroni tests showed that students who were are active in other activities had significantly higher Enhancement motives ($p=.027$) than students who were very active. The rest of the group differences were not statistically significant.

Table 46 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motive scores for different levels of perceived harm of alcohol (very harmful, harmful, a bit harmful/no idea and not harmful).

Table 46: Means and Standard Deviations of Enhancement, Coping, Conformity and Social Motives for Perceived Harm

	Enhancement			Social			Coping			Conformity		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Very Harmful	109	9.89	5.19	108	9.78	4.43	109	7.43	3.93	109	6.07	2.31
Harmful	412	12.37	5.07	412	11.45	4.38	409	8.69	4.36	410	6.22	2.38
A bit harmful/ No idea	335	14.74	4.89	336	13.53	4.43	336	9.04	4.23	335	6.05	2.09
Not harmful	89	16.30	5.23	89	13.90	5.34	89	10.26	4.95	89	6.35	2.43

For all four motives, students who perceived alcohol as not harmful had the highest means and the students who perceived alcohol as very harmful had the lowest means except for conformity where the lowest mean was obtained by those who found it a bit harmful or had no idea. Except for conformity motive, trends were almost linear i.e., motives decreased as perception of harm increased (Table 46).

To test for overall group differences for differing levels of perceived harm of alcohol a MANOVA was conducted (Table E15). Hotellings test indicated that there was an overall difference ($F(\text{error df: } 2792.000) = 12.252; p=.000$) and these were examined by one-way ANOVAs (Table 47).

Table 47: One-Way Analysis of Variance of Enhancement, Coping, Conformity and Social Drinking Motives by Perceived Harm

		<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Enhancement	Between	3127.150	3	1042.383	41.125	.000
	Within	23851.068	941	25.347		
	Total	26978.218	944			
Social	Between	1715.198	3	571.733	28.202	.000
	Within	19076.341	941	20.272		
	Total					
Coping	Between	417.410	3	139.137	7.438	.000
	Within	17565.852	939	18.707		
	Total	17983.262	942			
Conformity	Between	9.067	3	3.022	.582	.627
	Within	4880.328	939	5.197		
	Total	4889.396	942			

One-way ANOVAs, conducted to figure out whether mean differences among different levels of perceived harm of alcohol were statistically significant for Enhancement, Coping, Conformity and Social motives showed that except Conformity Motive ($F(9, 939) = .582$; $p = .627$), all differences were significant; Enhancement ($F(3, 941) = 41.125$; $p = .000$), Coping ($F(3, 939) = 7.438$; $p = .000$) and the Social ($F(3, 941) = 28.202$; $p = .000$) motives, respectively.

When the significant differences were followed by Bonferroni tests (Table E16) it was seen that nearly all groups were different from one another in Enhancement (ranging from $p = .000$ to $p = .065$). Students who perceived alcohol as harmful had significantly higher Social Motives than students who perceive alcohol as a bit harmful or have no idea ($p = .000$) and students who

perceived alcohol not harmful ($p=0.000$). For Coping Motives, students who perceived alcohol as very harmful had significantly higher Coping Motives to drink than students who perceived alcohol as harmful ($p=.050$) and a bit harmful or have no idea ($p=.005$), and not harmful ($p=.000$). Likewise, students who perceived alcohol as harmful had higher coping motives than those who perceived it not harmful ($p=.012$). Students who perceived alcohol as very harmful had significantly higher social motives than the students who perceived alcohol as harmful ($p=.003$), a bit harmful or have no idea ($p=.000$), and not harmful ($p=.000$).

In summary, tables between 32 and 47 showed that motives change by student gender, level of academic progress, type of residence, parental education, participation in social activities and perceived harm of alcohol. Students drank for Enhancement, Social, Coping and Conformity reasons, respectively. Except for Enhancement where there was no gender difference, males had higher motives to drink. Senior students had higher enhancement and social motives than prep students. Existing differences in social and conformity motives regarding type of residence were ignorable. Differences on GPA, indicated that top students tended to have less enhancement and coping motives to drink. Compared to parents with low education, parents with high education had higher enhancement and social motives to drink. Students who were very active in social activities outside the university had higher enhancement motives to drink than students who were not active in such activities. Students who found alcohol more harmful had less enhancement, social and coping motives to drink.

Research Question 3

Does amount of alcohol consumed change gender, level of academic progress, grade point average, type of residence, parental education, participation in social activities and perceived harm?

Table 48 summarizes the mean values and standard deviations of amount of alcohol consumed by females and males. Males had higher amounts of alcohol than females.

Table 48: Means and Standard Deviations of Amount of Alcohol Consumed by Female and Male Students

Female			Male			Total		
<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>N</u>	<u>M</u>	<u>SD</u>
555	7.01	2.69	458	8.32	3.45	1013	7.60	3.12

To test gender differences for amount of alcohol consumed a one-way ANOVA was conducted (Table 49). One-way analysis of variance showed that gender difference in amount of alcohol consumed was significant ($F(1, 1011) = 46.060$; $p = .000$). Males consumed significantly more alcohol than females.

Table 49: One-Way Analysis of Variance of Amount of Alcohol Consumed by Female and Male Students

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	430.214	1	430.214	46.060	.000
Within	9443.065	1011	9.340		
Total	9873.279	1012			

Table 50 summarizes the mean values and standard deviations of amount of alcohol consumed by students of prep school, 1-2 semesters, 3-4 semesters, 5-6 semesters, 7-8 semester and 9 and above semesters.

Table 50: Means and Standard Deviations of Amount of Alcohol Consumed for Level of Academic Progress

	<u>n</u>	<u>M</u>	<u>SD</u>
Prep.	100	6.95	3.19
1-2	212	7.08	2.82
3-4	242	7.77	3.23
5-6	204	7.65	3.18
7-8	201	7.94	3.02
9 and above	54	8.60	3.41
Total	1013	7.60	3.12

Table 50 shows that, 9 and above semesters students had the highest mean and the students at prep school had the lowest mean. An examination of amount of alcohol consumed by level of academic progress indicates that students tended to have increasing alcohol consumption as they progressed in their academic programs. This increase was nearly linear with the exception of change in order between 3-4 and 5-6 semesters students. Prep and 9 and above semester students seem rather different and the difference favors the prep students (two extremes).

To test for overall group differences for prep, 1-2 semester, 3-4 semester, 5-6 semester, 7-8 semester, and 9 and above semester groups, on amount of alcohol consumed a univariate ANOVA was conducted that are presented in Table 51.

Table 51: One-Way Analysis of Variance of Amount of Alcohol Consumed by Level of Academic Progress

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	182.407	5	36.481	3.791	.002
Within	9690.873	1007	9.624		
Total	9873.279	1012			

Table 51 shows that there were statistically significant differences among prep, 1-2 semesters, 3-4 semesters, 5-6 semesters, 7-8 semesters, and 9 and above semesters groups in amount of alcohol consumed ($F(5, 1007)=3.791$; $p=.002$). Existing group differences were followed by Bonferroni tests (Table E17). The results showed that students from 9 and above semesters consumed alcohol more than prep and 1-2 semesters students. The rest of the group differences were not statistically significant.

Table 52 summarizes the mean values and standard deviations of amount of alcohol consumed by the students with the following levels of grad point averages (GPA): 0-2.00; 2.00-2.50; 2.50-3.00; 3.00-3.50; 3.50-4.00.

Table 52: Means and Standard Deviations of Amount of Alcohol Consumed for Grade Point

<u>Averages</u>			
	<u>n</u>	<u>M</u>	<u>SD</u>
0- 2.00	58	8.53	3.25
2.00-2.50	184	7.86	3.39
2.50-3.00	228	7.43	3.00
3.00-3.50	169	8.15	3.03
3.50-4.00	69	7.87	3.24

Table 52 shows that, students who had GPAs of 0-2:00 had the highest and the students who had GPAs of 3:00-3:50 had second highest mean and the students who had GPAs 2:50-3:00 had the lowest means. The rest of the groups had similar means.

To test for overall group differences for different GPA levels (0-2.00; 2.00-2.50; 2.50-3.00; 3.00-3.50; 3.50-4.00) on amount of alcohol consumed a univariate ANOVA was conducted (Table 52). This ANOVA showed that there was no statistically significant difference among GPA groups ($F(4, 703)=2.109$; $p=.078$).

Table 53: One-Way Analysis of Variance of Amount of Alcohol Consumed by Grade Point

<u>Averages</u>					
	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	83.903	4	20.976	2.109	.078
Within	6992.316	703	9.946		
Total	7076.219	707			

In ANOVA, that were carried out to figure out whether mean differences among the GPA groups were statistically significant for amount of alcohol consumed.

Table 54 summarizes the mean values and standard deviations of amount of alcohol consumed by students who live with their family, in dormitory with, relatives and siblings, with their friends and alone.

Table 54: Means and Standard Deviations of Amount of Alcohol Consumed for Type of Residence

	<u>n</u>	<u>M</u>	<u>SD</u>
Family	398	7.42	2.98
Dormitory	357	7.48	3.15
Friends	150	8.21	3.31
Relatives/ Sibling	69	7.80	3.32
Alone	33	7.55	2.92

Table 54 indicates that students who live with their friends had the highest mean and the students who live with their family had the lowest mean although the differences among the 5 groups seemed minor. To test group overall group differences a univariate ANOVA was conducted (Table 54). This ANOVA showed that there was no statistically difference among different types of residence in amount of alcohol consumed ($F(4, 1002)=1.948; p=.100$).

Table 55: One-Way Analysis of Variance of Amount of Alcohol Consumed by Type of Residence

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	75.590	4	18.897	1.948	.100
Within	9718.027	1002	9.699		
Total	9793.617	1006			

Table 56 summarizes the mean values and standard deviations of amount of alcohol consumed for mothers and fathers with low, middle and high education levels. It shows that students whose mothers had higher education had the highest mean and the students whose mothers had

low education had the lowest mean. The trend was the same for fathers. Findings related to mother and father education levels were very similar in general.

Table 56: Means and Standard Deviations of Amount of Alcohol Consumed for Parental

<u>Education</u>			
	<u>n</u>	<u>M</u>	<u>SD</u>
Mother Education			
Low	315	6.76	3.10
Middle	296	7.73	3.14
High	400	8.19	2.98
Father Education			
Low	229	6.90	3.03
Middle	207	7.11	3.12
High	569	8.06	3.10

To test for overall group differences by different levels of education of mothers and fathers in amount of alcohol consumed separate ANOVAs were conducted by levels of mother and father education.

Table 57: One-Way Analysis of Variance of Amount of Alcohol Consumed by Level of

<u>Mother Education</u>					
	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	283.525	2	141.763	14.897	.000
Within	9535.271	1002	9.516		
Total	9818.796	1004			

Table 57 shows that there were significant differences among the education levels of mothers in amount of alcohol consumed by students ($F(2, 1008)=19.377; p=.000$). Amount of alcohol consumed by students changed depending of their mothers' of education. The significant difference was followed by Bonferroni test (Table E18) which showed that students whose

mothers had low education consumed significantly lower amount of alcohol than students whose mothers middle ($p=.000$) and high ($p=.000$) education.

Table 58 summarizes the results of one-way analysis of variance for level of father education which indicated that there were significant differences among the education levels of fathers in the amount of alcohol consumed by students ($F(2, 1002)=14.897$; $p=.000$). Amount of alcohol consumed by students changed depending on educational level of fathers. The significant difference was followed by Bonferroni test (Table E19). It was indicated that students whose fathers had low and middle education consumed significantly lower amount of alcohol than students whose fathers had high education ($p=.000$).

Table 58: One-Way Analysis of Variance of Amount of Alcohol Consumed by Level of Father Education

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	363.975	2	181.988	19.377	.000
Within	9466.915	1008	9.392		
Total	9830.890	1010			

Table 59 summarizes the mean values and standard deviations of amount of alcohol consumed by students who were very active, active, somewhat active and barely active in student clubs and other social activities.

Table 59: Means and Standard Deviations of Amount of Alcohol Consumed for Participation in Social Activities

	<u>n</u>	<u>M</u>	<u>SD</u>
Student Clubs			
Very active	132	8.28	3.23
Active	201	7.73	2.96
Somewhat active	278	7.71	2.99
Barely active	402	7.23	3.22
Other Activities			
Very active	153	8.32	3.18
Active	451	7.72	3.13
Somewhat active	258	7.19	2.82
Barely active	151	7.22	3.40

Table 59 indicates that students were very active in clubs and in other activities had the highest means, while the students who were barely active in student clubs had the lowest mean and the students who were somewhat active in other activities had the lowest mean.

To test for overall group differences for level of participation in student clubs and in other activities in amount of alcohol consumed two separate ANOVAs were conducted (Table 60, 61). Results in Table 60 indicate that there were significant differences among levels of participation in student clubs in the amount of alcohol consumed ($F(3,1009)=4.232$; $p=.006$). For further analyses Bonferroni tests were conducted (Table E20). These tests results indicated that students who were barely active in student clubs had significantly lower amount of alcohol consumption than the students who were very active in student clubs ($p=.005$).

Table 60: One-Way Analysis of Variance of Amount of Alcohol Consumed by Participation in Student Clubs

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	122.695	3	40.898	4.232	.006
Within	9750.585	1009	9.664		
Total	9873.279	1012			

Table 61 summarizes the univariate ANOVA results of amount of alcohol consumed by students' level of participation in other activities. The results showed significant differences among the level of participation in other activities for amount of alcohol consumed ($F(3, 1009)=5.255$; $p=.001$). Significance difference was followed by Bonferroni tests (Table E21). Results of Bonferroni indicated that students who were somewhat active or barely active in other activities out of school had significantly lower amount of alcohol consumption than the students who were very active in them ($p=.002$ and $p=.012$, respectively).

Table 61: One-Way Analysis of Variance of Amount of Alcohol Consumed by Participation in Other Activities

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between	151.877	3	50.626	5.255	.001
Within	9721.402	1009	9.635		
Total	9873.279	1012			

Table 62 summarizes the mean values and standard deviations of enhancement, coping, conformity and social motives for different levels of perceived harm of alcohol (very harmful, harmful, a bit harmful/no idea and not harmful).

Table 62: Means and Standard Deviations of Amount of Alcohol Consumed by PerceivedHarm of Alcohol

	<u>n</u>	<u>M</u>	<u>SD</u>
Very harmful	127	5.32	2.62
Harmful	442	6.89	2.85
A bit harmful /no idea	354	8.62	2.81
Not harmful	90	10.30	2.90

As can be seen in Table 62 students who perceived alcohol as not harmful had the highest mean and the students who perceived alcohol as very harmful had the lowest means.

Trends were linear i.e., amount of alcohol consumed decreased as perception of harm increased.

