

2005 CORE Survey Report

Alcohol, Tobacco, and Other Drug Use

BOYNTON
HEALTH SERVICE

UNIVERSITY OF MINNESOTA



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Survey Demographics

	All Students n=2899	18-24 yr-olds n=2619	25+ yr-olds n=280
Mean Age	21.3	20.4	29.8
Mean Grade Point Average	2.91	2.92	2.81

	Percent All Students n=2899	Percent 18-24 yr-olds n=2619	Percent 25+ yr-olds n=280	
Classification	Freshman	20.7	22.5	2.5
	Sophomore	20.8	22.1	9.0
	Junior	25.6	25.2	29.4
	Senior	31.8	29.7	52.0
	Grad/Prof/Other	1.1	0.5	1.1
Gender	Male	35.9	35.1	42.9
	Female	57.8	58.7	19.6
	Unspecified	6.3	6.2	7.5
Ethnic Origin	American Indian/Alaskan Native	0.2	0.2	0.7
	Hispanic	2.0	2.0	2.6
	Asian/Pacific Islander	8.8	8.9	8.2
	White (non-Hispanic)	83.6	84.3	76.9
	Black (non-Hispanic)	2.6	2.0	7.5
	Other	2.7	2.6	4.1
Current Residence	On campus	32.4	35.7	1.2
	Off campus	67.1	64.3	98.8

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Executive Summary

This report represents the most comprehensive analysis of alcohol, tobacco, marijuana and other drug use among University of Minnesota undergraduate students to date.

> Participating Students

- > 6,000 surveys were sent via U.S. mail to undergraduate students
- > 2,932 students responded
- > 216 surveys were undeliverable
- > the final response rate was 50.7%

In the spring of 2005, Boynton Health Service sent surveys designed to assess the use of tobacco, alcohol, marijuana and other drug on the Twin Cities Campus to a random sample of University of Minnesota undergraduate students.

In February of 2005, 6,000 surveys were sent via U.S. and campus mail to undergraduate students. 2,932 students responded and 216 were undeliverable, establishing a response rate of 50.7%.

Boynton Health Service used a modified CORE drug and alcohol survey from the CORE Institute in Carbondale, Illinois. By using the same questions and methodology since 1992, longitudinal data can indicate trends and are included in this report. National trends from the CORE survey have been reported when ever possible.

Boynton's modifications to the survey focused on alcohol and tobacco use exclusively. Questions added to the survey allowed for a Blood Alcohol Content (BAC) calculation, perception of level of intoxication, and more in depth questions related to tobacco use.

Further analysis will be done to determine the reliability of the alcohol use questions in determining high risk use of alcohol.

Major findings from this survey include:

- > Among all students who participated in the survey **27.2%** reported they used tobacco products within the past 30 days.
- > The rate of daily tobacco use was **5.9%** among all survey participants. The daily use rate for students 25 + years and older was higher than among students aged 18-24 (**13.4%** vs. **5.1%**), respectively.
- > The past 30 day alcohol use rate for survey participants was **74.8%**.
- > The high risk drinking rate (consuming 5 or more drinks at one sitting within the past two weeks) was **45.1%** among students aged 18-24, and **32.6%** among students aged 25 and older.
- > Among students aged 18-20 who participated in the survey **66.9%** reported using alcohol within the past 30 days.
- > Students who engaged in high risk drinking reported an average of **23.7** negative consequences within the past 12 months as a result of drinking and drug use. Compared to an average of **4.9** negative consequences within the past 12 months among students who reported they did not engage in high risk drinking.
- > There is a strong association between tobacco and alcohol use. The difference in high risk drinking rates among students who use tobacco products versus those who do not use tobacco products was **73.6%** vs. **32.7%**, respectively.
- > The relationship between tobacco and marijuana use also showed a significant association with tobacco users having a **42.0%** past 30 day use rate for marijuana versus a **8.4%** past 30 day marijuana use rate for non-tobacco users.
- > Among survey participants **17.5%** reported using marijuana within the past 30 days and **10.7%** reported using an illegal drug other than marijuana within the past 12 months.

Introduction

In the spring of 2005, Boynton Health Service – University of Minnesota, in conjunction with 16 other post-secondary institutions, undertook a survey of their students' drug and alcohol behaviors.

> The Purpose of this Report

- > Explore relationship between drinking and drug use and the resulting negative consequences
- > Learn more about relationship between tobacco, alcohol, marijuana and other drug use
- > Assess alcohol use rates by under age college students
- > Examine marijuana and other illegal drug use by college students

Of the 17 participating institutions two were four-year public institutions, seven were private institutions, and eight were two-year public institutions within the metro or near metro area. This publication contains the findings for the University of Minnesota as it relates to tobacco, alcohol and other drug use. This data will provide information which can be used by University of Minnesota administrators and staff to address the drug and alcohol needs of their student populations.

