

# Risk of Alcohol and Caffeine

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## **Introduction**

In the past few years, alcohol and caffeine have been the most common risks taken by college students due to various reasons, such as pressure from studies at school, influences from their parents, etc. Although more and more people have started to realize the serious consequences of consumption of alcohol and caffeine, college students still need to pay more attention to health conditions by controlling the amount they consume. In the following paragraphs, I will explain the current trends of consumption and analyzes the reasons of the trends. I will also further uncover the relationship between psychological factors and people's perception and attitudes towards alcohol and caffeine.

## **Alcohol**

According to the latest published statistics by National Institute on Alcohol Abuse and Alcoholism (NIAAA), 59.6% of women and 71.8% in all American adults (ages 18 and over) had at least one drink last year. Drinking is even more popular in colleges. About 4 out of 5 college students drink alcohol and drinking has brought about many severe consequences to them. In *Risk: A Practical Guide for Deciding What's Really Safe and What's Really Dangerous in the World Around You*, Ropeik and Gray categorize alcohol as a risk which is very likely to expose people to various hazardous levels and has a wide range of consequences. As one of the nation's top health issues, alcohol depresses the activities of the central nervous system and increases blood alcohol concentration. The more brain cells are in contact with alcohol, the more they adjust to the sedating effects of alcohol. Death, injuries, sexual abuse, and other health problems are all possible consequences. Because people have easy access to alcohol, they are easily exposed and less resistant to alcohol, especially college students. The physical and

psychological relief that is brought by alcohol further increases the amount of its consumption. For underage students and children, they are easily misled by alcohol's fake benefits.

From the following table (Table 62) in the report *Health, United States, 2012, With Special Feature on Emergency Care* by U.S. Department Of Health And Human Services (221), we can see that for adults aged 18 and over, the percentage of heavier drinkers decrease by 0.1% while the percentage that one has five or more drinks in a day on at least 1 day in the past year has increased to 23.1% in 2011. Also, the number of adults with 2 or more races who have 5 or more drinks on at least 1 day in the past year has dropped. The consumption of alcohol varies between people with different gender, race, and age. In general, as more and more people start to realize the alcohol's harmful consequences, they tend to drink less and pay more attention to their health conditions.

**Table 62 (page 1 of 3). Heavier drinking and drinking five or more drinks in a day among adults aged 18 and over, by selected characteristics: United States, selected years 1997–2011**