To test for overall group differences for differing levels of perceived harm of alcohol a one-way ANOVA was conducted (Table 63). One-way analyses showed significant differences among different levels of perceived harm of alcohol for amount of alcohol consumed ($F(3, 1009)=80.319$; $p=.000$) and it was followed by Bonferroni tests (Table E22). Results indicated that all the groups were significantly different from one another at $p=.000$ level. As students perceived alcohol more harmful they had lesser amount of alcohol consumption.

Table 63: One-Way Analysis of Variance of Amount of Alcohol Consumed by PerceivedHarm of Alcohol

	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
Between	1903.296	3	634.432	80.319	.000
Within	7969.983	1009	7.899		
Total	9873.279	1012			

In summary, tables between 48 and 63 indicated that amount of alcohol consumed changed by gender. Males consumed alcohol more than females. Students from 9 and above semesters consumed more alcohol than prep and 1-2 semester students. Grade point averages and type of residence did not seem to influence the amount of alcohol consumed by students. Students whose parents had low levels of education consumed less amounts of alcohol. Students who were very active in student clubs consumed more amount of alcohol, and students who were very active in social activities outside the university consumed more amount of alcohol compared to students who were less active in both. As students perceived alcohol more harmful they consumed less alcohol.

Research Question 4

How are drinking motives of male and female BU students related to amount of drinking?

Pearson product moment correlations were calculated to see the relationship between drinking motives (namely, Enhancement, Coping, Conformity and Social), and amount of drinking that students consume. Table 64 shows the Pearson product moment correlations between amount of alcohol consumed and drinking motives for female and male students separately.

Table 64: Pearson Product Correlations between the Drinking Motives and Amount of Alcohol Consumed for Females and Male Students

	n	r	p
Enhancement			
Female	525	.57	.000
Male	417	.60	.000
Social			
Female	526	.48	.000
Male	416	.49	.000
Coping			
Female	524	.35	.000
Male	416	.32	.000
Conformity			
Female	525	-.023	.598
Male	415	-.053	.279

*Significance tests were two-tailed

The results seen in Table 64 show that all correlations except for those with conformity motives were significant and positive. Correlations were very similar for both gender. Largest correlations which were moderate, were with Enhancement Motive (.57 for females, .60 for males. Second largest correlations were with Social Motive (.48 for females .49 for males). Correlations with Coping were somewhat lower (.35 for females, .32 for males). It seemed that enhancement, social and coping drinking motives are positively related to amount of student drinking to differing degrees from moderate to low.

Research Questions 5

What are the demographic characteristics of male and female nondrinking BU students in comparison to those who are at risk for alcohol dependency?

Table 65 shows the frequencies and percentages of female and male students who never drink and those who are at risk for dependency.

Table 65: Distribution of Male and Female Students by Drinking Status (N=691)

	Non drinking		Dependency risk	
	f	%	f	%
Female	298	49.8	34	36.6
Male	300	50.2	59	63.4
Total	598	100.0	93	100.0

($\chi^2(1)=5.681$; $p=0.017$)

As can be seen in Table 65 gender distribution among nondrinking students was nearly identical. However, among students who drink to the level that put them at risk for dependency 36.6% of them were females and 63.4% of them were males. This gender difference in frequencies was significant ($\chi^2(1)=5.681$; $p=0.017$) indicating that males were in greater danger for alcohol dependency than females.

Table 66 shows the frequencies and percentages of nondrinking students and students who were at risk for alcohol dependency by different levels of GPAs.

Table 66: Distribution of Grade Point Average by Drinking Status

	Non drinking		Dependency Risk	
	f	%	f	%
0-2.00	25	7.3	6	8.5
2.00-2.50	97	28.3	22	31.0
2.50-3.00	108	31.5	22	31.0
3.00-3.50	79	23.0	16	22.5
3.50-4.00	34	9.9	5	7.0

($\chi^2(4)=.781$; $p=.941$)

As seen in Table 66, GPA, were distributed rather similarly between the two drinking status. There were no GPA differences between the students who never drink and those who were at risk for dependency ($\chi^2(4)=.781$; $p=.941$).

Table 67 indicates subjects distribution of nondrinking and at risk drinking status by their level of academic progress.

Table 67: Distribution of Semesters by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Prep	126	21.1	4	4.3
Semesters				
1-2	133	22.2	18	19.4
3-4	131	21.9	28	30.1
5-6	113	18.9	20	21.5
7-8	77	12.9	17	18.3
9 and above	18	3.0	6	6.5

($\chi^2(5)=19.446$; $p=.002$)

Table 67, shows that number of nondrinking students gradually decrease as they progress in their academic programs. (from prep, 21.4% to 9 and above semesters, 3%). On the other hand, highest number of students at risk for dependency were sophomore (30.1%) and junior (21.5%) ($\chi^2(5)=19.446$; $p=.002$).

Table 68 shows the frequencies and percentages of nondrinking students and students who are at risk for alcohol dependency by type of residence.

Table 68: Distribution of Type of Residence by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Family	181	30.4	27	29.3
Dormitory	231	38.8	37	40.2
Friends	139	23.3	16	17.4
Relatives/ Siblings	37	6.2	9	9.8
Alone	8	1.3	3	3.3

($\chi^2(4)=4.673$; $p=.322$)

Table 68, shows the types of residence of nondrinking students and students at risk for dependency. It seems that regardless of their drinking status students share similar residential characteristics ($\chi^2(4)=4.673$; $p=.322$).

Table 69, shows the frequencies and percentages of students who never drink and those who are at risk for dependency by frequency of their home visits.

Table 69: Distribution of Home Visits of Students by Drinking Status

	Nondrinker		Dependency Risk	
	f	%	f	%
Several times in a week	4	1.0	3	4.4
Every weekend	22	5.5	5	7.4
Once in a several weeks	60	14.9	10	14.7
Once in a several months	177	44.0	26	38.2
Semesters	114	28.4	19	27.9
Only summer	24	6.0	3	4.4
Never	1	0.2	2	2.9

($\chi^2(6)=12.226$; $p=.057$)

Table 69 indicates the frequencies of home visits made by students. Drinking status does not seem to matter in how often students visit home ($\chi^2(6)=12.226$; $p=.057$).

Table 70 indicates the distribution of presence and marital status of parents by their drinking status.

Table 70: Distribution of Presence and Marital Status of Parents by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Presence/Absent ¹				
Both Alive	562	94.0	83	89.2
Both Died	1	0.2	2	2.2
Father Died	28	4.7	6	6.5
Mother Died	7	1.2	2	2.2
Marital Status ²				
Married	541	94.4	75	88.2
Divorced	32	5.6	10	11.8

¹ ($\chi^2(3)=8.591$; $p=.035$)

² ($\chi^2(1)=4.731$; $p=.030$)

Table 70 shows that, although the highest percentages of parent of students who never drink and students who were at risk for dependency were both alive (94% and 89.2%), parents loss was more common among students who were at dependency risk. Drinking status did seem to matter in presence and absence of parents ($\chi^2(3)=8.591$; $p=.035$). Likewise, the same table also shows that the majority of parents were married for both groups of students. However, divorce was more common among the parents of students who were at dependency risk. It seems that drinking status did also matter in marital status of parents ($\chi^2(1)=4.731$; $p=.030$).

Table 71 shows the distribution of educational levels of parents by students who never drink and students who are at dependency risk.

Table 71: Distribution of Educational Level of Parents by Drinking Status of Students

		Nondrinking		Dependency Risk	
		f	%	f	%
Mother ¹	Low	373	62.6	33	35.5
	Middle	131	22.0	31	33.3
	High	92	15.4	29	31.2
Father ²	Low	237	39.8	24	26.1
	Middle	146	24.5	22	23.9
	High	213	35.7	46	50.0

¹ ($\chi^2(2)=25.795$; $p=.000$)

² ($\chi^2(2)=8.248$; $p=0.016$)

Table 71 indicates the numbers of students who never drink were increasing as educational level of the mothers decrease, but this decrease was much more gradual for students who were at risk for dependency. This difference was significant ($\chi^2(2)=25.795$; $p=.000$) indicating that students who are at risk for dependency had mother with higher levels of education. Difference in drinking status according to father education show that majority of the fathers of students who were at risk for dependency had high education ($\chi^2(2)=8.248$; $p=0.016$).

Table 72 shows the frequencies and percentages of students who never drink and students who were at risk according to occupation of mothers.

Table 72: Distribution of Mother Occupation by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Housewife	443	74.6	45	49.5
Merchandiser / Upper Level Manager	9	1.5	4	4.4
Tradesman / Blue color worker/ Farmer	22	3.7	5	5.5
Doctor, lawyer, engineer, academician	15	2.5	2	2.2
Staff, teacher, nurse, technician/ Army officer	49	8.2	14	9.2
Retired	56	9.4	21	23.1

($\chi^2(5)=28.57$; $p=.000$)

Table 72 shows that the percentages of mothers were housewife of nondrinking students were higher than students who were at dependency risk. Also percentages of retired mothers of students who were at dependency risk were higher than students who never drink ($\chi^2(5)=28.57$; $p=.000$).

Table 73 shows the frequencies and percentages of students who never drink and students who were at dependency risk according to occupation of fathers.

Table 73: Distribution of Father Occupation by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Unemployed	25	4.3	1	1.2
Merchandiser / Upper Level Manager	41	7.1	12	14.3
Tradesman / Blue color worker r/ Farmer	129	22.4	13	15.5
Doctor, lawyer, engineer, academician	47	8.1	13	15.5
Staff, teacher, nurse, technician/ Army officer	135	23.4	11	13.1
Retired	200	34.7	34	40.5

($\chi^2(5)=16.74$; $p=.005$)

Results showed that there were differences between the occupational status of fathers of students who were at risk for dependency and those who were higher than nondrinking ($\chi^2(5)=16.74$; $p=.005$). Differences seem to indicate a higher occupational status of fathers for students who are at risk for dependency.

Table 74 shows the frequencies and percentages of secondary sibling that nondrinking students and students at dependency risk had.

Table 74: Distribution of Number of Secondary Sibling by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
None	168	28.7	40	44.4
1	260	44.4	35	38.9
2	123	21.0	13	14.4
3 and above	35	6.0	2	2.2

$$(\chi^2(3)=10.51; p=.015)$$

As can be seen in Table 74, percentage of no sibling was higher for students who were at dependency risk was higher than nondrinking students. It seems that having less siblings or being the only child matter as a dependency risk ($\chi^2(3)=10.51$; $p=.015$).

Table 75 shows the means, standard deviations and t test result for distribution of pocket money by drinking status.

Table 75: Distribution of Amount of Pocket Money Students Have by Drinking Status

	<u>n</u>	<u>M</u>	<u>SD</u>	<u>t</u>	<u>P</u>
Drinking Status					
Nondrinking	498	274748995.9839	184900014.4431	-8.405	.000
Dependency Risk	86	472732558.1395	280505485.9239		

*Significance test was two tailed.

As can be seen in Table 75, students who were a dependency risk had higher amount of pocket money than the nondrinking students. Result of t-test was significant ($t=-8.405$; $p=.000$).

Table 76 indicates the frequencies and percentages of social characteristics of nondrinking students and students who were at dependency risk.

Table 76: Distribution of Social Characteristics of Students by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Friends ¹				
Many	169	28.3	24	25.8
Enough	360	60.2	56	60.2
A few	67	11.2	10	10.8
No	2	0.3	3	3.2
Dating ²				
Yes	115	19.2	36	38.7
No	483	80.8	57	61.3
Students Club Activities ³				
Very Active	36	6.0	14	15.1
Active	83	13.9	18	19.4
Somewhat active	144	24.1	23	24.7
Barely active	335	56.0	38	40.9
Other Activities ⁴				
Very Active	58	9.7	15	16.1
Active	238	39.8	38	40.9
Somewhat active	173	28.9	27	29.0
Barely active	129	21.6	13	14.0

¹ ($\chi^2 (3)=9.487$; $p=.023$)

² ($\chi^2 (1)=17.882$; $p=.000$)

³ ($\chi^2 (3)=14.168$; $p=.003$)

⁴ ($\chi^2 (3)=5.431$; $p=.143$)

As can be seen in Table 69, students who were at dependency risk tended to be lower in frequency of having many friends but higher in frequency of having no friends ($\chi^2 (3)=9.487$; $p=.023$), they had more dates ($\chi^2 (1)=17.882$; $p=.000$) and were more active in

student clubs ($\chi^2(3) = 14.168$; $p = .003$) than nondrinking students. There was no group difference in activity levels outside the school ($\chi^2(3) = 5.431$; $p = .143$).

Table 77 gives the frequencies and percentage of perceived harm of alcohol by nondrinking students and students who are at dependency risk.

Table 77: Distribution of Perceived Harm of Alcohol by Drinking Status

	Nondrinking		Dependency Risk	
	f	%	f	%
Very Harmful	459	76.8	8	8.6
Harmful	128	21.4	34	36.6
A bit harmful / No idea	8	1.3	39	41.9
Not harmful	3	0.5	12	12.9

($\chi^2(3) = 315.246$; $p = .000$)

Results in Table 77 showed that alcohol was not perceived to be harmful by students who were at dependency risk than students who were nondrinking ($\chi^2(3) = 315.246$; $p = .000$).

In summary, tables between 65 and 77 show that more males were at risk for alcohol dependency. There were no differences between nondrinking students and students at risk for dependency in GPA, type of residence and frequency of family visits. Drinking became more common by increasing grades, and sophomore and senior students were at greater risk for dependency. Parental loss and divorce were more common among students who were at greater risk for dependency. Parental educational and occupational status were higher for students who were at risk for dependency. Students who had less friends, more dates and were more active in students clubs were at more risk for dependency. There were less children in the families of students who were at risk for dependency, and finally at risk students had more pocket money.

Summary

This research studied BU students' relations with alcohol. Drinking related characteristics, drinking motives and amount of alcohol in relation to a set of demographic characteristics, relations between drinking motives and amount of alcohol, and demographic characteristics that could discriminate students at risk for dependency from students who didn't drink were examined.

In terms of drinking related characteristics, majority of the students in our sample were nondrinkers. Students who drink, started to drinking between ages of 11 and 15. Their first drinking experience occurred at home. About 1/5 of the families had drink at family meal but most families didn't have a drinking problem. Males found alcohol more harmful than females. They drink beer with peers. Males prefer hard drinks, females wine as their second choice. They started drinking out of curiosity. Among the reasons for not drinking beliefs, not liking its taste and smell, and health were listed at the top. Male drinking was more than female drinking both in frequency and amount.