In previous years, survey data assisted University administrators and staff in making decisions regarding policies and procedures. The data have also been cited often in local and national news stories to help provide perspective to viewers or readers. Strong methodology and response rates bring credible and reliable data to the forefront when decisions need to be made. In addition, through the analysis of strong data can help with the design and implementation of programs and services for students.

It is expected this information will provide an accurate picture of the undergraduate student population and their use of alcohol, tobacco, marijuana and other drugs.

Methodology

The CORE Drug and Alcohol Survey is a tool used by schools across the country. Boynton Health Service has been conducting the CORE survey using consistent methodology since 1992.

Students were surveyed using a modified CORE survey sent to a random sample of 6000, undergraduate students on the Twin Cities campus. Only degree seeking students with a minimum of six or more credits were eligible for the survey. The data analysis of this report limited the undergraduate population to students aged 18-24. The same criteria have been used since 1992 which has provided a consistent student population.

An incentive was provided for students who responded to the survey.

They did not need to complete the survey to be eligible for the prizes.

The incentives were gift certificates \$2000 (1) or \$500 (2) at a variety of stores in the area determined to be popular among students.

The incentives proved to be very helpful in encouraging students to respond to the survey.

There were four separate mailings sent to the selected students:

1. Tickler Postcard sent to all 6000 students indicating they have been selected and are now eligible to participate in the survey and could win a gift certificate for \$2000 or \$500. Participation in the survey was limited to the original sample. Students that called in asking to participate were graciously turned down.
2. Survey One containing the survey, cover letter, pencil, return envelope (postage paid) and a return postcard were sent to the entire sample of 6000.

You are just 1 in 300 selected!

The University of Minnesota and Boynton Health Service at the University of Minnesota have randomly selected YOU to participate in the 2005 Core Drug and Alcohol Survey. And just for completing this survey you will be entered in a...

fabulous drawing!

1st Prize: \$2000 gift card
2nd & 3rd Prize: \$500 gift card

...to your choice of the following great stores:
Tiffany & Co., Marshall Fields, IKEA, Best Buy, Target, SportMart, Midwest Mountaineering

UNIVERSITY OF MINNESOTA
Twin Cities Campus
2005 Core Drug and Alcohol Survey
Boynton Health Service
410 Church Street SE, N217
Minneapolis, MN 55455-0346

If address is no longer at address please return to sender. Thank you!

You should receive your survey within the next two weeks. Surveys and post cards must be returned post marked by 5/14/05.

Dr. Katherine Lust
612-624-6214
klust@bhs.umn.edu

UNIVERSITY OF MINNESOTA
Twin Cities Campus
2005 Core Drug and Alcohol Survey
Boynton Health Service
410 Church Street SE, N217
Minneapolis, MN 55455-0346

You could win \$2,000!

It's easy - just fill out our survey to be entered in the drawing!

Your odds of winning are 120 million times better than Powerball!

Only the address may enter. Please return to sender if they are no longer at this address.

* Have you sent in your survey?

* This is a reminder to send in your survey!

> Methodology Highlights

- > A total of 6,000 undergraduate students were randomly selected to participate in this study. Of the 6,000 students sent surveys, 2,932 completed and returned the survey, and 216 were undeliverable, for a response rate of 50.7%.
- > The mean age of the survey respondents was 21.3 with a range from 18 to 61 years of age.
- > The gender breakdown for the completed surveys consisted of 35.9% males, 57.8% females and 6.3% students who chose not to report their gender.

3. Reminder postcard was sent to all students who had not sent back their return postcard. The reminder postcard also served as their entry into the contest and provided their consent to be part of the survey or decline. The cards are mailed back separately and not matched with the return surveys.
4. Survey Two was sent to all students who had not yet sent in their return postcard. This was approximately 60% of the original sample. The contents are the same as Survey One.
5. Two emails were also sent to students who had not yet responded.

This strategy resulted in a 50.7% response rate and 2,932 students completed the survey. Surveys determined to be undeliverable were removed from the original sample size.

Specifically for the 2005 CORE survey modifications were made to the survey. The standard demographic and use questions remained the same. A series of 20 questions about alcohol and tobacco use were added to the questionnaire. The addition of the questions provides more detailed information about aspects of level of alcohol use or tobacco use. Analysis of most of these questions is provided in this report.

Completed surveys were scanned by the CORE Institute, and the data are sent to Boynton Health Service for analysis. The data were analyzed using SPSS. Significance of correlations are identified where appropriate in the report.

This report also includes results from identical questions included in the 2004, 2001 and 1998 Student Health Survey conducted by Boynton Health Service. More complete information about these surveys can be obtained at www.bhs.umn.edu under the Data and Statistics section.