Updated data when available, Excel, PDF, more data years, and standard errors: <http://www.cdc.gov/nchs/hus/contents2012.htm#062>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	1997	2000	2010	2011	1997	2000	2010	2011	1997	2000	2010	2011
Both sexes												
Percent of adults												
18 years and over, age-adjusted <sup>2</sup>	4.9	4.3	5.2	4.8	21.1	19.2	23.8	23.1	9.7	8.7	10.1	9.4
18 years and over, crude	5.0	4.3	5.2	4.8	21.5	19.3	23.2	22.4	9.8	8.7	9.9	9.2
Age												
All persons:												
18–44 years	5.2	4.7	5.7	4.9	29.2	26.9	32.5	31.6	13.2	12.2	13.7	13.1
18–24 years	5.3	5.8	6.2	5.2	31.8	30.3	34.0	31.7	15.2	15.5	16.2	15.1
25–44 years	5.2	4.3	5.5	4.8	28.5	25.8	31.9	31.5	12.6	11.1	12.7	12.3
45–64 years	5.5	4.6	5.4	5.5	15.9	14.4	19.0	18.1	7.6	6.4	8.1	7.2
45–54 years	5.5	4.4	5.9	5.6	19.0	16.4	22.9	21.4	8.7	7.0	9.3	8.3
55–64 years	5.4	5.0	4.7	5.3	11.1	11.3	14.1	14.2	5.8	5.4	6.7	5.9
65 years and over	3.1	2.6	3.7	3.4	4.9	3.8	5.5	5.5	2.2	1.8	2.6	2.4
65–74 years	3.9	3.1	4.4	4.2	6.7	5.2	7.9	7.7	3.0	2.5	3.5	3.3
75 years and over	2.1	2.0	2.8	2.4	2.4	2.1	2.7	2.7	1.1	*0.9	*1.4	1.3
Race <sup>2,3</sup>												
White only	5.2	4.5	5.6	5.2	22.9	20.8	26.3	25.2	10.3	9.2	11.1	10.3
Black or African American only	4.0	3.5	4.1	3.3	11.7	11.6	14.0	14.2	6.5	6.5	6.1	6.3
American Indian or Alaska Native only	*	*	*	*7.9	29.2	23.7	15.3	26.4	17.4	*12.1	*9.5	15.4
Asian only	*1.9	*2.3	*1.3	*1.7	11.4	8.8	12.1	13.3	*4.8	3.6	4.3	4.7
Islander only	---	*	*	*	---	*	*	*	---	*	*	*
2 or more races	---	*7.5	*5.9	5.8	---	28.0	25.7	25.9	---	15.9	12.5	8.4
Hispanic origin and race <sup>2,3</sup>												
Hispanic or Latino	3.9	3.2	2.8	3.1	20.4	17.3	19.7	21.2	11.2	9.0	9.2	9.0
Mexican	4.4	3.8	3.1	3.9	21.2	19.9	21.4	23.8	12.6	10.8	10.1	10.4
Not Hispanic or Latino	5.1	4.5	5.6	5.1	21.3	19.7	24.7	23.6	9.5	8.8	10.3	9.6
White only	5.4	4.7	6.2	5.6	23.5	21.5	27.9	26.2	10.3	9.3	11.5	10.6
Black or African American only	3.9	3.4	4.2	3.3	11.6	11.5	13.9	14.1	6.5	6.5	6.1	6.2
Percent of poverty level <sup>2,4</sup>												
Below 100%	4.8	4.3	4.7	4.5	17.3	15.0	17.6	18.9	9.7	8.6	8.5	8.9
100%–199%	4.9	4.2	4.9	4.8	18.4	15.7	20.9	20.1	9.8	8.0	9.8	9.3
200%–399%	4.9	4.2	4.8	4.6	21.0	18.7	23.3	22.7	9.8	8.9	10.1	9.4
400% or more	5.1	4.4	6.0	5.0	24.3	22.1	28.1	26.4	9.7	8.9	10.9	9.9
Disability measure <sup>2,5</sup>												
Any basic actions difficulty or complex activity limitation	5.7	5.2	5.5	5.0	20.2	18.8	21.9	21.2	10.2	9.3	9.5	9.0
Any basic actions difficulty	5.8	5.3	5.5	5.2	20.6	19.1	22.3	21.6	10.5	9.4	9.7	9.3
Any complex activity limitation	4.5	4.3	5.5	3.9	16.4	14.3	16.2	16.7	8.8	7.3	7.8	7.6
No disability	4.9	4.1	5.3	4.9	21.8	19.7	25.0	24.1	9.6	8.7	10.4	9.6
Male												
18 years and over, age-adjusted <sup>2</sup>	6.1	5.1	5.7	5.3	30.7	28.3	32.4	32.0	15.8	14.4	15.6	15.0
18 years and over, crude	6.1	5.2	5.7	5.4	31.7	29.0	32.2	31.5	16.3	14.7	15.6	14.8
Age												
Male:												
18–44 years	6.5	5.6	6.1	5.6	40.6	37.8	42.5	42.3	21.1	19.6	20.6	20.5
18–24 years	6.0	6.3	6.0	6.0	40.6	38.0	39.9	41.0	22.9	22.9	21.5	22.9
25–44 years	6.6	5.3	6.2	5.4	40.6	37.7	43.5	42.8	20.6	18.5	20.2	19.6
45–64 years	6.6	5.5	5.8	6.0	25.3	23.5	27.3	26.1	12.7	11.3	13.2	11.3
45–54 years	6.6	5.7	5.9	6.1	29.4	26.3	32.0	29.7	14.5	12.3	14.5	12.5
55–64 years	6.6	5.4	5.7	5.9	18.9	19.0	21.4	21.8	10.0	9.8	11.6	9.8
65 years and over	3.7	3.1	4.0	3.3	9.3	7.4	9.8	9.9	4.7	3.7	4.7	4.5
65–74 years	4.8	3.9	4.4	4.3	12.2	9.5	13.5	13.2	6.1	4.9	6.3	6.1
75 years and over	*2.1	*2.0	*3.5	*2.1	5.1	4.4	4.6	5.2	*2.5	*2.0	*2.5	2.4