Drinking motives changed by gender, level of academic progress, parental education, participation in social activities and perceived harm of alcohol. Differences due to type of residence were ignorable. Activity level at student clubs did not seem to matter in drinking motives. Students drank for Enhancement, Social, Coping and Conformity reasons, respectively. No gender difference was found except for Enhancement motives. Males had higher motives to drink. Senior students had higher Enhancement and Social motives than prep students. In terms of GPA, the very top students tended to have less Enhancement motives than others. Coping motives, tend to decrease by GPA. Students whose parents had high education had higher Enhancement and Social motives to drink compared to

students whose parents had low education. Being very active in other social activities outside the school led to higher Enhancement motives to drink. Perception of alcohol as very harmful led to less Enhancement, Social, and Coping motives to drink.

Amount of alcohol consumed changed by gender, level of academic progress, parental education, social activities, and perceived harm of alcohol. Grade point average and type of residence did not seem to relate to amount of alcohol consumed. Males consumed alcohol more than females. Students from 9 and above semesters consumed more alcohol than prep and 1-2 semesters students. Students whose parents had low education consumed less amount of alcohol than those with higher levels of education. Students who were very active in student clubs and social activities out of school tended to drink more than those who were less active in both. Perception of alcohol as more harmful led students consume less amounts of alcohol.

Drinking motives were significantly and positively related to the amount of alcohol consumed except for Conformity motive for both gender. Enhancement motive was moderately related to the amount of drinking while relations with Social and Coping motives were lower.

When demographic characteristics of nondrinking students were compared with those students who were at risk for dependency, differences were found in gender, level of academic progress, presence, education and occupation of parents, number of siblings, social characteristics of students, pocket money, and perception of harm in using alcohol. More males were at more risk for dependency. However, there were no differences between nondrinking students and students at risk for dependency in level of academic progress, GPA, type of residence and frequency of family visits. Number of students who

drink increased by level of academic progress. Sophomore and senior students were at greater risk for dependency compared to prep, freshman and junior students. Students who were at risk for dependency tended to have parents with higher levels of education and higher status jobs, and they had more pocket money. Parental loss and divorce were more common among students who were at risk for dependency. Students who were the single child of their family were at more risk for dependency. Students who were at risk for dependency did not have many friends, but they had dates and were more active in clubs and other activities.

Chapter V

DISCUSSION

This study was conducted to investigate the alcohol related profiles of BU students. More specifically, it aimed to study the motives (Enhancement, Coping, Conformity and Social) and amount of alcohol consumed among BU students. Influence of gender, type of residence, level of academic progress, parental education, participation in social activities and perceived harm of alcohol on motives and amount of alcohol consumed were also examined. In addition, relationship between motives and amount of alcohol consumed and comparison of demographic characteristics of students who are nondrinking and students who are at risk for dependency were studied.

Review of literature indicated that drinking motives are the final common pathways to alcohol use/abuse through which other risk factors force their influences on drinking behavior and drinking related outcomes. Since the empirical basis for this theoretical perspective is missing in alcohol related Turkish literature, the present study aimed to adapt an instrument (DMQ-R) that derived from motivational model of alcohol use. Findings of the present study are discussed in response to each research question.

Alcohol related demographic characteristics indicated that roundly 62% of BU students used alcohol. This rate was similar with some other alcohol research among university populations (Mangır, Aral and Boran, 1992). However, Mersin and Balıkesir Universities found lower rates of alcohol use, 33.9% and 43%, respectively. In our study majority

started to drink before they enrolled in university and drinking with peers was very common. These results are consistent with the results of Mangir and her friends' (1992) study which also supported our findings on types of drinks that males preferred hard drinks more than females.

Findings of the present study indicated that for both gender, enhancement was the first common motive, which was followed by social, coping, and conformity motives, respectively. This sequence is consistent with the four categories of drinking motives (Cooper, Russell, Frone, Mudar (1995) which start from internal and external positive reinforcement motives (drinking to enhance positive mood or well-being and drinking to obtain positive social rewards) and continue to internal and external negative reinforcement motives (drinking to reduce or regulate negative emotion and drinking to avoid social condemn or rejection), respectively. Our findings on drinking motives also support the Turkish literature. Delikaya (1999) studied high school students and Dur (1994) studied university students and both found that majority of students drink for enhancement reasons like for pleasant feeling, relaxation or fun and the less were drinking for negative reinforcement motives (coping-conformity) like to forget their problems, tension reduction or to fit in their peers.

A group of researchers (Copper, 1995, Carrigan, Samoluk and Stewart, 1998, Mooney, 1987 (cited in MacLatchy-Gaudet and Stewart, 2001) found that university students drink more in positively reinforcing situations, then in negatively reinforcing situations.

Brennan, Walfish and Aubuchon's (1986) summary about motives for alcohol consumption among college students showed that two general types of drinking motives emerged social purposes and emotional escape or relief. Kairouz, Gliksman, Demens and

Adalf (2002) found that university students generally drink for aesthetic reasons such as to enjoy the taste or to enhance meal and for social reasons such as to celebrate, to be sociable or polite. Findings of higher enhancement and social motives to drink can be related to age and current responsibilities of students. In terms of age they were no longer in adolescence but they were not yet adults either, and they were still students. Majority didn't earn money and still rely on family support. They don't have responsibilities other than studying. Therefore, they have more spare time to spend with their peers in different social situations and have many opportunities to drink. It is possible that when they grow older and carry social responsibilities (adult working environment and family life) they may use alcohol to cope with some problems. Conformity came the last among the BU students' motives to drink. It can be argued that this is unique for BU students who tend to be high in achievement and initiative. They are more used to taking leadership positions than simply conforming to the group.

Our current research found that males reported more alcohol consumption for social, coping and conformity motives. The largest gender difference was observed in conformity, while the smallest was observed in social motives. These results showed that our university students drink generally for positively reinforcement reasons (enhancement and social) like for pleasant feeling, exciting for fun than the negatively reinforced reasons (coping and conformity) like forget worries or problems. Stewart and Devine (2000) argued that enhancement motives are strongly related to heavy drinking situations and similar arguments can be made for social motives (Carrigan et al., 1998). Our subjects reported more enhancement and social motives which may in lead turn to more drinking related problems.

Our findings on gender differences were similar with the literature. Park and Levenson's (2002) study showed that men rely on to cope more than women. Lo (1995) and Read, Wood, Davidoff, Campell (2002) found that men were more susceptible to peer influence than were women. Barnes and Welte (1986), Oostveen, Knibbe and Vries (1996) showed that males conform more readily to their perception of group norms than do females but Berkowitz and Perkins (1986) reached the opposite conclusion that females are more affected by drinking styles of peers than females because of their higher levels of sensitivity to environmental factors. Carrigan and his friends (1998) found that university men tend to drink more frequently than women in positive social contexts.

The current study did not find difference in tension reduction motives (coping) but it was found that students from senior level of academic progress had significantly higher enhancement and social reasons than prep students. It can be argued that prep students are new in their academic settings and they may not yet have established social networks (friendships) in campus, thus they may not have opportunities like senior students to involve in drinking occasions with peers. On the other hand, Rutledge and Sheer (2001) found that during sophomore, junior and senior years, however, tension reduction motives were stronger for males than females.

In our study differences found in drinking motives by type of residence were too small and not unfavorable for dormitory students. Students who lived alone had the highest conformity means and students who lived with friends had the highest social means. It could be that unlike living alone or with friends where there may be no supervisory guidance, other living conditions, including dormitories, do not encourage drinking motives. Unlike us, some researchers like Wechsler, Lee and Nelson (2001) showed that

students who live campus drank heavily for social reasons because they have more friends and more likely to be members of fraternities, sororities or athletic teams.

The current study indicated that motives changed by GPAs of subjects. Results indicated that students who had high GPAs had significantly higher enhancement reasons for drinking than students who had middle, low and top levels of GPAs.

This study attempted to examine the influence of education on drinking motives. Results showed that students whose parents had low education had lower Enhancement and Social motives to drink than students whose parents had higher levels of education. There were no differences in coping and conformity reasons. These results indicate that when educational level of parents increase drinking for internal and external positive reinforcement reasons like drinking to enhance positive mood or well-being and drinking to obtain positive social rewards increased too. High levels of parental education may increase students' opportunity for social occasions where drinking is allowed.

Social activities were also examined in relations to drinking motives. Results showed no statistically significant differences among levels of participation in student clubs but students who were very active in other activities out of schools had significantly higher Enhancement reasons than students who were largely inactive. This probably relates to the contexts where activities take place. Since the differences were between the two poles of the activity level, extreme engagement in a social activity outside the university may also increase one's need for additional fun and relaxation.

Findings on how perception of alcohol influence drinking motives made common sense. Except for conformity reasons trends were almost linear that motives decreased as

perception of harm increased. Since perception of harm can be manipulated, increasing awareness on harmful effects of alcohol can be targeted at university campus. This result should be interpreted with the argument of Gerald and colleagues (1996) about adolescents' risky behavior. They stated that adolescent do not seem to relate their knowledge about risks to their own risk-taking behaviors, whether they involve smoking, drinking, driving, or sex. Adolescents know the risks of using substances; they know it can affect their physical and mental health, their families, and future plans. Yet this knowledge does not seem to discourage them from engaging in risk-taking behaviors. Therefore, one needs to further explore whether information that can be provided at campus are transferable to changes in perceptions and attitudes regarding harmful effects of alcohol.

In terms of amount of alcohol consumed, most of the researchers (Cox, Schippers, and Klinger, 2002; Perkins, 1999; Kairouz, Gliksman, Demers and Adalf, 2002; Lo, 1995; Neve, Drop, Lemmens and Swinkels, 1996; Bilir and Magden, 1984; Uslanmaz, 1993; Delikaya, 1999; Çakıroğlu, 1998; Mangır, Aral and Boran, 1992; Tot, Yazıcı, Erdem, Bal, Metin and Çamdeviren, 2002; Akvardar, Demiral, Ergör, and Ergör, 2002) found that males were much more likely than females to consume alcohol more often in great quantities and with more immediate consequences. Results of current research are the same that male students drank more alcohol than female students. It indicates that traditional gender roles are saved among our students.

Unlike, what one may expect, levels of GPA did not matter in amount of alcohol consumed. This result is consistent with McCabe (2002) study that found low academic performance, as measured by GPA, was not a significant risk factor for heavy episodic drinking and argued, instead, academic performance measured by missed classes and late

assessments due to drinking was a significant risk factor for heavy and frequent binge drinking. It is indeed possible that students who experience academic difficulties were simply absent during our data collection. It is also possible that decapacitating influence of alcohol on academic performance was not yet experienced by most of the drinking BU students who tend to be high in academic capacity.

Level of academic progress was important in the amount of alcohol consumption. Prep and freshman students used much less alcohol than students who were late in graduation. Some researchers (Klein, 1994; Saltz and Elandt, 1986 both cited in Wechsler et al., 1998) claimed that students tend to drink and experience more drinking consequence during their first 2 years in college and than "mature out." This was not supported with our findings. Turissi, Padilla and Kimberly (2002), on the other hand, found a different result that freshmen are less likely to experience drinking related consequences than upperclassmen. This was in line with our study. Students from 9 and above semesters were older than others and very close to adult social environments with more opportunities to drink. In addition, these students may use drinking to cope with something like bad grades in school, anxiety of being unsuccessful and responsibilities although they did not differ from other regular attended students in drinking motives. On the other hand, new students may have less peers to participate in drinking groups and may have less reasons to do so.

Another line of research existed on type of residence and its relationships with alcohol consumed. Researchers (Wechsler, Dowdall, Davenport and Castillo, 1995; Wechsler, Lee, Kuo, Lee; 2000; Harford, Wechsler and Muthen, 2002; Harford and Muthen, 2001; Baer, Kivlahan and Marlatt, 1995; O'Hare, 1990) found that differences in drinking rates depend on the living arrangements. They showed that students who live in campus or independently off campus tend to drink more than students living at home with their

parents. Also they argued that alcohol and other drug use rates tend to increase as students leave their homes and move to on campus and off-campus college residence. But the current study, didn't provide any support for negative influences of any residential type. Although the highest means were obtained by students who live with friends and lowest means were obtained by those who live with their families, differences were not statistically significant. It seems that students in our sample did not drink significantly more because were they are far from their personal supervisory relations. This could be due to their internalized control or presence of other social forces that compensate for lacking family guidance. It could also be that students maintain their familial contact and support regardless of where they live.

Harford and Muthen (2001) found that parental education was related to drinking frequency but not to average consumption or frequency of heavy drinking. They found that when educational level of parents increased drinking frequency increased, too. In Turkish literature Çakıroğlu (1998) reported that educational level of parents didn't have a significant effect on drinking but subjects who had university graduated parents drank more than subjects who had low and middle level educated parents. Mangır, Aral, and Boran (1992) found that students who had university graduated parents drank more than students who had parents with primary school or high school graduates. As educational level of parents increased, drinking level of subjects increased, too. Tot, Yazıcı, Erden, Bal, Metin and Çamdeviren (2002) reported that frequency of drinking alcohol increased by educational level of mothers. In the same line with these findings, our study indicated that students whose parents had low education consumed significantly lower amount of alcohol than students whose parents had middle and high education. Trends were the similar for both parents. This interesting finding may be because families with low education may hold stronger beliefs that discourage if not ban, drinking, but families with

high level of education are more liberal with regards to drinking for enhancement and social reasons, in particular. However, this explanation remains as a speculation without a more direct empirical support.

Uslanmaz (1993) reported that students who participated in leisure activities like sports and music consumed less alcohol than students who did not. The current research indicated the opposite. Students who were very active in students clubs had significantly more amount of alcohol consumption than students who were barely active in students clubs. Likewise, students who were inactive in other activities in outside the campus had significantly less amount of alcohol consumption. These results indicate that very active involvement in campus as well as off campus activities led to involvement in other social circumstances that students find more opportunities to drink.

Influence of perceived harm of alcohol on amount of alcohol consumed was similar to its influence on drinking motives. Amount of alcohol consumed increased as perceived harm of alcohol increased. This finding supports the importance of education of university students on impact of alcohol use. Universities need to place alcohol and other drug prevention programs at the top of their priority list in their strategic plan and must address the problems caused by student alcohol use. Campaigns about healthy life need to be supported as an alternative strategy, since educational programs could not be sufficient to change misbelieves about alcohol and other substances. Preventive studies have to be designed to show long term effects of alcohol consumption because typical length of university education is not long enough to experience such long term consequences.

Carrigan, Samoluk and Stewart (1998) hypothesized that university students drinks more frequently in positively reinforcing situation than in negatively reinforcing or tension

reduction situations. Mooney (1987, cited in MacLatchy-Gaudet and Stewart, 2001) pointed out that that for university men, drinking frequency was related to expectancies for increase social and physical pleasure, for university women drinking frequency was related to expectation for tension reduction. Stewart and Devine (2000) argued that enhancement motives are strongly related to heavy drinking situations and also it was argued similar for social motives (Carrigan et al., 1998). Findings of our research are consistent with some of the above research such that correlations between amount of alcohol consumed and drinking motives were positive and significant except for conformity motives. However, correlations were very similar for both gender. Our gender differences in general had to do with magnitude rather than patterns of relations between motives and amount of drinking. The largest correlations, were with enhancement, and the second largest correlations were with social motives. Although, correlations were lower, they were still significant in coping as well.