The image shows a scan of a survey form titled "Core Alcohol and Drug Survey For use by two- and four-year institutions". The form is divided into several sections with checkboxes and radio buttons for responses. Key sections include:

- 1. Classification:** Freshman, Sophomore, Junior, Senior, Grad/professional, Not seeking a degree, Other.
- 2. Age:** A grid for age ranges from 18-19 to 60-61.
- 3. Ethnic origin:** American Indian, Asian/Pacific Islander, White (non-Hispanic), Black (non-Hispanic), Other.
- 4. Marital status:** Single, Married, Separated, Divorced, Widowed.
- 5. Gender:** Male, Female.
- 6. Is your current residence as a student:** On-campus, Off-campus.
- 7. Are you working?** Yes, full-time; Yes, part-time; No.
- 8. Living arrangements:** A. Where (mark best answer): House/apartment, Residence hall, Approved housing, Parents or family, Other. B. With whom (mark all that apply): With roommates, Alone, With parents, With spouse, With children, Other.
- 9. Approximate cumulative grade point average:** A grid for GPA ranges from A+ to F.
- 10. Some students have indicated that alcohol or drug use at parties they attend to and around campus reduces their enjoyment, often leads to negative situations, and therefore, they would rather not have alcohol and drug available and used. Other students have indicated that alcohol and drug use at parties increases their enjoyment, often leads to positive situations, and therefore, they would rather have alcohol and drug available and used. Which of these is closest to your own view?** A grid for responses: With regard to drugs? With regard to alcohol? (Yes/No/Don't know).
- 11. Student status:** Full-time (12 credits), Part-time (1-11 credits).
- 12. Campus situation on alcohol and drugs:** A grid for responses: Does your campus have alcohol and drug policies? If so, are they enforced? Does your campus have a drug and alcohol prevention program? Do you believe your campus is concerned about the prevention of drug and alcohol use? Are you actively involved in efforts to prevent drug and alcohol use problems on your campus? (Yes/No/Don't know).
- 13. Place of permanent residence:** In-state, USA, but out of state, Country other than USA.
- 14. Think back over the last two weeks. How many times have you had five or more drinks at a sitting?** A grid for frequency: None, Once, Twice, 3 to 5 times, 6 to 9 times, 10 or more times.
- 15. Average # of drinks you consume a week:** A grid for frequency: 0 or less than 1, 1 to 2, 3 to 4, 5 to 6, 7 to 8, 9 to 10, 11 or more.
- 16. At what age did you first use:** (Mark one for each line) a. Tobacco (cigarette, chew, snuff), b. Alcohol (beer, wine, liquor), c. Marijuana (pot, herb, hash, oil), d. Cocaine (crack, rock, freebase), e. Amphetamines (over-the-counter, speed), f. Sedatives (barbiturates, Valium), g. Hallucinogens (LSD, PCP), h. Quinine (bitter, snack, health), i. Inhalants (snuff, solvents, etc.), j. Designer drugs (ecstasy, MDMA), k. Steroids, l. Other illegal drugs.

Alcohol Use

INTRODUCTION

Alcohol use by college students is another area of great concern as alcohol contributes to 100,000 deaths annually, making it the third leading cause of preventable mortality in the United States¹.

High risk drinking and other drug use are often considered the most widespread health problem on college campuses in the United States as young adults aged 18-24 consume more alcohol, tobacco and drugs than any other demographic group².

Use of alcohol and other drugs is associated with the leading causes of death and injury (e.g. motor-vehicle crashes, homicides, and suicides) among young adults³. The total cost of alcohol use by youth—including traffic crashes, violent crime, burns, drowning, suicide attempts, alcohol poisonings and treatment—is more than \$58 billion per year⁴.

Efforts to increase prevention education, expand counseling services, offer alternative social activities and address alcohol related campus policies are essential to reducing the number of alcohol-related problems on college campuses. Gathering information relative to current alcohol use, high risk drinking rates and the associated negative consequences provides a base of understanding which can then be used to establish policies and programs that will aid students in making healthy choices around alcohol use.

References

1. McGinnis J & Foegle W. Actual Causes of Death in the United States. *Journal of the American Medical Association* 270; 18: 2208.
2. National Institute of Drug Abuse (1999) Results from Monitoring the Future. Available at <http://www.nida.nih.gov>.
3. CDC. Alcohol and Other Drug Use Among High School Students—United States, 1990. *MMWR* 1991; 40(45); 776-777, 783-784.
4. Levy DT, Stewart K et al. Costs of Underage Drinking. Report prepared for the US Department of Justice Office of Juvenile Delinquency Prevention. Pacific Institute for Research and Evaluation, 1999.