<i>Characteristic</i>	1997	2000	2010	2011	1997	2000	2010	2011	1997	2000	2010	2011
<b>Race<sup>2,3</sup></b>												
Percent of adults												
White only . . . . .	6.3	5.1	6.1	5.6	32.8	29.9	35.3	34.4	16.7	14.9	17.1	16.1
Black or African American only . . . . .	5.3	5.4	4.6	4.5	18.4	19.8	20.2	22.2	11.0	12.4	9.8	10.7
American Indian or Alaska Native only . . . . .	*	*	*	*9.4	45.7	29.2	*20.5	32.8	30.4	*14.0	*15.7	20.7
Asian only . . . . .	*2.3	*3.5	*1.4	*1.6	17.8	14.1	17.2	18.7	*7.5	*5.9	6.8	7.7
Native Hawaiian or Other Pacific Islander only . . . . .	---	*	*	*	---	*	*	*	---	*	*	*
2 or more races . . . . .	---	*12.1	*8.4	*6.4	---	39.2	37.6	31.6	---	23.7	20.3	12.9
<b>Hispanic origin and race<sup>2,3</sup></b>												
Hispanic or Latino . . . . .	5.7	5.2	3.9	4.2	30.9	27.9	28.8	31.8	18.8	15.9	14.6	14.9
Mexican . . . . .	6.9	6.6	4.4	5.4	34.2	32.2	32.2	34.8	21.9	19.1	16.3	16.6
Not Hispanic or Latino . . . . .	6.1	5.2	6.0	5.5	30.7	28.6	33.3	32.3	15.5	14.3	15.9	15.1
White only . . . . .	6.4	5.2	6.5	5.9	33.3	30.6	36.9	35.3	16.6	15.0	17.6	16.5
Black or African American only . . . . .	5.3	5.4	4.7	4.5	18.4	19.7	20.3	22.0	11.1	12.3	9.9	10.5
<b>Percent of poverty level<sup>2,4</sup></b>												
Below 100% . . . . .	6.8	6.4	6.5	6.3	26.9	24.8	26.0	28.7	16.5	15.7	14.1	15.0
100%–199% . . . . .	7.1	5.8	5.8	6.4	27.3	23.6	29.1	28.8	16.4	13.3	14.8	15.5
200%–399% . . . . .	6.6	5.3	5.8	5.0	30.4	27.4	31.8	30.6	16.0	14.7	16.4	14.5
400% or more . . . . .	5.0	4.4	5.4	4.7	33.6	31.3	36.4	35.3	15.4	14.4	15.8	15.2
<b>Disability measure<sup>2,5</sup></b>												
Any basic actions difficulty or complex activity limitation . . . . .	7.2	6.8	6.6	6.1	29.4	28.9	30.6	29.0	17.0	16.5	14.8	14.3
Any basic actions difficulty . . . . .	7.5	6.8	6.7	6.2	30.4	29.8	31.8	29.8	17.7	16.8	15.5	14.7
Any complex activity limitation . . . . .	5.4	5.8	6.6	4.7	23.1	20.5	21.1	21.5	14.2	11.9	11.3	11.0
No disability . . . . .	5.8	4.8	5.4	5.0	31.5	28.5	33.5	33.0	15.6	14.1	15.9	15.1
<b>Female</b>												
18 years and over, age-adjusted <sup>2</sup> . . . . .	3.9	3.5	4.8	4.3	12.2	10.8	15.6	14.6	3.9	3.4	4.8	4.1
18 years and over, crude . . . . .	3.9	3.5	4.8	4.4	12.1	10.6	14.9	13.8	3.9	3.3	4.6	3.9
<b>Age</b>												
Female:												
18–44 years . . . . .	4.0	3.8	5.2	4.2	18.3	16.5	22.6	21.0	5.5	5.2	6.9	5.7
18–24 years . . . . .	4.5	5.2	6.4	4.4	23.0	22.8	28.1	22.2	7.6	8.3	10.9	7.1
25–44 years . . . . .	3.9	3.4	4.8	4.1	16.9	14.5	20.6	20.5	4.9	4.2	5.4	5.2
45–64 years . . . . .	4.4	3.8	4.9	5.0	7.2	6.0	11.1	10.6	2.9	1.9	3.4	3.3
45–54 years . . . . .	4.5	3.2	5.9	5.2	9.2	7.1	14.3	13.6	3.3	2.1	4.3	4.2
55–64 years . . . . .	4.4	4.6	3.8	4.9	4.1	4.4	7.3	7.1	2.1	1.5	2.3	2.3
65 years and over . . . . .	2.6	2.2	3.4	3.4	1.6	1.2	2.3	2.1	*0.4	*0.4	*	*0.7
65–74 years . . . . .	3.1	2.5	4.5	4.2	2.3	1.7	*3.1	3.0	*	*	*	*0.8
75 years and over . . . . .	2.0	1.9	2.3	2.6	*0.7	*	*1.4	*1.0	*	*	*	*
<b>Race<sup>2,3</sup></b>												
White only . . . . .	4.2	4.0	5.2	4.8	13.5	12.1	17.4	16.2	4.2	3.7	5.2	4.5
Black or African American only . . . . .	2.9	2.0	3.8	2.3	6.5	5.2	9.0	7.6	2.9	1.9	3.1	2.6
American Indian or Alaska Native only . . . . .	*	*	*	*	18.1	*19.0	*11.7	19.2	*	*	*	*
Asian only . . . . .	*	*	*	*	*5.2	*3.7	7.3	8.5	*	*	*	*2.0
Islander only . . . . .	---	*	*	*	---	*	*	*	---	*	*	*
2 or more races . . . . .	---	*	*	*4.8	---	17.0	16.4	20.5	---	*8.2	*6.3	*4.1