In terms of the demographic characteristics there were some differences between nondrinking students and students who are at risk for dependency. Results of this comparison should be carefully interpreted, since they were based on comparing extreme groups that are very likely to differ in many other respects. When compared to nondrinking group students at risk for alcohol dependency were mostly male rather than female. They were more likely to be from upper grades (mostly 3-4 semesters). They were more likely to come from families of parental loss and divorce, higher levels of education and occupation. They were more likely to be the single child and had more pocket money, date, and social activities. They perceive alcohol less harmful. However, students at risk were no different than nondrinkers in terms of academic success, type of residence, and family visits. These findings indicate that the BU student who is at risk for alcohol dependency come from higher status background, than the BU students who don't drink.

They may simply have more exposure and access to alcohol as well as more permissive parental attitudes regarding alcohol use. In terms of academic success our result is consistent with McCabe's (2002) finding that low academic performance, as measured by GPA, was not a significant risk factor for heavy drinking. Like he argued, if we measured academic performance by missed classes and late assessments we could have found significant relationship between low academic success and risky drinking.

Limitations of the Study

This study was limited to Boğaziçi University undergraduate students who may have different characteristics in comparison to graduate students. Most of the graduate students work outside as they study and they have more opportunities to be involve in adult places and drinking occasions than undergraduate students. Our study was also limited to BU students who may have unique behavioral or cultural characteristics in comparison to students of other Turkish universities. Thus generalization of the research results to other university populations may not be warranted.

This study could not equally represent all the university population. Some of the faculties were overrepresented like Faculty of Education and some of them were under represented like Faculty of Economics and Administrative Sciences. Therefore, despite all the efforts a sample that better compares the population could not be achieved.

All data were based on self-reports and collected during class hours and these may restrict the validity of findings. As a caution, the data were collected anonymously and there was no reason for students to provide misinformation.

And finally, data were collected during class hours, so the sample represented students who were attending classes. This may have excluded students with serious drinking problems who may not even attend the classes.

Suggestions for Future Research

Future research should reach a more representative group of BU students to understand their drinking motives and alcohol related characteristics especially in terms of underrepresented academic units. Similar studies could be conducted at other universities to compare the specific characteristics regarding alcohol use among Turkish university students.

Survey research with quantitative methodologies like the current one, needs to be complemented by clinical samples and with qualitative methodologies to better understand the dynamics underlying the alcohol consumption among university populations. Further research could collect data outside class settings, like university canteens and nearby cafes to reach students who don not regularly attend classes and may have more serious drinking problems.

The current study indicated that beliefs were the most common reason for students' nondrinking. Future research could focus on relation between religiosity and drinking behaviors.

Findings that students who are at risk for alcohol dependency tend to come more educated families with more social opportunities for their children need also further elaboration.

One wonders about the liberating influence of socioeconomic status on alcohol use.

The current research compared the demographic characteristics of extreme groups, namely nondrinkers and risk drinkers. Future studies could explore characteristics of social and moderate drinkers.

The current study just examined the alcohol use. Future studies could research other substances like tobacco and drugs among BU students.

And finally, this study indicated that perception of harm does indeed relate to less motivation and consumption of alcohol. Applied research is needed to identify what kinds of interventions are effective in changing perceptions of students as a preventive measure.

REFERENCES

- Akvardar, Y., Demiral, Y., Ergör, A., & Ergör, G. (2002) Dokuz Eylül Üniversitesi Tıp Fakültesi öğrenci, asistan ve doktorlarında sigara, alkol ve madde kullanımı, Ulusal Psikiyatri Kongresi, 22-27 Ekim, Marmaris.
- Baer, J.S. (2002). Student factors: Understanding individual variation in college drinking. Journal of Studies on Alcohol, 63, 40-54.
- Baer, J.S., Kivlahan, D.R., & Marlatt, G.A. (1995). High-risk drinking across the transition from high school to college. Alcoholism and Clinical Experimental Research, 19, 54-61.
- Barnes, G.M., & Welte, J.W. (1986). Patterns and predictions of alcohol use among 7-12th grade students in New York State. Journal of Studies on Alcohol, 47, 53-62.
- Berkowitz, A. D., & Perkins, H. W. (1986). Recent research on gender differences in collegiate alcohol use. Journal of American College Health, 36, 123-129.
- Bilir, Ş., & Mağden, D. (1984). Lise öğrencilerinin sigara, alkol ve ilaç alma alışkanlığı. Sağlık Dergisi, 58 (1-3), 17-28.
- Bradizza, C.M., Reifman, A., & Barnes, G.M. (1999). Social and coping reasons for drinking: Predicting alcohol misuse in adolescents. Journal of Studies on Alcohol, 60, 491-499

- Brennan, A.F., Walfish, S., & Aubuchon, P. (1986). Alcohol use and abuse in college students: I. A review of individual and personality correlates. International Journal of Addiction, 21, 449-475.
- Brown, S.A. (1985). Expectancies versus background in the prediction of college drinking patterns. Journal of Consulting and Clinical Psychology, 53, 123-130.
- Carey, K.B., & Correia, C.J. (1997). Drinking motives predict alcohol-related problems in college students. Journal of Studies on Alcohol, 58, 100-105.
- Carrigan, G., Samoluk, S. B., & Stewart, S. H. (1998). Examination of the short form of the Inventory of Drinking Situations (IDS-42) in a young adult university student sample. Behavior Research and Therapy, 36, 789-807.
- Christiansen, M., Vik. P. W., & Jarchow, A. (2002). College student heavy drinking in social contexts versus alone. Addictive Behaviors, 27, 393-404.
- Cooper, M.L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. Psychological Assessment, 6, 117-128.
- Cooper, M. L., Russell. M., Frone, M. R., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. Journal of Personality and Social Psychology, 69, 990-1005.
- Cooper, M. L., Russell, M., & George, W. H. (1988). Coping, expectancies, and alcohol abuse: A test of social learning formulations. Journal of Abnormal Psychology, 97, 218-230.

- Cooper, M.L., Russell, M., Skinner, J.B., & Windle, M. (1992). Development and validation of a three dimensional measure of drinking motives. Psychological Assessment, 6, 117-128.
- Coşkunol, H. (1996). Alkol bağımlılığı tanı ve tedavisi. İzmir: Ege Psikiyatri Yayınları.
- Cox, W. M., & Klinger, E. (1988). A motivational model of alcohol use. Journal of Abnormal Psychology, 97, 168-180.
- Cox, W.M., Schippers, G.M., & Klinger, E. (2002). Motivational structure and alcohol use of university students across four nations. Journal of Studies on Alcohol, 63, 280-285.
- Çakıroğlu, T. M. (1998). Bahkesir Üniversitesi'ne devam eden öğrencilerin alkol ve sigara kullanım durumları ve bunu etkileyen faktörlerin incelenmesi. Yayınlanmamış Yüksek Lisans Tezi, Ankara Üniversitesi, Ankara.
- Dur, Y.C. (1994). Bilkent Üniversitesi öğrencilerinin alkol kullanım özellikleri ve alkol kullanımını etkileyen bireysel ve psikososyal faktörler. Yayınlanmamış Yüksek Lisans Tezi, Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.
- Delikaya, H. (1999). Ankara şehir merkezinde bulunan beş lise öğrencilerinin sigara ve alkollü içki kullanma durumları. Yayınlanmamış Yüksek Lisans Tezi, Gazi Üniversitesi Sağlık Bilimleri Enstitüsü Kazaların Demografisi ve Epidemiyolojisi Anabilim Dalı, Ankara.
- Engs, R.C., & Hanson, D.J. (1990). Gender differences in drinking patterns and problems among college students: A review of the literature. Journal of Alcohol and Drug Education, 35, 36-47.

- Engs, R.C., Hanson, D.J. (1985). The drinking patterns and problems of college students: 1983. Journal of Alcohol and Drug Education, 31 (1), 65-84.
- Erol, N., Kılıç, C., Ulusoy, M., Keçeci, M., & Şimşek, Z. (1998) Türkiye ruh sağlığı profili raporu. Ankara. TC Sağlık Bakanlığı,
- Farber, P.D., Khavari, K.A., & Douglass, F.M. (1980). A factor analytic study of reasons for drinking: Empirical validation of positive and negative reinforcement dimensions. Journal of Consulting and Clinical Psychology, 48, 780-781.
- Gerrard, M., Gibbons, F. X., Benthin, A. C., & Hessling, R. M. (1996). A longitudinal study of the reciprocal nature of risk behaviors and cognitions in adolescents: What you do shapes what you think, and vice versa. Health Psychology, 15, 344-354.
- Goldstein, A. (1999). Mood for thought: The effects of mood, motives, and gender on the accessibility of alcohol outcome expectancies examined within an associative-network memory model. Unpublished Doctoral Dissertation, York University, Toronto, Ontario.
- Ham, L.S., & Hope, D.A. (2003). College students and problematic drinking: A review of the literature. Clinical Psychology Review, 23, 719-759.
- Hanson, D.J., & Engs, R.C. (1987). Religion and collegiate drinking problems over time. Psychology, 24, 10-12.
- Harford, T.C., & Muthen, B.O. (2001). Alcohol use among college students: The effects of prior problem behaviors and change of residence. Journal of Studies on Alcohol, 62, 306-312.

- Harford, T.C., Wechsler, H., & Muthen, B.O. (2002). The impact of current residence and high school drinking on alcohol problems among college students. Journal of Studies on Alcohol, 63, 27-46.
- Hester, R. K., & Sheeby, N. (1990). The grand unification theory of alcohol abuse: It's time to stop fighting each other and start to working together. In Engs, R.C (Ed), Controversies in the addiction field (pp. 36-41). Dubuque, Iowa: Kendall Hunt.
- Hensley, L.G. (2001). College student binge drinking: Implications for constructivist approach to college counseling. Journal of College Counseling, 4, 100-112.
- Johnson, R.C., Schwitters, S.Y., Wilson, L.R., Nagoshi, C.T., & McClearn, G.E. (1985). A cross-ethnic comparison of reasons given for using alcohol, not using alcohol, or ceasing to use alcohol. Journal of Studies on Alcohol, 46, 283-288
- Kairouz, S., Gliksman, L., Demers, A., & Adlaf, E.D. (2002). For all these reasons, I do... drink: A multilevel analysis of contextual reasons for drinking among Canadian undergraduates. Journal of Studies on Alcohol, 63, 600-609.
- Ketcham, P. L. (1998). The impact of gender-role identity, gender ideology and drinking motivations on binge drinking behavioral outcomes. Unpublished Doctoral Disertation, Syracuse University.
- Lecci, L., MacLean, M.G., & Croleau, N. (2002). Personal goals as predictors of college student drinking motives, alcohol use and related problems. Journal of Studies on Alcohol, 63, 620-631.

- Lewis, B. A., & O'Neill, H. K. (2000). Alcohol expectancies and social deficits relating to problem drinking among college students. Addictive Behaviors, 25, 295-299.
- Lo, C. (1995). Gender differences in collegiate alcohol use. Journal of Drug Issues, 25, 817-836.
- McCabe, S.E. (2002). Gender differences in collegiate risk factors for heavy episodic drinking. Journals of Studies on Alcohol, 63, 49-56.
- MacLachy-Gaudet, H. A., & Stewart, H. S. (2001). The context-specific positive alcohol outcome expectancies of university women. Addictive Behaviors, 26, 31-49.
- Martin, C.M., & Hoffman, M.A. (1993). Alcohol expectancies, living environment, peer influence, and gender: A model of college-student drinking. Journal of College Student Development, 34, 201-204.
- Mangır, M., Aral, N., & Boran, G. (1992). Yurtlarda kalan üniversite öğrencilerinin sigara ve alkol kullanımlarının incelenmesi. Ankara. Ankara Üniversitesi Ziraat Fakültesi Yayınları.
- Neve, R. J. M., Drop, M. J., & Lemmens, P. H., & Swinkels, H. (1996). Gender differences in drinking behavior in the Netherlands: Convergence or stability? Addiction, 91, 357-373.
- O'Hare, T. (1990). Drinking in college: Consumption patterns, problems, sex differences, and legal drinking age. Journal of Studies on Alcohol, 51, 536-541.
- O'Hare, T., & Sherrer, M.V. (1997). Drinking problems, alcohol expectancies, and drinking contexts in college first offenders. Journal of Alcohol and Drug Education, 43, 31-45.

- Oleckno, W.A., & Blacconiere, M.J. (1991). Relationship of religiosity to wellness and other health-related behaviors and outcomes. Psychological Reports, 68, 19-826.
- Oostven, T., Knibbe, R., & Vries, H. (1996). Social influence on young adults' alcohol consumption: Norms, modeling, pressure, socializing, and conformity. Addictive Behaviors, 21, 187-197.
- Park, C.L., & Levenson, M.R. (2002). Drinking to cope among college students: Prevalence, problems and coping process. Journal of Studies on Alcohol, 63, 486-498.
- Perkins, H.W. (1999). Stress motivated drinking in collegiate and postcollegiate young adulthood: Life course and gender patterns. Journal of Studies on Alcohol, 60, 219-227.
- Perkins, H.W. (1992). Gender patterns in consequences of collegiate alcohol abuse: A 10-year study of trends in an undergraduate population. Journal of Studies on Alcohol, 53, 458-462.
- Presley, C.A., Meilman, P.W., & Leichter, J.S. (2002). College factors that influence drinking. Journal of Studies on Alcohol, 14, 82-90.
- Pullen, L.M. (1994). The relationships among alcohol abuse in college students and selected psychological/demographic variables. Journal of Alcohol and Drug Addiction, 40, 36-50.
- Read, J. P., Wood, M. D., Davidoff, M.C., & Campell, J. F. (2002). Making transition from high school to college: The role of alcohol related social influence factors in students' drinking. Substance Abuse, 23, 53-65.