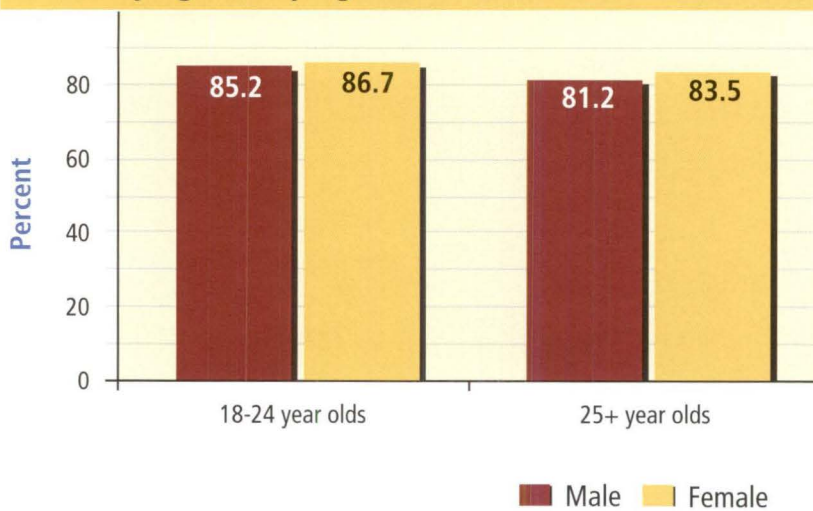
> Highlights

- > High risk drinking rates (defined as 5 or more drinks in previous two weeks) for all 18-24 year olds is 41.9%, and 29.8% for students aged 25 and older.
- > 77.0% of 18-24 year old college students reported that they had been intoxicated at least once in the previous year, and 50.2% reported that they had been intoxicated at least once per month in the previous year.
- > The estimated BAC on the most recent drinking occasion averaged 0.09 for males and 0.10 for females.
- > 74.8% of all students report they have used alcohol in the past 30 days.

Results

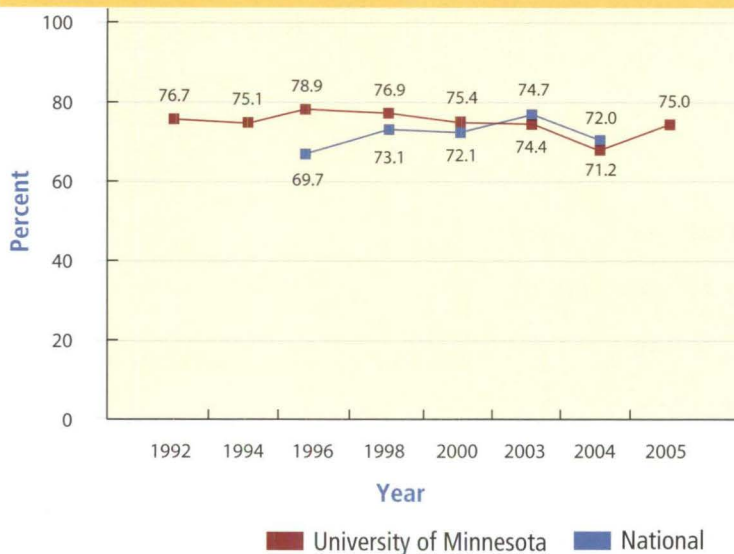
> Current Alcohol Use

> Alcohol Use Within the Past 12 Months By Age Grouping and Gender



The past 12 month alcohol use rate for all students attending University of Minnesota was **85.5%**. The past 12 month alcohol use rate among students 18-24 years old was **86.1%** while the rate for students aged 25 and older was **83.3%**. Past 12 month alcohol use is defined as, use of any alcohol within the past 12 months.

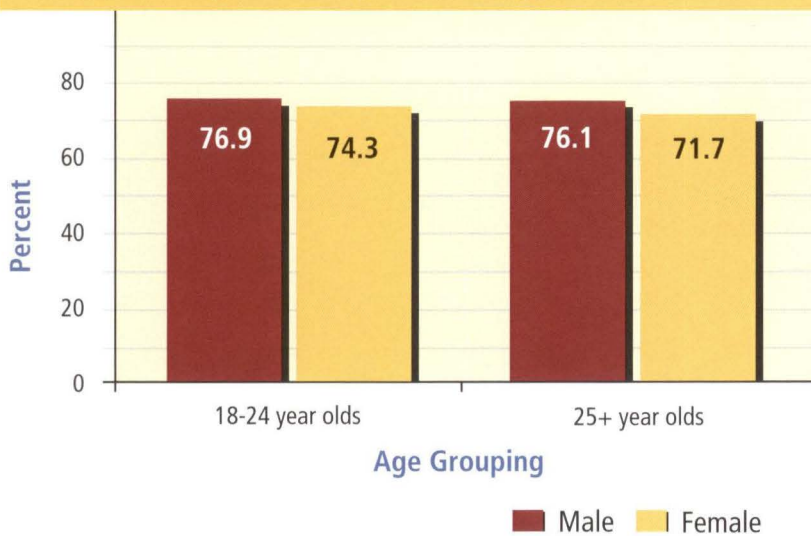
> Current Alcohol Use (18-24-year-old Undergraduates)



The percentage of University of Minnesota 18-24 year old undergraduates who have used alcohol in the past 30 days has remained relatively steady since 1992, fluctuating between a low of **71.2%** (2004) and a high of **78.9%** (1996).