<i>Characteristic</i>	1997	2000	2010	2011	1997	2000	2010	2011	1997	2000	2010	2011
<b>Hispanic origin and race<sup>2,3</sup></b>												
Percent of adults												
Hispanic or Latina . . . . .	2.2	1.2	1.7	1.9	9.7	6.8	10.3	10.2	3.5	2.1	3.6	2.9
Mexican . . . . .	*1.9	*1.1	*1.7	2.1	8.2	7.1	10.4	11.6	3.2	*2.2	3.7	3.4
Not Hispanic or Latina . . . . .	4.1	3.8	5.3	4.7	12.6	11.5	16.6	15.5	4.0	3.6	5.0	4.4
White only . . . . .	4.4	4.3	5.9	5.3	14.2	13.0	19.1	17.5	4.3	4.0	5.6	4.9
Black or African American only . . . . .	2.9	2.0	3.8	2.3	6.2	5.2	8.9	7.6	2.9	1.9	3.0	2.5
<b>Percent of poverty level<sup>2,4</sup></b>												
Below 100% . . . . .	3.6	2.8	3.4	3.2	10.8	8.2	11.3	11.9	5.1	3.6	4.2	4.4
100%–199% . . . . .	3.1	2.9	4.1	3.3	10.5	9.0	13.5	12.3	4.0	3.5	5.1	3.8
200%–399% . . . . .	3.3	3.2	3.9	4.2	12.1	10.7	15.3	14.6	4.0	3.5	4.2	4.2

400% or more . . . . .	5.2	4.5	6.7	5.3	14.2	12.6	19.2	16.8	3.4	3.3	5.6	4.0
Disability measure <sup>2,5</sup>												
Any basic actions difficulty or complex activity limitation . . . . .	4.5	4.1	4.7	4.2	13.1	11.3	15.2	15.2	5.0	4.1	5.4	5.1
Any basic actions difficulty . . . . .	4.5	4.2	4.7	4.3	13.2	11.6	15.4	15.6	5.1	4.1	5.4	5.3
Any complex activity limitation . . . . .	3.7	*3.2	4.6	3.2	10.8	9.1	12.3	12.6	4.2	*3.1	5.0	4.6
No disability . . . . .	3.9	3.5	5.1	4.7	12.0	10.9	16.1	14.8	3.6	3.3	4.7	3.9

\* Estimates are considered unreliable. Data preceded by an asterisk have a relative standard error (RSE) of 20%–30%. Data not shown have an RSE greater than 30%.