- Richardelli, L. A., Connor, J. P., Williams, R. J., & Young, R. M. (2001). Gender stereotypes and drinking cognitions as indicators of moderate and high risk drinking among young women and men. Drug and Alcohol Dependence, 61, 129-136.
- Richardelli, L. A., & Williams, R. J. (1997). Gender differences in drinking and alcohol expectancies as modified by gender stereotypes and living arrangements. Journal of Alcohol and Drug Use, 43, 8-17.
- Rutledge, P. C., & Sher, K.J. (2001). Heavy drinking from the freshman year into early young adulthood: The roles of stress, tension-reduction drinking motives, gender and personality. Journal of Studies on Alcohol, 62, 457-466.
- Senchack, M., Leonard, K.E., & Greene, B.W. (1998). Alcohol use among college students as a function of their typical social drinking context. Psychology of Addictive Behavior, 15, 45-51.
- Schall, M., Kemeny, A., & Maltzman, I. (1992). Factors associated with alcohol use in university students. Journal of Studies on Alcohol, 53, 122-136.
- Stewart, H. S., & Devine, H. (2000). Relationship between personality and drinking motives in young adults. Personality and Individual Differences, 29, 495-511.
- Stewart, H. S., Loughlin, H. M., & Rhyno, E. (2001). Internal drinking motives mediate personality domain-drinking relations in young adults. Personality and Individual Differences, 30, 271-286.

- Stewart, H. S., & Zeitlin, S.B. (1995). Anxiety sensitivity and alcohol use motives. Journal of Anxiety Disorder, 9, 299-240.
- Stewart, H. S., Zeitlin, S. B., & Samoluk, S. B. (1996). Examination of a three-dimensional drinking motives questionnaire in young adult university student sample. Behavior Research and Therapy, 34, 61-71.
- Strizke, W. G., & Butt, J. C. (2001). Motives for not drinking alcohol among Australian adolescents: Development and initial validation of a five-factor scale. Addictive Behavior, 26, 633-649.
- Templin, D.P., & Martin, M. J. (1999). The relationship between religious orientation , gender, and drinking patterns among catholic college students. College Student Journal, 4, 68-77.
- Tot, Ş., Yazıcı, K., Yazıcı, A., Erdem, P., Bal, N., Metin, Ö., & Çamdeviren, H. (2002). Mersin Üniversitesi öğrencilerinde sigara ve alkol kullanım yaygınlığı ve ilişkili özellikler. Anadolu Psikiyatri Dergisi, 3, 227-231.
- Turrisi, R., Padilla, K.W., & Kimberly, A. (2000). College student drinking: An examination of theoretical models of drinking tendencies in freshmen and upperclassmen. Journal of Studies on Alcohol, 61, 598-602.
- Thombs, D. L., Wolcott, B. J., & Farkash, L. G. E. (1997). Social contex, perceived norms and drinking behavior in young people. Journal of Substance Abuse, 9, 257-267.

Uslanmaz, S. (1993). Ankara şehir merkezindeki lise öğrencilerinin sigara ve alkol kullanımının araştırılması. Çocuk Sağlığı ve Eğitimi Programı Uzmanlık Tezi. Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.

Wechsler, H., Davenport, A., Dowdall, G.W., & Moeykens, B. & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of students at 140 campuses. Journal of American Medical Association, 272, 1672-1677.

Wechsler, H., Dowdall, G.W., Davenport, A., & Castillo, S. (1995). Correlates of college student binge drinking. American Journal of Public Health, 85, 921-926.

Wechsler, H., Dowdall, G.W., Maenner, G., Gledhill-Hoyt, J., & Lee, H. (1998). Changes in binge drinking and related problems among American college students between 1993 and 1997. Journal of American College Health, 47, 57-68.

Wechsler, H., Lee, J.E., Kuo, M., & Lee, H. (2000). College binge drinking in the 1990s': A continuing problem. Journal of American College Health, 48, 199-210.

Wechsler, H., Lee, J.E., & Nelson, T.F. (2001). Drinking levels, alcohol problems and second hand effects in substance-free college residences: Results of a national study. Journal of Studies on Alcohol, 62, 23-31.

Williams, R.J., & Ricciardelli, L. A. (1999). Gender congruence in confirmatory and compensatory drinking. The Journal of Psychology, 133, 323-331.

Yıldız, A. (1984). Alkolizmde sosyal faktörler. Uzmanlık Tezi. Cerrahpaşa Tıp Fakültesi

Psikiyatri Anabilim Dalı, İstanbul.

APPENDIX A**REVISED DRINKING MOTIVES QUESTIONNAIRE**

Drinking Motives Questionnaire

Response Scale

Never
Some of the time
About half of the time
Most of the time
Almost always

Instructions (for interviewer-administered format)

Now I am going to read list of reasons people give for drinking alcohol. There are right or wrong answer to these questions. We just to know about the reasons why you usually drink when you do.

Thinking now of all the times you drink...

Enhancement Motives

How often do you drink because you like the feeling?
How often do you drink because it's exciting?
How often do you drink to get high?
How often do you drink because it gives you a pleasant feeling?
How often do you drink because it's fun?

Coping Motives

How often do you drink to forget your worries?
How often do you drink because it helps you when you feel depressed or nervous?
How often do you drink to cheer up when you're in a bad mood?
How often do you drink because you feel more self-confident or sure of yourself?
How often do you drink to forget about your problems?

Conformity Motives

How often do you drink because your friends pressure you to drink?
How often do you drink so that others won't kid you about not drinking?
How often would you say you drink to fit in with a group you like?
How often do you drink to be liked?
How often do you drink so you won't feel left out?

Social Motives

How often do you drink because it helps you enjoy a party?
How often would you say you drink to be sociable?
How often do you drink because it makes social gatherings more fun?
How often do you drink because it improves parties and celebrations?
How often do you drink to celebrate a special occasion with friends?

APPENDIX B

THE TURKISH FORM OF REVISED DRINKING MOTIVES

QUESTIONNAIRE

İçme Nedenleri Anketi

Yönerge: Aşağıda insanların alkol kullanmak için verdikleri nedenlerin bir listesi var. Onları okumanızı ve her birine size uygun olan dereceyi vermenizi istiyoruz. Burada doğru ya da yanlış yanıt yoktur. Tüm bilmek istediğimiz, içtiğiniz zamanlarda genel olarak hangi nedenlerle içtiğinizdir.

İçki içtiğiniz tüm zamanları şöyle bir düşünürseniz....

Derecelendirme

- Hiçbir zaman
- Ara sıra
- Bazı zamanlar
- Çoğunlukla
- Hemen her zaman

Aşağıdaki nedenlerle, hangi sıklıkta içiyorsunuz?

	Hiçbir zaman	Ara sıra	Bazı zamanlar	Çoğunlukla	Hemen her zaman
1. Verdiği duygudan hoşlandığınız için	1 ()	2 ()	3 ()	4 ()	5 ()
2. Heyecanlı olduğu için	1 ()	2 ()	3 ()	4 ()	5 ()
3. Kafayı bulmak için	1 ()	2 ()	3 ()	4 ()	5 ()
4. Size hoş bir duygu verdiği için	1 ()	2 ()	3 ()	4 ()	5 ()
5. Eğlenceli olduğu için	1 ()	2 ()	3 ()	4 ()	5 ()
6. Dertlerinizi unutmak için	1 ()	2 ()	3 ()	4 ()	5 ()
7. Depresif ya da gergin olduğunuz için	1 ()	2 ()	3 ()	4 ()	5 ()
8. Bozuk moralinizi düzeltmek için	1 ()	2 ()	3 ()	4 ()	5 ()
9. Kendinize daha fazla güvenmek ya da kendinizden daha emin olmak için	1 ()	2 ()	3 ()	4 ()	5 ()
10. Sorunlarınızı unutmak için	1 ()	2 ()	3 ()	4 ()	5 ()
11. Arkadaşlarınız içmeniz için baskı yaptığı için	1 ()	2 ()	3 ()	4 ()	5 ()
12. Başkaları içmediğiniz için dalga geçmesin diye	1 ()	2 ()	3 ()	4 ()	5 ()
13. Hoşlandığınız bir gruba uyum göstermek için	1 ()	2 ()	3 ()	4 ()	5 ()
14. Sizden hoşlansınlar diye	1 ()	2 ()	3 ()	4 ()	5 ()
15. Kendinizi tek başına kalmış hissetmemek için	1 ()	2 ()	3 ()	4 ()	5 ()
16. Bir partiden keyif almanıza yardım ettiği için	1 ()	2 ()	3 ()	4 ()	5 ()
17. İnsanlarla yakın olmak için	1 ()	2 ()	3 ()	4 ()	5 ()
18. Sosyal birliktelikleri daha eğlenceli kıldığı için	1 ()	2 ()	3 ()	4 ()	5 ()
19. Parti ve kutlamaları daha zevkli yaptığı için	1 ()	2 ()	3 ()	4 ()	5 ()
20. Arkadaşlarla özel bir olayı kutlamak için	1 ()	2 ()	3 ()	4 ()	5 ()

APPENDIX C

DEMOGRAPHIC FORM

BİLGİ FORMU

YÖNERGE: Boğaziçi Üniversitesi lisans öğrencilerinin alkol kullanımı ile ilgili bir uzmanlık tezi araştırması yürütmekteyiz. Araştırma sonuçlarını üniversitede öğrencilere verilen hizmetlerin etkinliğini artırmak üzere kullanmak istiyoruz. Sizden bu formu doldurarak araştırmaya katılmanızı rica ediyoruz. Verdiğiniz yanıtlar bireysel olarak değil, herkes için birlikte değerlendirilecektir. Formun size ait olduğu bilinmeyeceğinden, aşağıdaki soruları açıkça yanıtlayabilirsiniz. Katılımınız için teşekkür ediyoruz.

1) Cinsiyetiniz ☐ Kız ☐ Erkek

2) Doğduğunuz yıl _____

3) Medeni durumunuz ☐ Bekar ☐ Evli

4) Fakülteniz

☐ Fen Edebiyat Fakültesi

☐ İktisadi ve İdari Bilimler Fakültesi

☐ Eğitim Fakültesi

☐ Mühendislik Fakültesi

☐ Uygulamalı Bilimler Yüksekokulu

☐ Yabancı Diller Yüksekokulu

☐ Meslek Yüksekokulu

Bölümünüzün adı _____

Genel not ortalamanız (GNO)

☐ 0-1.50

☐ 1.50-2.00

☐ 2.00-2.50

☐ 2.50-3.00

☐ 3.00-3.50

☐ 3.50-4.00

Hangi düzeyde ya da kaçınıcı dönemde okuyorsunuz?

☐ İleri düzey hazırlık ☐ Orta düzey hazırlık ☐ Başlangıç düzey hazırlık

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7-8

☐ 9-10

☐ 11 ve üzeri

8) Öğretim döneminde kimlerle yaşıyorsunuz?

☐ Ailemle

☐ Yurtta

☐ Akrabalarımle

☐ Arkadaşlarımle

☐ Yalnız

☐ Kardeşim/Ablam/Ağabeyimle

☐ Diğer, belirtiniz:.....

9) Yurtta kalıyorsanız, hangisinde? (Yurtta kalmıyorsanız, sonraki soruya geçiniz.)

☐ 1. Kız Yurdu

☐ 1. Erkek Yurdu

☐ Hisar Erkek Yurdu

☐ 2. Kız Yurdu

☐ 2. Erkek Yurdu

☐ Uçaksavar

☐ Süperdorm

☐ Kilsyos yurdu

☐ Üniversite dışı bir yurtta

10) Eğer anne babanız ile kalmıyorsanız ne sıklıkta eve gidiyorsunuz?

(Ailenizle yaşıyorsanız, sonraki soruya geçiniz.)

☐ Haftada birkaç kere

☐ Her hafta sonu

☐ Birkaç haftada bir

☐ Birkaç ayda bir

☐ Ara dönem tatillerinde

☐ Yalnız yazları

☐ Hiç

11) Anne-babanız hayatta mı?

☐ Evet

☐ Annem hayatta, babamı kaybettik

☐ Babam hayatta, annemi kaybettik

12) Anne-babanız birlikte mi yaşıyorlar?

☐ Evet

☐ Hayır

13) Anne-babanız ayrı ise siz kiminle yaşıyorsunuz?

☐ Annemle

☐ Babamla

☐ Kardeşlerimle

☐ Akrabalarımle

☐ Arkadaşlarımle

☐ Yalnız

☐ Diğer, belirtiniz:.....

LÜTFEN ARKA SAYFAYI ÇEVİRİNİZ

14) Anne-babanızın eğitim durumu nedir?

	Anne	Baba
a) Okur-yazar değil	()	()
b) Okur-yazar (ilkokul mezunu değil)	()	()
c) İlköğretim terk	()	()
ç) İlkokul mezunu	()	()
d) Ortaokul terk	()	()
e) Ortaokul mezunu	()	()
f) Lise terk	()	()
g) Lise mezunu	()	()
h) Üniversite terk	()	()
ı) Üniversite mezunu	()	()
i) Yüksek lisans terk	()	()
j) Yüksek lisans mezunu	()	()
k) Doktora terk	()	()
l) Doktora mezunu	()	()

15) Anneniz çalışıyor mu?

() Evet

() Hayır

16) Babanız çalışıyor mu?

() Evet

() Hayır

17) Anne ve babanız ne iş yapıyor?

	Anne	Baba
a) Ev kadını / işsiz	()	()
b) Sanayici, tüccar, toprak sahibi	()	()
c) Küçük esnaf / zanaatkar	()	()
d) Doktor, avukat, mühendis, öğretim üyesi	()	()
e) Memur, öğretmen, hemşire, teknisyen	()	()
f) Üst düzey yönetici	()	()
g) Ordu mensubu	()	()
h) İşçi / yardımcı hizmetler	()	()
ı) Çiftçi	()	()
i) Emekli	()	()
j) Diğer, belirtiniz:.....	()	()

18) Sizce aşağıdakilerden hangisi ailenizin ekonomik durumunu yansıtıyor?

() Düşük

() Orta

() Yüksek

19) Okul masrafları dahil elinize ayda ne kadar para geçiyor?

.....

20) Sizin dışınızda ailenizde okuyan kaç kişi var?

21) Okul masraflarınızı nasıl karşılıyorsunuz? (Birden fazla işaret olabilir.)

() Ailemden destek alıyorum

() Burs alıyorum

() Akrabalarımın destek alıyorum

() Çalışıyorum

() Diğer, belirtiniz:.....

22) Arkadaş çevrenizi nasıl tanımlarsınız?

() Çok arkadaşım var

() Yeteri kadar arkadaşım var

() Az arkadaşım var

() Hiç arkadaşım yok

LÜTFEN ARKA SAYFAYI ÇEVİRİNİZ

23) Çıktığınız biri (kız ya da erkek arkadaşınız) var mı? () Evet () Hayır

24) Üniversitedeki kulüp çalışmalarında ne kadar etkinsiniz?

() Oldukça () Orta derecede () Çok az () Hemen hiç

25) Üniversite dışındaki sosyal-kültürel çalışmalarda ne kadar etkinsiniz?

() Oldukça () Orta derecede () Çok az () Hemen hiç

26) Alkolün etkileri hakkındaki hangi düşünceye katılıyorsunuz?