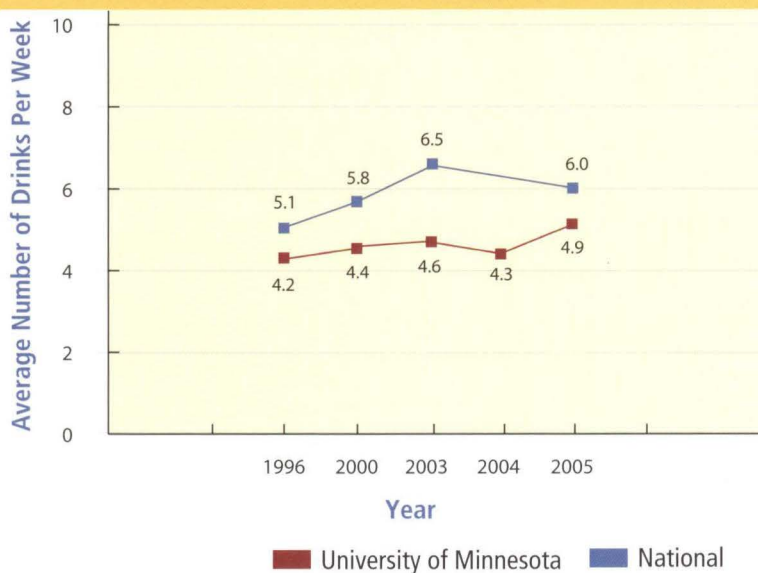
Current alcohol use is defined as consuming a bottle of beer, 2 glasses of wine, a wine cooler, a shot glass of liquor, or a mixed drink within the last 30 days.

> Current Alcohol Use: By age grouping (18-24 year; 25+ years) and gender



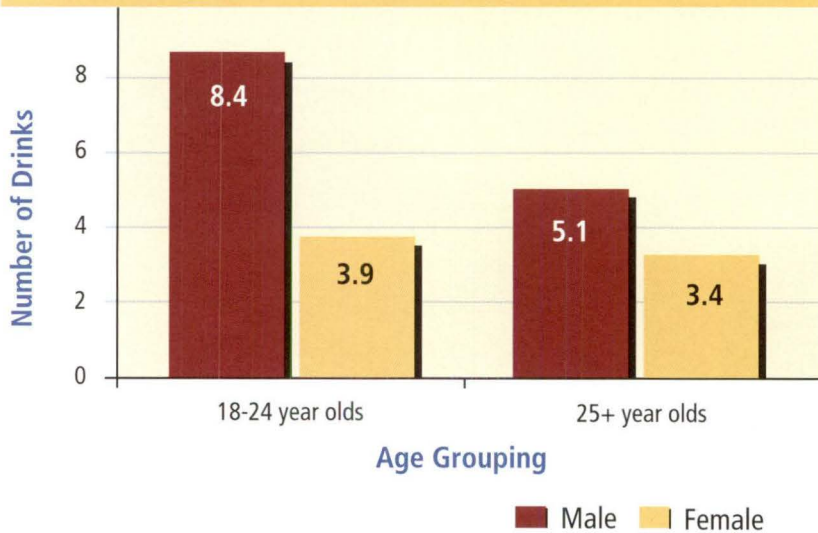
The current alcohol use rate for all students who participated in the survey was **74.8%**. The current alcohol use rate for students by age grouping and gender were similar.

> Average Number of Alcoholic Drinks (18-24-year-old Undergraduates): Per Week



The average number of alcoholic drinks consumed per week for University of Minnesota 18-24 year old undergraduates has slowly increased since 1996 but continues to remain below the national average. Like “current use” the average number of drinks per week may serve as an indicator of overall alcohol use.

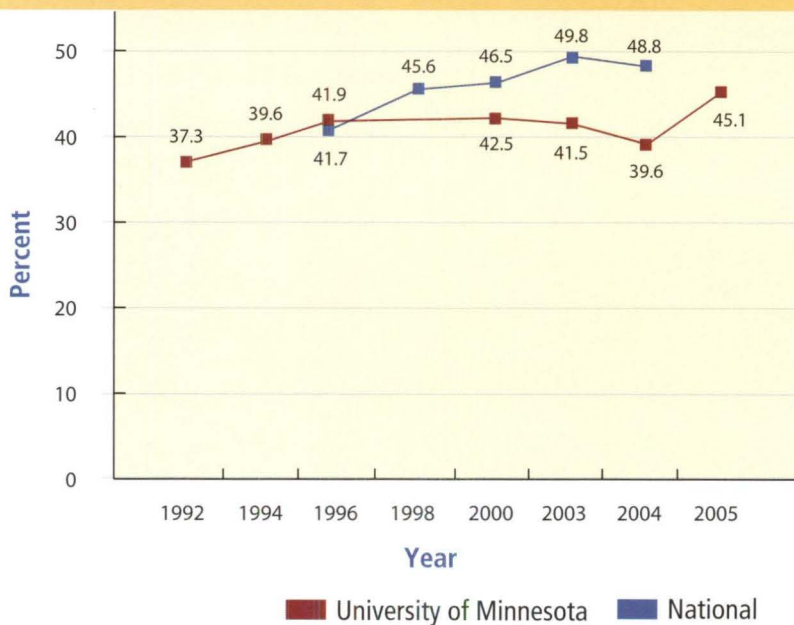
> Average Number of Drinks Consumed per Week: By age grouping (18-24 year; 25+ years) and gender



The average number of drinks consumed per week by all students who participated in the survey and consumed alcohol within the past 30 days was **4.8**. Males aged 18-24 had the highest average number of drinks consumed per week with **8.4**.