In a news report *Why is alcohol consumption falling* by BBC in 2011, the author, James Morgan, mentions that in UK, heavy drinking is falling, abstinence is rising and young people are leading the drive towards healthier drinking, which are similar to decrease of alcohol consumption in the United States. He points out that one of the most important drivers of drinking is various media campaigns and publicity. “The negative publicity not only moderates people’s behavior, it also creates a new kind of social stigma around drinking. The ONS (Office for National Statistics) survey shows that people may now be "less inclined to admit to how much they have been drinking". At the same time, social and cultural aspects are also changing people’s drinking habits. In some societies, drinking is harmonious while in some other societies, drinking represents violence. U.S. law requires the minimum age of drinking to be 21 years ago while in most of the other countries, the minimum age is 18 years old. People would restrict and adjust their drinking habits to obey the policies and regulations that are set up by the governments.

Different people have different perceptions of the risk of alcohol. Directorate-General Health and Consumers and Directorate-General for Communication have conducted a survey *EU citizen’s attitudes towards alcohol*, published in 2010. According to the survey, “more than half of EU citizens consider having one or more drinks before driving is unsafe” and “EU citizens’ levels of awareness of alcohol-related health harm vary across Member States and between types

of health conditions (41, 45)”. An overwhelming majority of EU citizens also acknowledges that drinking contributes to social problems, such as violence and bad performance at school. What attitudes do people in the United States have towards the risk of alcohol? Would it be the same? In the paper *Youth Drinking Rates and Problems* written by Prevention Research Center, “Among Americans, there is a commonly held perception that young people in European countries are introduced to alcohol in a cultural context that reduces heavy and harmful drinking”. Generally, people think that Europeans, especially along the Mediterranean coast, have a more relaxed attitude towards drinking whereas Americans have more drinking problems. However, recent data from representative surveys have indicated that no evidence proves that Europeans drink more responsibly than Americans. To the contrary, “for a majority of these European countries, a greater percentage of young people report having been intoxicated before the age of 13” (6).

One of the most important factors that trigger people’s consumption of alcohol is psychological factors. All psychological factors are dependent and influence each other. Family History, in other words, parental psychopathology, has the biggest effect. In the paper *Psychosocial Factors in Alcohol Use and Alcoholism* by NIAAA, the effects of parent alcoholism are explained through three aspects: deviance proneness, negative affectivity and sensitivity to the effects of alcohol.

Due to the lack of behavioral self-regulation and socialization, children who are born under poor parenting or education tend to deviate from normal path and go astray. Recent data are consistent with this argument. According to a cross-sectional designed study conducted by Communities that Care (CTC), which is explained in the report *An exploratory study of the relationship between parental attitudes and behavior and young people's consumption of alcohol*

(Table 5), completed questionnaire responses from 6,628 secondary school children (i.e. aged 11-16 years), from 12 schools within an urban location in Wales were collected for secondary analyses. Associations of family closeness and conflict, parental monitoring and attitudes and family history of substance misuse with children's self reported alcohol consumption were examined using logistic regression analyses. Brody G and Ge X also explain a longitudinal transactional model linking parenting processes and self-regulation to psychological functioning and alcohol use during early adolescence and its testing process. Both results demonstrate the consistent association and effects of family violence and conflict, family closeness and substance misuse towards the consumption of alcohol. In univariable analyses (see Table 4 & 5), both protective factors (parental monitoring and family closeness) are negatively associated with drinking behaviors, in other words, as either factor grows, all markers of children's drinking behavior become less likely. The inverse is observed for family conflict and family violence.