() Çok zararlıdır
() Zararlıdır
() Biraz zararlıdır
() Zararsızdır
() Bilmiyorum

27) İlk içkinizi içtiğinizde kaç yaşındaydınız?

28) İlk içkinizi hangi ortamda içtiniz?

() Hiç içmedim
() Evde ailemle
() Barda arkadaşlarımla
() Evde arkadaşlarımla
() Bir toplantıda / bir davette
() Okulda
() Diğer, belirtiniz:.....

29) Genellikle kimlerle birlikte içersiniz?

() Hiç içmem
() Anne babamla
() Kız arkadaşlarımla
() Erkek arkadaşlarımla
() Kız ve erkek arkadaşlarımla
() Kız / erkek arkadaşım
() Yalnız
() Diğer, belirtiniz:.....

30) İçki içtiğinizde genellikle hangi alkollü içkileri içersiniz? (Birden fazla işaret olabilir)

() İçki içmem
() Bira
() Şarap
() Karışık içkiler
() Sert içkiler (rakı, votka, cin, konyak, viski, vb.)
() Diğer, belirtiniz:.....

31) Ailenizde günlük ya da olağan bir sofrada içki içilir mi?

() Evet () Hayır

32) Ailenizde alkol ile ilgili bir sorunu olan var mı? Varsa kim? (Birden fazla işaret olabilir)

() Yok () Var, annemin () Var, babamın
() Var, kardeşlerimin () Var, akrabalarımın

LÜTFEN ARKA SAYFAYI ÇEVİRİNİZ

UYARI: Eğer içki içiyorsanız alttaki soruyu atlayarak 34. soruyla devam ediniz.

33) Hiç içki içmemenizin özel bir nedeni var mı? (Birden fazla işaret olabilir)

- ☐ Tadından / kokusundan hoşlanmıyorum
- ☐ Arkadaşlarım içmiyor
- ☐ Bütçem elvermiyor
- ☐ Bana keyif vermiyor
- ☐ Çevremde pek içen yok
- ☐ İnançlarıma ters düşüyor
- ☐ Yetiştığım çevre izin vermiyor
- ☐ Sağlığımı olumsuz etkilemesin diye
- ☐ Bıraktığı duygudan hoşlanmıyorum
- ☐ Kötü etkilerini yakından gördüm
- ☐ Diğer, belirtiniz:.....

UYARI: Eğer hayatınızda bir kere bile olsa içki içtiyseniz formun bundan sonraki kısmını doldurmaya devam ediniz, aksi takdirde doldurmayınız.

Alkol ile ilgili sorularınız ya da yardım almak için şu numaraları arayabilirsiniz.

AMATEM: (0 212) 660 00 26

YENİDEN EĞİTİM VE SAĞLIK DERNEĞİ: (0 212) 292 99 90

34) İçmeye başlama nedeniniz neydi? (Birden fazla işaret olabilir)

- () Merak ettiğimden
 () Arkadaşlarımın baskısı
 () Bıraktığı hoş duygular
 () İçilen bir ortamda büyüdüm
 () Sınav kaygısı
 () Dertlerimi unutup rahatlamak
 () Çekici görünmek
 () Dikkatimi toplamak
 () Çevremdeki sorunlardan uzaklaşmak
 () Kendime olan güvenimi artırmak
 () Diğer, belirtiniz:.....

35) Ne sıklıkla içki içersiniz?

- () Yılda bir iki kere
 () Ayda bir iki kere
 () Haftada bir iki kere
 () Her gün

36) İçki içtiğiniz günde ortalama olarak alkol içeren kaç tane standart içki* alıyorsunuz?

- () 1
 () 2
 () 3
 () 4
 () 5
 () 6 ya da daha fazla

37) Ne kadar sıklıkla bir keresinde 6 ya da daha fazla içki içtiniz?

- () Hiç içmedim
 () En fazla yılda bir
 () En fazla ayda bir kadar
 () Haftada bir
 () Her gün

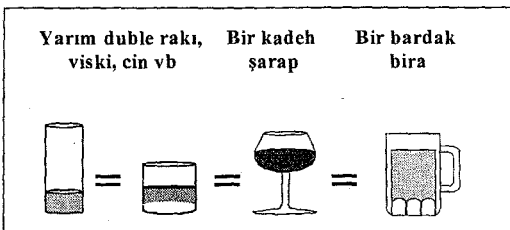
38) En son ne zaman içki içtiniz?

- () Yaklaşık 1 yıl önce
 () Yaklaşık 1 ay önce
 () Geçen hafta
 () Bugünlerde

39) Aynı etkiyi sağlayabilmek için her zamankinden fazla içmek zorunda olduğunuzu hissettiğiniz oldu mu?

- () Evet () Hayır

* Bir Standart İçki



LÜTFEN ARKA SAYFAYI ÇEVİRİN

40) Hiç ailenizden / akrabalarınızdan biri, bir arkadaşınız ya da bir sağlık uzmanı içki kullanımınız konusunda kaygısını dile getirdi ya da içki miktarını azaltmanızı önerdi mi?

() Evet

() Hayır

41) İçki nedeniyle aşağıdaki sorunları hiç yaşadığınız oldu mu?

	Evet	Hayır
Karaciğer hastalığı ya da sarılık	()	()
Mide hastalığı ya da kan kusma	()	()
Ayakların karıncalanması ya da uyuşma	()	()
Pankreatitis	()	()
<u>İçki içmediğiniz zaman dahi</u> hafıza sorunları	()	()
Duygusal sorunlar	()	()
Diğer, belirtiniz:.....		

42) Bu sorunlara neden olduğunu anladıktan sonra içmeye devam ettiniz mi?

() Evet

() Hayır

43) İçki içmeyi reddedemeyeceğinize ilişkin bir düşünceniz ya da başka bir şey düşünemeyecek kadar içki içmeye karşı güçlü bir arzunuz oldu mu?

() Evet

() Hayır

44) İçki içmeme, azaltma ya da kontrol etme konusunda bir sorununuz oldu mu?

() Evet

() Hayır

45) İçki kullanmanız nedeniyle işinizi ve sporunuzu yapmak ya da arkadaşlarınızı görmek gibi önemli etkinliklerinizi gerçekleştiremediğiniz ya da büyük oranda azalttığınız bir döneminiz oldu mu?

() Evet

() Hayır

46) İçkiyi bırakmanız ya da azaltmanız hiç şu sorunları yaşamınıza neden oldu mu?

	Evet	Hayır
a) Titremeler (ellerin titremesi)	()	()
b) Uyuyamama	()	()
c) Terleme	()	()
d) Kalbin hızlı atması	()	()
e) Mide ağrıları	()	()
f) Baş ağrıları	()	()
g) Halsizlik	()	()
h) Olmayan şeyleri görme ya da duyma	()	()
i) Nöbet ya da tutulmalar	()	()
j) Diğer, belirtiniz:.....		

APPENDIX D

HANDOUT ON ALCOHOL

Alkolle ilgili
bilmek istedikleriniz
varsa,

bu broşürü okuyun...

Bu broşür



tarafından hazırlanmıştır ve
Boğaziçi Üniversitesi
Öğrenci Rehberlik ve Psikolojik Danışmanlık Merkezi (BÜREM)
tarafından ücretsiz dağıtılır.

ALKOLÜ TANIMAK GEREK...

Alkol sık ve yaygın olarak kullanılan yasal bir madde. İnsanlık tarihi boyunca da kullanımı olmuştur. İnsanlar alkolü kimi zaman bir gıda, kimi zaman ise bir eğlence aracı olarak görmüşlerdir. Eski çağlarda dini törenlerde alkolün yeri büyüktür.

Ancak bilinen başka bir gerçek ise, alkolün bedene birçok zarar verdiği ve bağımlılık oluşturabileceğidir. Bu nedenle alkolün etkileri konusunda bilgilenmek çok önemlidir. Alkolün bedenimizde nasıl etkilediği ve etki özellikleri günlük yaşamımızda karşılaştığımız alkolle ilgili sorunları yaşamamak için bize yol gösterici olacaktır.

Alkol yasal bir madde olduğu için aynı zamanda ticari bir araçtır. Ticari firmalar kendi mallarını satmak için farklı yollara başvurabilmektedir. Bunlar arasında en sık rastlanılanı alkolün olumsuz etkilerini küçültmeye çalışma eğilimidir. Örneğin, ülkemizde uzun yıllar biranın bağımlılık yapmayacağı ve alkollü içkiler sınıfında değerlendirilmemesi gerektiği ileri sürülmüştür. Bu nedenle alkol hakkında tarafsız bilginin önemi büyüktür.

Alkol kimi zaman bir imaj aracı olarak görülmekte, böylece satışın artırılmasına uğraşılmaktadır. Soğukkanlı, erkeksi, maceracı... Ticari firmalar bunlar gibi birçok imajı kendi ürünleri ile özdeşleşmesini sağlamaktadır.

Biz de alkolü çeşitli yaşantılarımızla özdeşleştiririz. Örneğin, kimine göre alkolsüz eğlence olmaz. Kimine göre alkolle rahatlamak gereklidir. Bazıları dertlerini alkolle unutabileceklerine inanır.

Alkole tarafsız ve bilimsel gözle bakmak çok önemlidir. Alkol hayatımızda. Ama hayatımız alkol olmasın...

NE İSTEDİĞİNİZE KARAR VERİN!

Alkol içerken amacınız nedir? Bunun sorunun yanıtı alkol kullanma miktarınızı da belirlemelidir. Kandaki alkol düzeyine göre oluşmalar aşağıda belirtilmiştir.

<i>Kan-alkol düzeyi</i>	<i>Etki</i>
% 0.02	Hafif bir fark hissedilmeye başlar.
% 0.04	Birçok kişi bu düzeyde rahatlama ve keyif hissetmeye başlar.
% 0.06	Kişinin yargı gücü bozulur, yeteneklerini kullanma ve doğru kararlar alma becerisi azalır (örneğin, araba kullanma).
% 0.08	Kasların eşgüdümü ve araba kullanma gibi becerileri bozulur. Konuşmada bozulma görülür ve bulantı riski yükselir.
% 0.10	Kişinin kendi üstündeki denetimi kaybolur, tepki verme süresi bozulur.
% 0.15	Denge ve hareket bozuklukları ortaya çıkar. Kaza yapma riski ve içtiği zaman olanları hatırlamama olasılığı artar.
% 0.30	Bilinç kaybolur, koma gelişir, ölüm riski ortaya çıkar.

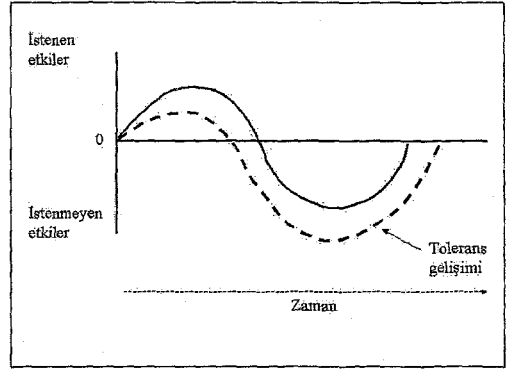
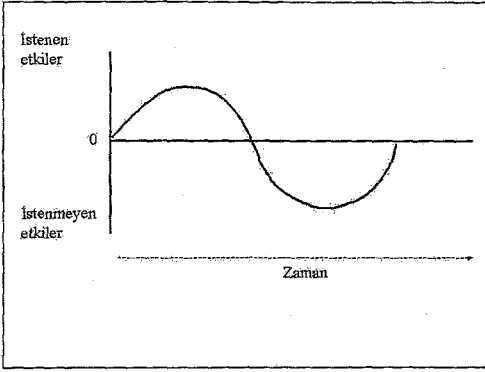
NASIL İÇECEĞİNİZE KARAR VERİN!

Fazla miktarda alkol isteğinizi sağlamaz. Alkol etkisi, aşağıda görüldüğü gibi iki fazlı bir eğri çizer. Kullanılan alkol miktarı arttıkça, alkolün verdiği keyif ve rahatlama hissi yerini mutsuzluk ve öfkeye bırakır. Hızlı içildiği zamanda alkol istenen etkileri yaratmadan, hızla istenmeyen etkilere yol açar.

Fazla ve sık alkol alındığı zaman *tolerans* gerekir. *Tolerans* kişinin aynı etkiyi sağlamak için daha fazla miktarda alkol alma gereksinimini duymasındır. Kişi benzer etkiyi sağlamak için giderek kullandığı alkolün miktarı artırmak zorundadır.

Alkol miktarı arttıkça olumsuz etkileri artar.

Alkol miktarı arttıkça tolerans gelişir.

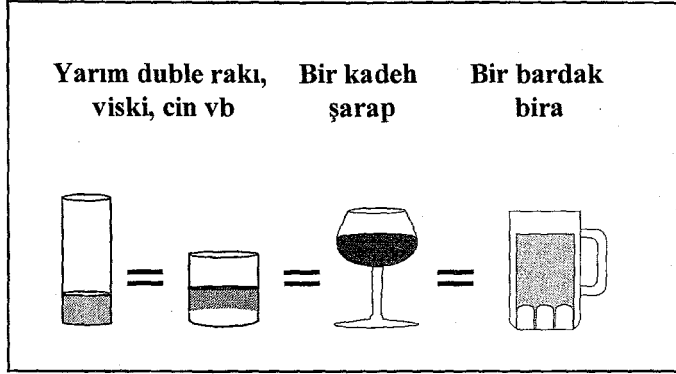


NE KADAR ALKOL İÇMEK RİSKLİDİR?

Kullanılan alkol miktarını değerlendirmek için “standart içki” tanımı kullanılır.

Yarım duble rakı, cin, viski ya da bir kadeh şarap ya da bir bardak bira bir standart içkiye eşittir (şekle bakınız).

Bir Standart İçki Nedir?



Yukarıdaki değerlere göre haftalık alınan alkol miktarı değerlendirilmelidir.

Alkolün sınırı

- Erkekler için haftada 21 standart içkiyi
- Kadınlar için 16 standart içkiyi aşmamalıdır.

Ancak gebeler, fiziksel hastalığı olanlar, bağımlılar ve araba kullanacaklar hiç alkol almamalıdır.

Unutmayın! Bunlar üst sınırlardır, bu kadar içmek zorunda değilsiniz...

ALKOLÜN BEDENSEL VE RUHSAL ETKİLERİ

Alkolün bedensel ve ruhsal etkileri kişiden kişiye değişir. Bazı insanlar çok az alkol alsa bile bedensel ya da ruhsal etkiler hemen ortaya çıkar. Bazılarında ise, bu etkilerin ortaya çıkması uzun zaman alır. Bu nedenle kimde ve ne zaman bu etkilerin ortaya çıkacağı bilinemez.