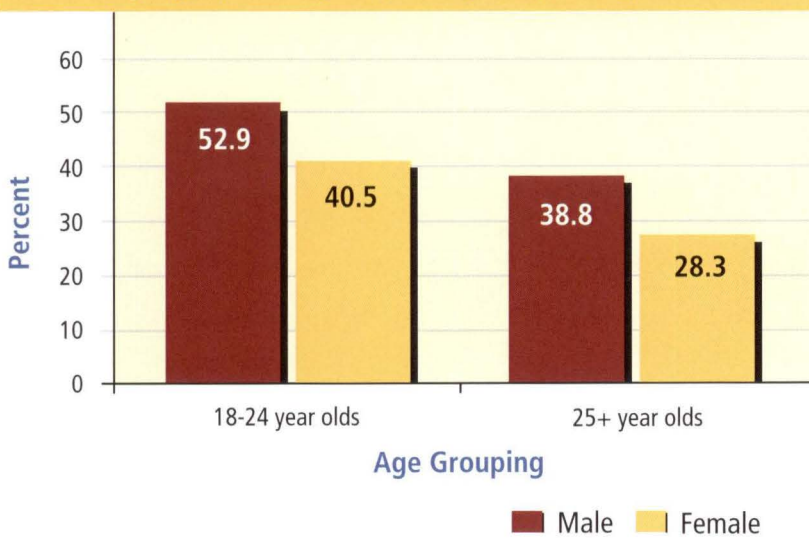
> High Risk Drinking

> High Risk Drinking Rates (18-24-year-old Undergraduates)



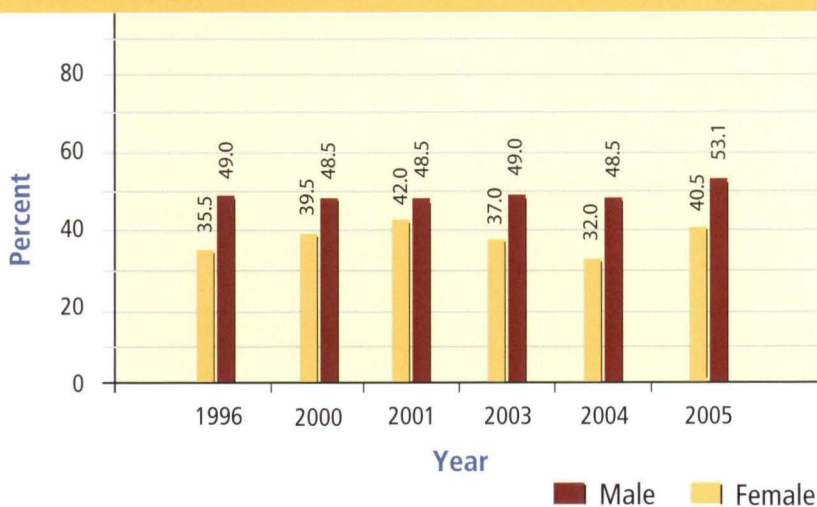
A High Risk Drinking (HRD) episode is defined as consumption of five or more drinks at one sitting. The national rates (CORE) for 18-24-year-olds in 2004 was **48.8%**. The U of M rate in 2004 was comparably lower at **39.6%**. The U of M survey results for 2005 showed a noticeable shift in higher rates for 18-24-year-olds.

> **High Risk Drinking Rate (within past two weeks)**
By age (18-24 year; 25+ years) and gender