**Table 4: Spearman's rank correlation coefficients for all ordinal variables of interest (n = 4977)**

	<b>Parental monitoring</b>	<b>Family conflict</b>	<b>Family Violence</b>	<b>Family closeness</b>	<b>Parent attitudes to substance misuse</b>	<b>Parent attitudes to alcohol and petty crime</b>
Age (school year)	-.34**	.06**	.02	-.23**	.24**	.25**
Parent attitudes to alcohol and petty crime	-.55**	.23**	.19**	-.38**	.42**	
Parent attitudes to substance misuse	-.38**	.16**	.17**	-.25**		
Family closeness	.53**	-.38**	-.32**			
Family violence	-.23**	.39**				
Family conflict	-.27**					

\*sig at 5%, \*\* sig at 1%

**Table 5: Odds ratios from logistic regression analyses (binary and multinomial) examining associations of family functioning with children's self-reported alcohol consumption (\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001**

	<b>Ever tried alcohol (n= 4977)</b>	<b>Frequent drinker (n=3651)</b>	<b>Ever been seriously drunk (n=3594)</b>	<b>Drunk alcohol in past 4 weeks (n = 3697)</b>	<b>Binge drunk in last 4 weeks (n = 3687)</b>	
			<b>1-2 times</b>	<b>More than twice</b>	<b>1-2 times</b>	<b>More than twice</b>
<b>Univariable associations</b>						



Family closeness	0.51*** (0.46 to 0.56)	0.49*** (0.44 to 0.54)	0.54*** (0.49 to 0.59)	0.73*** (0.65 to 0.82)	0.48*** (0.43 to 0.54)	0.60*** (0.54 to 0.67)	0.45*** (0.40 to 0.51)
Parental monitoring	0.16*** (0.14 to 0.19)	0.19*** (0.16 to 0.23)	0.22*** (0.19 to 0.25)	0.32*** (0.27 to 0.38)	0.11*** (0.09 to 0.13)	0.24*** (0.20 to 0.28)	0.11*** (0.09 to 0.13)
Family conflict	1.63*** (1.50 to 1.78)	1.42*** (1.29 to 1.57)	1.38*** (1.27 to 1.50)	1.28** (1.16 to 1.40)	1.51*** (1.36 to 1.67)	1.24*** (1.12 to 1.36)	1.40*** (1.25 to 1.57)
Family violence	1.46*** (1.26 to 1.69)	1.70*** (1.49 to 1.94)	1.42*** (1.26 to 1.60)	1.20* (1.03 to 1.40)	1.57*** (1.37 to 1.85)	1.34*** (1.16 to 1.55)	1.77*** (1.53 to 2.06)
Parental attitudes to substance misuse	4.68*** (3.35 to 6.54)	4.47*** (3.70 to 5.41)	4.12*** (3.34 to 5.07)	2.83*** (2.06 to 3.90)	8.30*** (6.06 to 11.35)	5.92*** (4.58 to 7.64)	10.85*** (8.32 to 14.14)
Parental attitudes - alcohol petty crime	4.50*** (3.77 to 5.38)	3.60*** (3.08 to 4.20)	2.98*** (2.60 to 3.42)	2.21*** (1.86 to 2.62)	4.80*** (4.00 to 5.76)	3.01*** (2.56 to 3.53)	5.41*** (4.50 to 6.50)
Brothers or sisters drank frequently	5.59*** (4.56 to 6.85)	2.94*** (2.48 to 3.47)	2.64*** (2.30 to 3.04)	1.89*** (1.60 to 2.24)	3.78*** (3.16 to 4.51)	2.76*** (2.35 to 3.24)	3.31*** (2.74 to 3.01)
Family member substance problem	3.15*** (2.48 to 4.00)	2.43*** (2.01 to 2.93)	2.61*** (2.21 to 3.10)	1.32* (1.07 to 1.62)	2.21*** (1.79 to 2.73)	1.81*** (1.51 to 2.24)	2.77*** (2.23 to 3.43)

Also, the life stress and emotional distress have negatively affected the alcohol use over time. Professor Flynn HA from University of Michigan Medical School wrote in his article about the comparison of cross-sectional and daily reports in studying the relationship between depression and use of alcohol in response to stress in college students. He found that there is a significant correlation between stress, depression and alcohol consumption. People with family history of alcoholism show smaller responses to alcohol than people from nonalcoholic families.