Bedensel etkiler

- Mide ülseri ve gastrit
- Karaciğerde büyüme, yağlanma ve siroz
- Damar sertliği ve yüksek tansiyon
- Beslenme bozukluğu
- Bağışıklık sisteminin bozukluğu
- Kaslarda zayıflama
- Sinir hücrelerinde hasar
- Felç

Ruhsal etkiler

- Uykusuzluk
- Depresyon
- Cinsel işlev bozuklukları
- Bunama
- Bağımlılık

AZI KARAR ÇOĞU ZARAR KURALI

Halk arasında bilinen bir “azı karar çoğu zarar” kuralı vardır. Halkın kendi kendine yaptığı bu tanımlamalar oldukça doğrudur. Ancak kadeh sayısını daha da düşürmek gerekir.

- Sağlık için bir kadeh,
- Aşk ve zevk için iki,
- Şamata yapmak için üç,
- Uyku için dört,
- Keseye zarar için beş,
- Kavga çıkarmak için altı,
- Morartılmış gözler için yedi,
- Başının kanunla derde girmesi için sekiz,
- Bozuk bir mide için dokuz,
- Çılgınlık ve eşyaların etrafa fırlatılması içinse on kadeh.

HURAFELER!

Alkol ve alkol kullanımı hakkında birçok yanlış, doğru olarak kabullenmişizdir. Bu hurafeler, kültürden kültüre değişmektedir. Bunlardan bazıları aşağıdadır:

Alkol uykuyu düzenler (yanlış!)

Alkol uykuyu düzenlemez, aksine bozar. Alkolle uyumaz, sızılır. Alkolün etkisiyle uyunulan uyku tam ve gerçek bir uyku olmadığı için kişi uykusuz kalır.

Alkol cinsel gücü artırır (yanlış!)

Alkol cinsel gücü artırmaz, aksine erkek sertleşmesini bozar, boşalmayı geciktirir ya da engeller. Alkol yalnızca kişideki utanma duygusunu kaldırdığı için cinsel olarak daha rahat davranmayı sağlar.

Alkol kan damarlarını açar (yanlış!)

Çok düşük miktarda alınan alkol kan damarlarında genişleme etkisine yol açar. Ancak miktar arttıkça alkol damar sertliği ve damar daralmasına yol açar.

DAHA AZ İÇMEK İÇİN İPUÇLARI

Eğer alkolü fazla miktarda kullandığınıza inanıyorsanız ya da yukarıda verdiğimiz sınırların üstünde alkol kullanıyorsanız, o zaman kullandığınız alkol miktarını azaltmanız gerekmektedir. Bunun için yapacaklarınız şunlardır:

- İçmeye başlamadan önce sınırlarınızı belirleyin.
- Kadehler arasında ara verin.
- Düşük alkollü içkileri tercih edin (light bira, duble yerine tek, vb.)
- Küçük yudumlarla için.
- İçmeden önce karnınızı doyurun.
- İçmeye başlamadan önce susuzluğunuzu giderin.
- Her bir kadeh arasında bir bardak alkolsüz sıvı alın (soda, su, ayran, vb.).
- Tuzlu yiyeceklerden sakının.
- Yarışmalardan kaçının, başkalarının dolduruşuna gelmeyin.
- Ne kadar içtiğinizin kaydedin.

RİSKLERİNİZİ AZALTIN

Eğer alkol alma zorunluluğunuz varsa o zaman alkol alımına bağlı olarak ortaya çıkabilecek ruhsal, bedensel ve sosyal sorunların riskini azaltmak gerekebilir. Bu amaçla birçok eylemde bulunabilirsiniz. Ancak riski azaltmanın en iyi yolu, alkolü kullanmamaktır.

- Üst üste iki gün içmeyin.
- Aç karnına alkol içmeyin.
- Alkolle birlikte bol su için.
- Çok içeceğinizi biliyorsanız size sahip olacak birini seçin.
- İçmeye gitmeden önce nasıl döneceğinizin planını yapın.
- İçmeye giderken arabanızla gitmeyin.
- Tanımadığınız kişilerle birlikte içmeyin.
- Çok içmeyin.

BAĞIMLILIK

Bağımlılık kişinin kullandığı madde üstünde denetimini kaybetmesi ve onsuz bir yaşam sürememeye başlamasıdır. Bağımlılık bir kez geliştikten sonra, kendi kendine iyileşmez ve kişinin yaşamı boyunca kalıcı olur.

Herkes bağımlı olabilir. Madde kullanımı kişinin biyolojik yapısında zamanla değişikliklere yol açar ve ara sıra da olsa kullanan kişinin bundan kaçınması mümkün değildir.

Alkol kullanımının irade ile bir ilişkisi yoktur. Zaten kişiler “Ben kontrol edebilirim” düşüncesiyle başlar, daha sonra bağımlı hale gelir. Onlar da “Benim iradem güçlüdür” gibi bir yanlış inançla yola çıkmışlardır. Kişi alkolü denetimi altında tuttuğunu, hiç dozu aşmadığını iddia etse de aslında bedeninde farkında olmadığı bir süreç devam etmektedir. Bu yüzden bireysel özellikler ile madde kullanımı arasında bir neden-sonuç ilişkisi kurmak yanlıştır.

Bağımlılık yavaşça ve sinsice gelişir. Kişi genelde bağımlı olduğunun farkına varmaz. Bağımlılığın da dereceleri vardır. Ancak çok şiddetli bağımlılık durumlarında kişide ellerde titreme ya da hayaller gözlenir. Birçok bağımlıda bu tür belirtiler yoktur.

Bağımlılık var demek için aşağıdaki belirtilerden birkaçının olması yeterlidir.

- Kullanılan alkol miktarının giderek artması.
- Alkol miktarı azaltılınca ya da kesilince huzursuzluk, uykusuzluk, titreme gibi yoksunluk belirtilerinin ortaya çıkması.
- Ruhsal, sosyal, adli ya da bedensel bir sorun oluşturmaya rağmen alkol kullanmaya devam etmek.
- Kişinin alkol üstünde denetimini kaybetmesi ve tasarladığından fazla alkol kullanması.

- Zamanının büyük çoğunluğunu alkol ile geçirmesi.
- Alkolün kişisel toplumsal sorumluluklarını yerine getirmesini engellemesi (iş, okul, aile, vb.).

Daha fazla bilgi almak istiyor ya da
yardıma gereksiniminiz olduğunu düşünüyorsanız,
başvurmaktan çekinmeyin!



Tel: 0 212 292 99 90

Web: www.yeniden.org.tr

E posta: yeniden@yeniden.org.tr

APPENDIX E**ADDITIONAL TABLES**

Table E1: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Female and Male Students

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.929	3039.158	4.000	934.000	.000
	Wilks' Lambda	.071	3039.158	4.000	934.000	.000
	Hotelling's Trace	13.016	3039.158	4.000	934.000	.000
	Roy's Largest Root	13.016	3039.158	4.000	934.000	.000
Gender	Pillai's Trace	.031	7.454	4.000	934.000	.000
	Wilks' Lambda	.969	7.454	4.000	934.000	.000
	Hotelling's Trace	.032	7.454	4.000	934.000	.000
	Roy's Largest Root	.032	7.454	4.000	934.000	.000

Table E2: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Level of Academic Progress

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.908	2306.405	4.000	930.000	.000
	Wilks' Lambda	.092	2306.405	4.000	930.000	.000
	Hotelling's Trace	9.920	2306.405	4.000	930.000	.000
	Roy's Largest Root	9.920	2306.405	4.000	930.000	.000
Level of Ac. Progress	Pillai's Trace	.034	1.589	20.000	3732.000	.046
	Wilks' Lambda	.967	1.592	20.000	3085.411	.046
	Hotelling's Trace	.034	1.594	20.000	3714.000	.045
	Roy's Largest Root	.022	4.089	5.000	933.000	.001

Table E3: Bonferroni Tests for Level of Academic Progress in EnhancementCoping, Conformity and Social Motives

Motives	Level of Academic Progress (I)		Mean Difference (I-J)	Std. Error	p
Enhancement	Prep	1-2 semester	-.6369	.676	1.000
		3-4 semester	-1.5567	.665	.291
		5-6 semester	-.5869	.684	1.000
		7-8 semester	-2.1609	.681	.023
		9 and above semester	-1.2978	.926	1.000
	1-2	Prep	.6369	.676	1.000
		3-4 semester	-.9197	.517	1.000
		5-6 semester	5.001E-02	.542	1.000
		7-8 semester	-1.5240	.538	.071
		9 and above semester	-.6608	.826	1.000
	3-4	Prep	1.5567	.665	.291
		1-2 semester	.9197	.517	1.000
		5-6 semester	.9697	.527	.991
		7-8 semester	-.6042	.523	1.000
		9 and above semester	.2589	.817	1.000
	5-6	Prep	.5869	.684	1.000
		1-2 semester	-5.0007E-02	.542	1.000
		3-4 semester	-.9697	.527	.991
		7-8 semester	-1.5740	.548	.062
		9 and above semester	-.7108	.833	1.000
	7-8	Prep	2.1609	.681	.023
		1-2 semester	1.5240	.538	.071
		3-4 semester	.6042	.523	1.000
		5-6 semester	1.5740	.548	.062
		9 and above semester	.8632	.830	1.000
	9 and above	Prep	1.2978	.926	1.000
		1-2 semester	.6608	.826	1.000
		3-4 semester	-.2589	.817	1.000
		5-6 semester	.7108	.833	1.000
		7-8 semester	-.8632	.830	1.000
Social	Prep	1-2 semester	-.8694	.594	1.000
		3-4 semester	-1.6508	.584	.072
		5-6 semester	-1.6883	.601	.076
		7-8 semester	-2.1489	.598	.005
		9 and above semester	-1.7295	.813	.505
	1-2	Prep	.8694	.594	1.000
		3-4 semester	-.7814	.454	1.000
		5-6 semester	-.8189	.476	1.000
		7-8 semester	-1.2795	.472	.103
		9 and above semester	-.8601	.725	1.000
	3-4	Prep	1.6508	.584	.072
		1-2 semester	.7814	.454	1.000
		5-6 semester	-3.7476E-02	.463	1.000
		7-8 semester	-.4981	.459	1.000
		9 and above semester	-7.8640E-02	.717	1.000
	5-6	Prep	1.6883	.601	.076
		1-2 semester	.8189	.476	1.000
		3-4 semester	3.748E-02	.463	1.000
		7-8 semester	-.4606	.481	1.000
		9 and above semester	-4.1164E-02	.731	1.000
	7-8	Prep	2.1489	.598	.005
		1-2 semester	1.2795	.472	.103
		3-4 semester	.4981	.459	1.000
		5-6 semester	.4606	.481	1.000
		9 and above semester	.4194	.729	1.000
	9 and above	Prep	1.7295	.813	.505
		1-2 semester	.8601	.725	1.000
		3-4 semester	7.864E-02	.717	1.000
		5-6 semester	4.116E-02	.731	1.000
		7-8 semester	-.4194	.729	1.000

Table E4: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Type of Residence

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.859	1404.606	4.000	926.000	.000
	Wilks' Lambda	.141	1404.606	4.000	926.000	.000
	Hotelling's Trace	6.067	1404.606	4.000	926.000	.000
	Roy's Largest Root	6.067	1404.606	4.000	926.000	.000
Type of Residence	Pillai's Trace	.030	1.768	16.000	3716.000	.030
	Wilks' Lambda	.970	1.770	16.000	2829.614	.029
	Hotelling's Trace	.031	1.770	16.000	3698.000	.029
	Roy's Largest Root	.016	3.829	4.000	929.000	.004

Table E5: Bonferonni Tests for Type of Residence in EnhancementCoping, Conformity and Social Motives by Type of Residence

Motives	(I) Type of residence	(J) Type of residence	Mean Difference (I-J)	Standard Error	p
Conformity	Family	Dormitory	1.0618E-03	.172	1.000
		Relatives and siblings	-.5148	.301	.871
		Friends	-.5014	.232	.310
		Alone	-.7207	.420	.865
	Dormitory	Family	1.062E-03	.172	1.000
		Relatives and siblings	-.5137	.304	.911
		Friends	-.5004	.236	.344
		Alone	-.7196	.422	.886
	Relatives and sibling	Family	.5148	.301	.871
		Dormitory	.5137	.304	.911
		Friends	1.335E-02	.341	1.000
		Alone	-.2059	.489	1.000
	Friends	Family	.5014	.232	.310
		Dormitory	.5004	.236	.344
		Relatives and siblings	1.3348E-02	.341	1.000
		Alone	-.2192	.450	1.000
	Alone	Family	.7207	.420	.865
		Dormitory	.7196	.422	.886
		Relatives and siblings	.2059	.489	1.000
		Friends	.2192	.450	1.000
Social	Family	Dormitory	.7710	.353	.290
		Relatives and siblings	.1912	.615	1.000
		Friends	-.5301	.475	1.000
		Alone	1.0478	.859	1.000
	Dormitory	Family	-.7710	.353	.290
		Relatives and siblings	-.5798	.622	1.000
		Friends	-1.3011	.483	.072
		Alone	.2768	.864	1.000
	Relatives and sibling	Family	-.1912	.615	1.000
		Dormitory	.5798	.622	1.000
		Friends	-.7213	.698	1.000
		Alone	.8566	1.000	1.000
	Friends	Family	.5301	.475	1.000
		Dormitory	1.3011	.483	.072
		Relatives and siblings	.7213	.698	1.000
		Alone	1.5779	.921	.870
	Alone	Family	-1.0478	.859	1.000
		Dormitory	-.2768	.864	1.000
		Relatives and siblings	-.8566	1.000	1.000
		Friends	-1.5779	.921	.870

Table E6: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Grade Point Average

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.909	1629.454	4.000	651.000	.000
	Wilks' Lambda	.091	1629.454	4.000	651.000	.000
	Hotelling's Trace	10.012	1629.454	4.000	651.000	.000
	Roy's Largest Root	10.012	1629.454	4.000	651.000	.000
GPA	Pillai's Trace	.067	2.787	16.000	2616.000	.000
	Wilks' Lambda	.934	2.811	16.000	1989.475	.000
	Hotelling's Trace	.070	2.825	16.000	2598.000	.000
	Roy's Largest Root	.049	8.061	4.000	654.000	.000

Table E7: Bonferonni Test for Grade Point Average in Enhancement, Coping, Conformity
and Social Motives