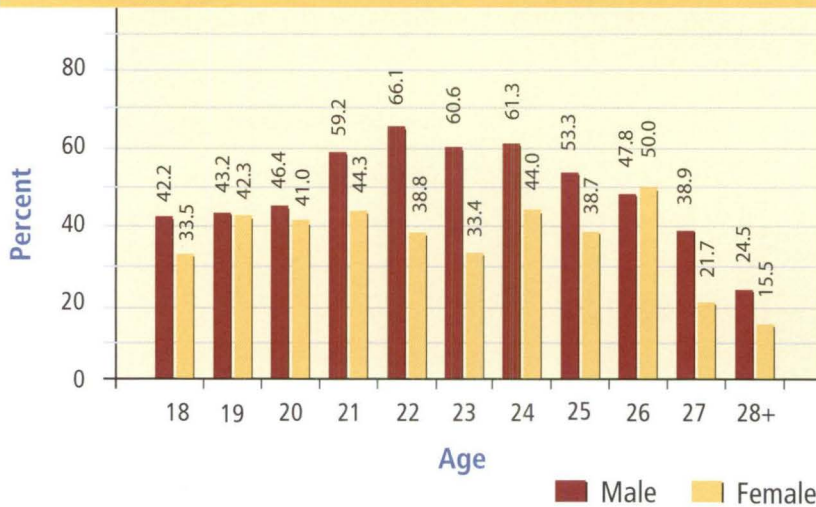
The high risk drinking rate for student who participated in the survey was **43.9%**. The high risk drinking rates for 18-24 year olds was **45.1%** compared to **29.8%** for students aged 25 and older.

> **High Risk Drinking Rate**
By gender



The high risk drinking rates for males since 1992 have been consistently higher than the rates from females. The rates for males ranged from **48.5%** (2000, 2001, 2004) to **53.1%** (2005) the rates for females ranged from **32.0%** (2004) to **42.0%** (2001).

> High Risk Drinking Rate: By age



Examining the high risk drinking rate across ages showed that the peak years for engaging in high risk drinking occurred between the ages of 21 and 24.

The range for males in this age group is **59.2 - 66.1**. The “norm” for this age group is to engage in high risk drinking. This is less true for women - their HRD rate ranged from **33.4 - 44.3**.

> Blood Alcohol Content

Blood Alcohol Content (BAC)

BAC measures the percentage of alcohol in a person's blood and the calculation for BAC is based on a simple formula which takes into account the following factors:

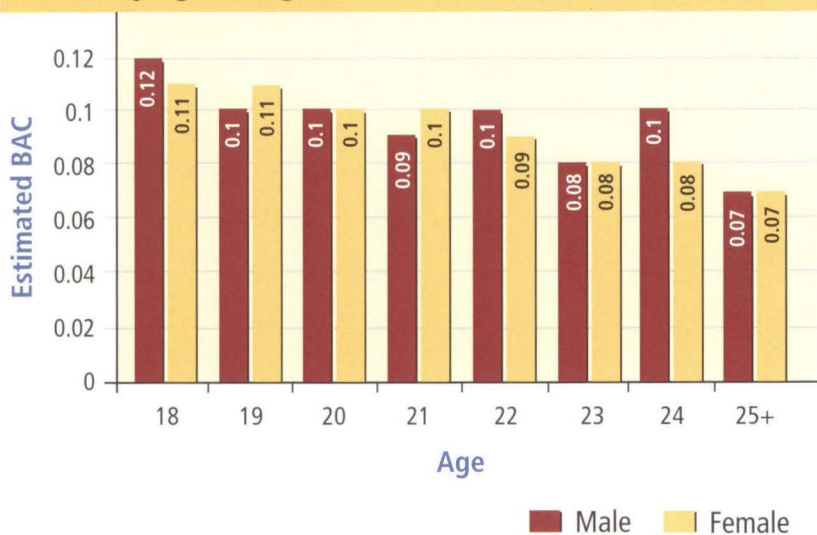
- > Body weight
- > Amount of alcohol consumed (number of drinks)
- > Time period
- > Gender
- > Concentration of alcohol in the beverage consumed (Based on the alcohol content of one typical 12 ounce can of beer containing 4.5% alcohol)

It should be noted that the calculated BAC in this study is estimated based on reported information and using an estimated alcohol content for one 12 ounce can of beer.

> Average Estimated BAC By age (18-24 year; 25+ years) and gender



> Estimated BAC on Last Partying Occasion By age and gender



The average estimated Blood Alcohol Content (BAC) (based on the last time the student “partied/socialized”) for students attending the University of Minnesota was **0.10**. The average BAC among University of Minnesota students aged 18 – 24 and 25 and older was **0.10** and **0.07**, respectively.

The mean BAC for 18-24 year old students is significantly above the legal limit of **0.08**.

The blood alcohol content (BAC) on the most recent socializing/partying occasion was calculated using four different survey questions. These included the number of drinks consumed on that occasion, the number of hours over which those drinks were consumed, the weight of the student and the gender of the student. Among students who report consuming alcohol, the mean BAC on most recent partying/socializing occasion by age is generally higher for younger students (0.1 BAC for 18-24 year old males and females) and lower for older students across both males and females. The overall BAC for students surveyed is **0.10**. Other research has indicated that these calculated BACs may be even higher as college students tend to over pour standard drink sizes and therefore underestimate the total number of drinks that they consume.⁵

5. White AM, Kraus C L, Flom JD, Kestenbaum LA, Mitchell JR, Shah K and Swartzwelder HS. College students Lack Knowledge of “Standard Drink Volumes: Implications for Definitions of risky Drinking Based on Survey Data. *Alcoholism: Clinical & Experimental Research* 2005; 29(4):631-638.)