Nonetheless, the public may have different perceptions and psychology towards the consumption of alcohol. "Alcohol has been used for centuries in social, medical, cultural, and religious settings. Most Americans believe alcohol can be used responsibly by adults for social and religious purposes." From the article *How Adolescents Perceive the Stigma of Mental Illness and Alcohol Abuse* by Corrigan, Lurie, and other authors, findings from a nationwide probability

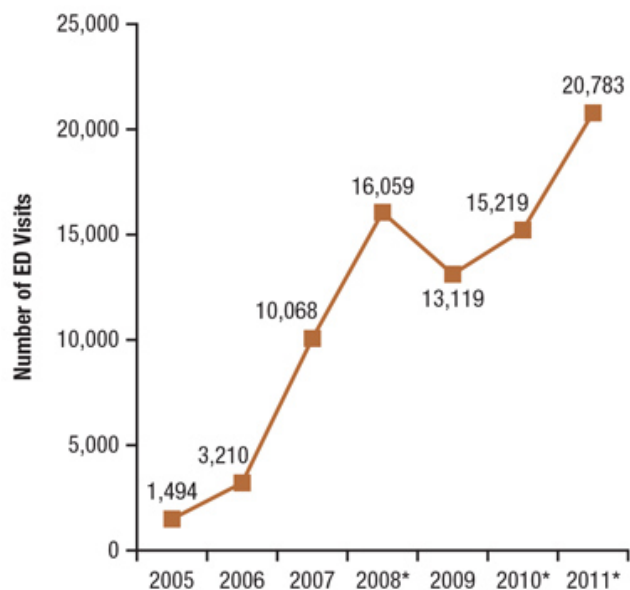
sample showed that respondents viewed people with mental illness as being more dangerous than those with physical illnesses but people who abused alcohol were viewed as being more dangerous than those with mental illness (6, 7). The adolescents tend to stigmatize peers who abuse alcohol more harshly. On one hand, some Americans believe that alcohol use is justified if it is for social and religious purposes, which leads to many health problems; on the other hand, others stigmatize and blame the people who abuse and drink too much alcohol.

### **Caffeine**

Compared to alcohol, caffeine, the most widely consumed psychoactive substance in the world, is commonly thought as an addictive drug but is not clinically defined as addictive. Almost 60% of children consume caffeine through soft drinks, chocolate, tea, and medications. Caffeine's effects on us are moderate because it is quickly metabolized and eliminated in about 3-6 hours. Ropeik and Gray explain that caffeine works principally by interfering with adenosine in the body. Adenosine turns activity down by locking onto specialized receptors while caffeine binds to the same receptors. Therefore, adenosine can't trigger its modulating effect and this is what we call caffeine's stimulating effect. Caffeine can increase heart rate and irregular heart rhythms, keep us awake, cause heartburn and raise blood pressure. At the time of caffeine withdrawal, people can have headache and feel drowsy. "One controlled experimental test of caffeine withdrawal found that 52% of the participants had moderate or severe headache, 8% had symptoms of fatigue, and 8% to 11% had anxiety or depression".

According to the table *Caffeine Content In Common Sources* in the book, the average daily intake of caffeine among adults is about 200 milligrams while the consumption by kids is about 35 to 40 milligrams per day. National Coffee Association (NCA)'s National Coffee Drinking Trends (NCDT) has been consistently tracking annual consumption of coffee in the

United States since 1950. In NCDT 2013 study, coffee consumption has jumped by 5% and about 83% of people say that they drink coffee in the past year. Another type of drink that contains high amount of caffeine is energy drinks. In the article *Update on Emergency Department Visits Involving Energy Drinks: A Continuing Public Health Concern*, published by DAWN (Drug Abuse Warning Network) in January, since 2005, the number of people seeking emergency treatment after ingesting energy drinks doubled to more than 20,000 in 2011. In general, the consumption of caffeine is increasing in recent years.



\* Compared with the number of visits in 2007, the difference was statistically significant at the .05 level. The number of visits in years prior to 2007 were not used in statistical tests because of low numbers; the number of visits in 2004 was not shown because of low statistical precision.

Source: 2011 SAMHSA Drug Abuse Warning Network (DAWN).

In Europe, people drink much more coffee every year, especially in Finland and Norway. In Finland, average coffee consumption per person per year is about 12.0 kg and in Norway, it is about 9.9kg. In both Finnish and Norwegian history and culture, drinking coffee is one of the habits established since early 18<sup>th</sup> century. Due to these customs, rituals, and superstitions related to coffee, Finland and Norway are the first two largest consumers of coffee in the world.

However, as the following table demonstrates, the coffee consumption has dropped in 2009 and will continue declining in future years.