Motives	(I) grade point average	(J) grade point average	Mean Difference (I-J)	Std. Error	p
Enhancement	0-2.00	2.00-2.50	.5302	.810	1.000
		2.50-3.00	.8233	.792	1.000
		3.00-3.50	-1.1735	.818	1.000
		3.50-4.00	.9579	.952	1.000
	2.00-2.50	0-2.00	-.5302	.810	1.000
		2.50-3.00	.2931	.534	1.000
		3.00-3.50	-1.7037	.573	.030
		3.50-4.00	.4277	.752	1.000
	2.50-3.00	0-2.00	-.8233	.792	1.000
		2.00-2.50	-.2931	.534	1.000
		3.00-3.50	-1.9967	.546	.003
		3.50-4.00	.1346	.732	1.000
	3.00-3.50	0-2.00	1.1735	.818	1.000
		2.00-2.50	1.7037	.573	.030
		2.50-3.00	1.9967	.546	.003
		3.50-4.00	2.1314	.760	.052
	3.50-4.00	0-2.00	-.9579	.952	1.000
		2.00-2.50	-.4277	.752	1.000
		2.50-3.00	-.1346	.732	1.000
		3.00-3.50	-2.1314	.760	.052
Coping	0-2.00	2.00-2.50	.5780	.676	1.000
		2.50-3.00	1.4116	.661	.331
		3.00-3.50	1.4660	.683	.322
		3.50-4.00	2.2138	.795	.055
	2.00-2.50	0-2.00	-.5780	.676	1.000
		2.50-3.00	.8337	.446	.622
		3.00-3.50	.8880	.478	.637
		3.50-4.00	1.6358	.628	.094
	2.50-3.00	0-2.00	-1.4116	.661	.331
		2.00-2.50	-.8337	.446	.622
		3.00-3.50	5.437E-02	.456	1.000
		3.50-4.00	.8022	.611	1.000
	3.00-3.50	0-2.00	-1.4660	.683	.322
		2.00-2.50	-.8880	.478	.637
		2.50-3.00	-5.4370E-02	.456	1.000
		3.50-4.00	.7478	.635	1.000
	3.50-4.00	0-2.00	-2.2138	.795	.055
		2.00-2.50	-1.6358	.628	.094
		2.50-3.00	-.8022	.611	1.000
		3.00-3.50	-.7478	.635	1.000

Table E8: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Mother Education

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.927	2967.574	4.000	931.000	.000
	Wilks' Lambda	.073	2967.574	4.000	931.000	.000
	Hotelling's Trace	12.750	2967.574	4.000	931.000	.000
	Roy's Largest Root	12.750	2967.574	4.000	931.000	.000
Mother edu	Pillai's Trace	.046	5.495	8.000	1864.000	.000
	Wilks' Lambda	.954	5.534	8.000	1862.000	.000
	Hotelling's Trace	.048	5.572	8.000	1860.000	.000
	Roy's Largest Root	.044	10.188	4.000	932.000	.000

Table E9: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Father Education

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.911	2377.483	4.000	927.000	.000
	Wilks' Lambda	.089	2377.483	4.000	927.000	.000
	Hotelling's Trace	10.259	2377.483	4.000	927.000	.000
	Roy's Largest Root	10.259	2377.483	4.000	927.000	.000
Father Edu	Pillai's Trace	.036	4.311	8.000	1856.000	.000
	Wilks' Lambda	.964	4.332	8.000	1854.000	.000
	Hotelling's Trace	.038	4.353	8.000	1852.000	.000
	Roy's Largest Root	.034	7.834	4.000	928.000	.000

Table E10: Bonferonni Test for Mother Education in Enhancement, Coping, Conformity and Social Motives

Dependent Variable	(I) mother education	(J) mother education	Mean Difference (I-J)	Std. Error	p
Enhancement	low	middle	-1.2593	.449	.016
		high	-1.3170	.416	.005
	middle	low	1.2593	.449	.016
		high	-5.7760E-02	.420	1.000
	high	low	1.3170	.416	.005
		middle	5.776E-02	.420	1.000
Social	low	middle	-1.5551	.391	.000
		high	-1.9657	.362	.000
	middle	low	1.5551	.391	.000
		high	-.4106	.366	.785
	high	low	1.9657	.362	.000
		middle	.4106	.366	.785

Table E11: Bonferonni Test for Father Education in Enhancement, Coping, Conformity and Social Motives

Motives	(I) father education	(J) father education	Mean Difference (I-J)	Std. Error	p
Enhancement	Low	middle	-.6929	.535	.588
		high	-1.2033	.435	.017
	Middle	low	.6929	.535	.588
		high	-.5105	.451	.775
	High	low	1.2033	.435	.017
		middle	5.680E-02	.192	1.000
Social	Low	middle	-.6680	.465	.455
		high	-1.8294	.378	.000
	Middle	low	.6680	.465	.455
		high	-1.1614	.392	.009
	High	low	1.8294	.378	.000
		middle	1.1614	.392	.009

Table E12: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Participation in Student Clubs

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.918	2619.992	4.000	932.000	.000
	Wilks' Lambda	.082	2619.992	4.000	932.000	.000
	Hotelling's Trace	11.245	2619.992	4.000	932.000	.000
	Roy's Largest Root	11.245	2619.992	4.000	932.000	.000
Clubs	Pillai's Trace	.022	1.752	12.000	2802.000	.051
	Wilks' Lambda	.978	1.753	12.000	2466.132	.051
	Hotelling's Trace	.023	1.752	12.000	2792.000	.051
	Roy's Largest Root	.014	3.334	4.000	934.000	.010

Table E13: Multivariate Analysis of Variance of Enhancement, Coping,
Conformity and Social Motives by Participation in Other Activities

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.914	2485.894	4.000	932.000	.000
	Wilks' Lambda	.086	2485.894	4.000	932.000	.000
	Hotelling's Trace	10.669	2485.894	4.000	932.000	.000
	Roy's Largest Root	10.669	2485.894	4.000	932.000	.000
Sociality	Pillai's Trace	.026	2.077	12.000	2802.000	.016
	Wilks' Lambda	.974	2.082	12.000	2466.132	.015
	Hotelling's Trace	.027	2.085	12.000	2792.000	.015
	Roy's Largest Root	.020	4.690	4.000	934.000	.001

Table E14: Bonferonni Test for Participation in Other Activities in Enhancement, Coping,Conformity and Social

Dependent Variable	(I) Sociality	(J) Sociality	Mean Difference (I-J)	Std. Error	p
Enhancement	Very active	Active	1.4605	.514	.027
		Somewhat active	.9778	.561	.489
		Barely active	1.5912	.637	.076
	Active	Very active	-1.4605	.514	.027
		Somewhat active	-.4827	.430	1.000
		Barely active	.1307	.526	1.000
	Somewhat active	Very active	-.9778	.561	.489
		Active	.4827	.430	1.000
		Somewhat active	.6134	.572	1.000
	Barely active	Very active	-1.5912	.637	.076
		Active	-.1307	.526	1.000
		Somewhat active	-.6134	.572	1.000

Table E15: Multivariate Analysis of Variance of Amount of Alcohol Consumed by
Participation in Student Clubs

Effect		Value	F	Hypothesis df	Error df	p
Intercept	Pillai's Trace	.900	2101.213	4.000	932.000	.000
	Wilks' Lambda	.100	2101.213	4.000	932.000	.000
	Hotelling's Trace	9.018	2101.213	4.000	932.000	.000
	Roy's Largest Root	9.018	2101.213	4.000	932.000	.000
Perceived	Pillai's Trace	.139	11.325	12.000	2802.000	.000
	Wilks' Lambda	.862	11.818	12.000	2466.132	.000
	Hotelling's Trace	.158	12.252	12.000	2792.000	.000
	Roy's Largest Root	.148	34.586	4.000	934.000	.000

Table E16: Bonferonni Test for Perceived Harm of Alcohol in Enhancement e, Coping.Conformity and Social Motives by

Motives	(I) perceived harm of alcohol	(J) perceived harm of alcohol	Mean Difference (I-J)	Std. Error	p
Enhancement	Very harmful	Harmful	-2.4717	.544	.000
		A bit harmful/no idea	-4.8373	.557	.000
		Not harmful	-6.3682	.720	.000
	Harmful	Very harmful	2.4717	.544	.000
		A bit harmful/no idea	-2.3656	.371	.000
		Not harmful	-3.8965	.588	.000
	A bit harmful/ No idea	Very harmful	4.8373	.557	.000
		Harmful	2.3656	.371	.000
		Not harmful	-1.5309	.600	.065
	Not harmful	Very harmful	6.3682	.720	.000
		Harmful	3.8965	.588	.000
		A bit harmful/no idea	1.5309	.600	.065
Coping	Very harmful	Harmful	-1.2399	.469	.050
		A bit harmful/no idea	-1.6002	.479	.005
		Not harmful	-2.8047	.620	.000
	Harmful	Very harmful	1.2399	.469	.050
		A bit harmful/no idea	-.3603	.320	1.000
		Not harmful	-1.5648	.507	.012
	A bit harmful/ No idea	Very harmful	1.6002	.479	.005
		Harmful	.3603	.320	1.000
		Not harmful	-1.2045	.517	.120
	Not harmful	Very harmful	2.8047	.620	.000
		Harmful	1.5648	.507	.012
		A bit harmful/no idea	1.2045	.517	.120
Social	Very Harmful	Harmful	-1.7100	.487	.003
		A bit harmful/no idea	-3.7641	.498	.000
		Not harmful	-4.1211	.644	.000
	Harmful	Very harmful	1.7100	.487	.003
		A bit harmful/no idea	-2.0542	.332	.000
		Not harmful	-2.4111	.526	.000
	A bit harmful/ No idea	Very harmful	3.7641	.498	.000
		Harmful	2.0542	.332	.000
		Not harmful	-.3570	.536	1.000
	Not harmful	Very harmful	4.1211	.644	.000
		Harmful	2.4111	.526	.000
		A bit harmful/no idea	.3570	.536	1.000

Table E17: Bonferonni Test for Amount of Alcohol Counsumed by Level of Academic Progress

(I) level of academic progress	(J) level of academic progress	Mean Difference (I-J)	Std. Error	p
Prep	Prep			
	1-2 semester	-.1349	.376	1.000
	3-4 semester	-.8186	.369	.400
	5-6 semester	-.7020	.379	.961
	7-8 semester	-.9903	.380	.138
1-2 semester	9 and above semester	-1.6426	.524	.026
	Prep	.1349	.376	1.000
	1-2 semester			
	3-4 semester	-.6837	.292	.290
	5-6 semester	-.5671	.304	.940
3-4 semester	7-8 semester	-.8554	.305	.078
	9 and above semester	-1.5077	.473	.022
	Prep	.8186	.369	.400
	1-2 semester	.6837	.292	.290
	3-4 semester			
5-6 semester	5-6 semester	.1166	.295	1.000
	7-8 semester	-.1717	.296	1.000
	9 and above semester	-.8240	.467	1.000
	Prep	.7020	.379	.961
	1-2 semester	.5671	.304	.940
7-8 semester	3-4 semester	-.1166	.295	1.000
	5-6 semester			
	7-8 semester	-.2883	.308	1.000
	9 and above semester	-.9406	.475	.717
	Prep	.9903	.380	.138
9 and above	1-2 semester	.8554	.305	.078
	3-4 semester	.1717	.296	1.000
	5-6 semester	.2883	.308	1.000
	7-8 semester			
	9 and above semester	-.6523	.475	1.000
	Prep	1.6426	.524	.026
	1-2 semester	1.5077	.473	.022
	3-4 semester	.8240	.467	1.000
	5-6 semester	.9406	.475	.717
	7-8 semester	.6523	.475	1.000
	9 and above semester			

Table E18: Bonferonni Test for Amount of Alcohol Consumed by Mother Education

(I) mother education	(J) mother education	Mean Difference (I-J)	Std. Error	p
Low	low			
	middle	-.9644	.248	.000
	high	-1.4256	.231	.000
Middle	low	.9644	.248	.000
	middle			
	high	-.4611	.235	.150
High	low	1.4256	.231	.000
	middle	.4611	.235	.150
	high			

Table E19: Bonferonni Test for Amount of Alcohol Consumed by Father Education

(I) father education	(J) father education	Mean Difference (I-J)	Std. Error	p
Low	low			
	middle	-.2024	.296	1.000
	high	-1.1593	.241	.000
Middle	low	.2024	.296	1.000
	middle			
	high	-.9570	.250	.000
High	low	1.1593	.241	.000
	middle	.9570	.250	.000
	high			

Table E20: Bonferonni Test of Amount of Alcohol Consumed by Participation inStudent Clubs

(I) Clubs	(J) Clubs	Mean Difference (I-J)	Std. Error	p
Very active	Very active			
	Active	.5490	.348	.692
	Somewhat active	.5681	.329	.505
	Barely active	1.0490	.312	.005
Active	Very active	-.5490	.348	.692
	Active			
	Somewhat active	1.911E-02	.288	1.000
	Barely active	.5000	.269	.377
Somewhat active	Very active	-.5681	.329	.505
	Active	-1.9113E-02	.288	1.000
	Somewhat active			
	Barely active	.4809	.242	.286
Barely active	Very active	-1.0490	.312	.005
	Active	-.5000	.269	.377
	Somewhat active	-.4809	.242	.286
	Barely active			

Table E21: Bonferonni Test of Amount of Alcohol Consumed by Participation inOther Activities

(I) Sociality	(J) Sociality	Mean Difference (I-J)	Std. Error	p
Very active	Very active			
	Active	.6019	.290	.231
	Somewhat active	1.1342	.317	.002
	Barely active	1.1017	.356	.012
Active	Very active	-.6019	.290	.231
	Active			
	Somewhat active	.5324	.242	.169
	Barely active	.4999	.292	.522
Somewhat active	Very active	-1.1342	.317	.002
	Active	-.5324	.242	.169
	Somewhat active			
	Barely active	-3.2497E-02	.318	1.000
Barely active	Very active	-1.1017	.356	.012
	Active	-.4999	.292	.522
	Somewhat active	3.250E-02	.318	1.000
	Barely active			

Table E22: Bonferonni Test for Amount of Alcohol Consumed by Perceived Harm ofAlcohol

(I) perceived harm of alcohol	(J) perceived harm of alcohol	Mean difference (I-J)	Std. Error	p
Very harmful	Very harmful			
	Harmful	-1.5663	.283	.000
	A bit harmful/No idea	-3.2930	.291	.000
	Not harmful	-4.9772	.387	.000
Harmful	Very harmful	1.5663	.283	.000
	Harmful			
	A bit harmful/No idea	-1.7267	.200	.000
	Not harmful	-3.4109	.325	.000
A bit harmful/no idea	Very harmful	3.2930	.291	.000
	Harmful	1.7267	.200	.000
	A bit harmful/No idea			
	Not harmful	-1.6842	.332	.000
Not harmful	Very harmful	4.9772	.387	.000
	Harmful	3.4109	.325	.000
	A bit harmful/No idea	1.6842	.332	.000
	Not harmful			