Rank ▲	Country ◆	Consumption ◆
1	 Finland	12.0 kg (4.1%)
2	 Norway	9.9 kg (3.4%)
3	 Iceland	9.0 kg (3.1%)
4	 Denmark	8.7 kg (3%)
5	 Netherlands	8.4 kg (2.9%)
6	 Sweden	8.2 kg (2.8%)
7	 Switzerland	7.9 kg (2.7%)
8	 Belgium	6.8 kg (2.3%)
9	 Canada	6.5 kg (2.2%)
10	 Bosnia and Herzegovina	6.2 kg
11	 Austria	6.1 kg (2.1%)
12	 Italy	5.9 kg
13	 Slovenia	5.8 kg
14	 Brazil	5.8 kg
15	 Germany	5.5 kg
16	 Greece	5.5 kg
17	 France	5.4 kg
18	 Croatia	5.1 kg
19	 Cyprus	4.9 kg
20	 Lebanon	4.8 kg

Coffee Consumption in Europe					
	2005	2006	2007	2008	2009
<b>Western Europe</b>	<b>42,124</b>	<b>42,863</b>	<b>42,479</b>	<b>41,571</b>	<b>40,302</b>
<b>Of which</b>					
France	5,113	5,278	5,628	5,152	5,568
Germany	8,913	9,151	8,627	9,535	8,897
Italy	5,484	5,593	5,821	5,892	5,835
<b>Eastern Europe</b>	<b>6,120</b>	<b>6,195</b>	<b>7,211</b>	<b>7,589</b>	<b>6,586</b>
<b>Total</b>	<b>48,244</b>	<b>49,058</b>	<b>49,690</b>	<b>48,160</b>	<b>46,888</b>

According to *Buzz Kill: Europeans Cut Back on Coffee* by Leslie Josephs and Neena Rai on Wall Street Journal, the deepening economic trouble has lowered people's affordability for expensive coffees and boosted the demands for less expensive options. Therefore, the coffee market has shrunk and total coffee consumption declines. Conversely, because the prices of coffee are reduced, more and more Americans start drinking more coffee. Also, coffee seems to be a perfect drug to fit the work style of people. The caffeine contained in coffee has huge stimulating effects and keeps us awake and energetic. It also drives away boredom and fatigue, and leads to high performance regardless of the aftereffects of caffeine use. After consuming caffeine, people usually develop psychological or physical dependence. Although caffeine does not produce life-threatening health risks, some caffeine users still report being "addicted" to caffeine because they fail to quit or to cut down their caffeine use. Therefore, they continue to use caffeine despite having medical or psychological problems to avoid experiencing caffeine

withdrawal symptoms. It is like a vicious cycle that the more caffeine people consume, the more addicted they are to caffeine.

What about college students? What do they think of caffeine? In *Caffeine Consumption Habits and Perceptions among University of New Hampshire Students* by Nicole L. Olsen, he explains that the participants of his survey “found caffeine to be advantageous for its effects on staying awake, getting good grades, being able to focus, being better able to socialize. Focus groups participants said that caffeine helps them to wake up in the morning, even noting that they ‘wouldn’t do anything all day without it’ (19)”. Most of the participants also consider caffeine as a drink, as well as a gateway drug to other drugs or behaviors.

### **Conclusion**

Although alcohol and caffeine are commonly consumed by college students, they give different likelihoods of exposure to hazardous levels and bring about different consequences. Alcohol has more severe hazards to people’s health conditions and more people are exposed to it because it is widely used. In contrast, caffeine has fewer hazards and less severe consequences. It is important to recognize that both risks and not over-consume them, especially alcohol. Consuming small amount of alcohol and caffeine occasionally will not have huge effects whereas large amount of consumption can trigger severe mental and physical problems. To reduce risks, we need to emphasize and improve the moderation of consumption of alcohol and caffeine. It is helpful to recognize the moderate amount of consumption that people should have every day. The Dietary Guideline for Americans 2010 report recommends consuming up to 1 drink a day for women and two drinks a day for men: examples of one drink would be 12 ounces of beer or 5 ounces of wine. Similarly, up to 1 to 2 cups per day is moderate.

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(Figure 1)

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