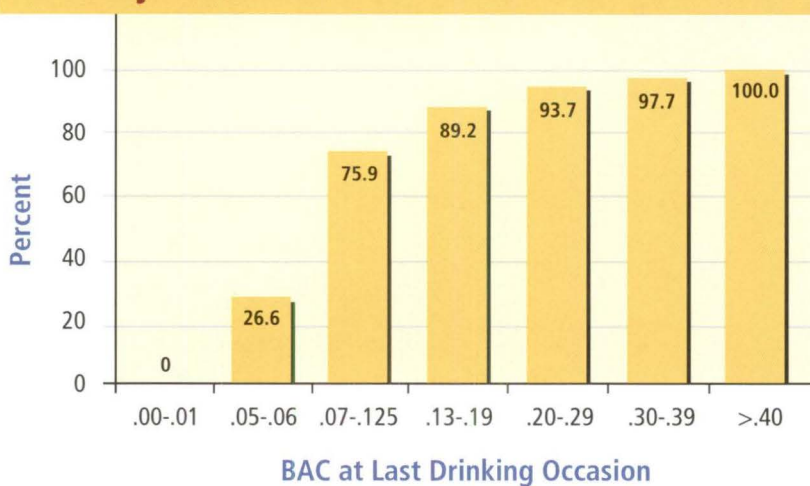
Expected behavior effect based on level of Blood Alcohol Content

Calculated BAC Range	Expected Effects*
.00 - .01	No effects
.02 - .06	Euphoric, social, talkative, fewer inhibitions
.07 - .125	Felt excited, emotional, less rational, had slowed reactions
.13 - .19	Felt confusion, had impaired balance and movement, slurred speech, nausea and vomiting possible
.20 - .29	Had sever motor impairment (staggering and falling)
.30 - .39	Stupor and loss of consciousness
.40 and above	Onset of coma, and possible death due to respiratory arrest.

*Source – American Council on Drug Education

Students were asked to report how they felt on the last partying/socializing occasion based on the table at the left.

> Percent of students reporting lower than expected perceptions of intoxication by BAC level



More analysis of the relationship of self perception of the effect alcohol had on the last time they “partied”/socialized must be done. These data reveal a large gap between perceived symptoms and actual intoxication.

Students calculated BAC by students reported effect based on the last time they partied or socialized

Student's Calculated BAC Range	Expected Effects*	Number of students	Percent	
			Accurately reported "expected effect"	Reported lower than "expected effect"
.00 - .01	No effects	281	46.3	0.0
.02 - .06	Euphoric, social, talkative, fewer inhibitions	589	62.1	26.6
.07 - .125	Felt excited, emotional, less rational, had slowed reactions	642	19.2	75.9
.13 - .19	Felt confusion, had impaired balance and movement, slurred speech, nausea and vomiting possible	402	9.0	89.2
.20 - .29	Had severe motor impairment (staggering and falling)	206	3.4	93.7
.30 - .39	Stupor and loss of consciousness	43	2.3	97.7
.40 and above	Onset of coma, and possible death due to respiratory arrest.	2	0.0	100.0

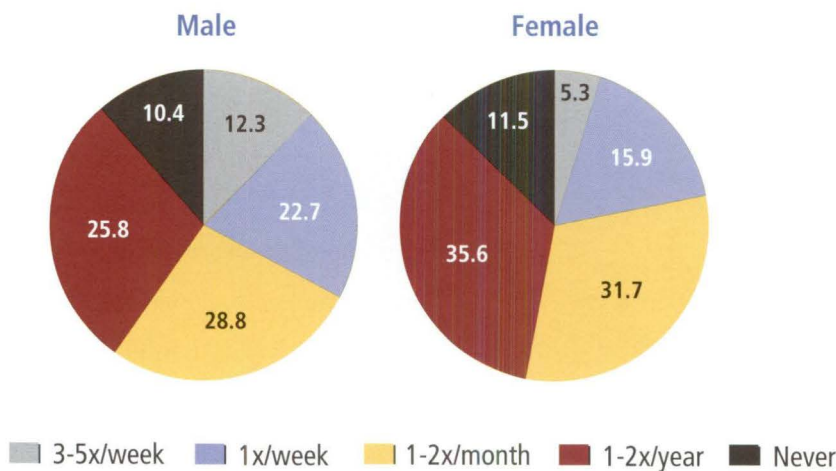
*Source – American Council on Drug Education

Their reported "experience" was then compared against their calculated BAC for the last time they parties/socialized. As students' calculated BAC levels increased, the number of students that reported lower than the expected level of effects dramatically increased. As student's level of intoxication increased, their perception of intoxication based on their calculated BAC was severely compromised. Among those who had 0.07 or higher BAC calculated for their most recent drinking occasion, between **75-100%** of them reported that they perceived their symptoms to be much less than expected based on tables of symptoms of intoxication by BAC.

> Episodes of Intoxication

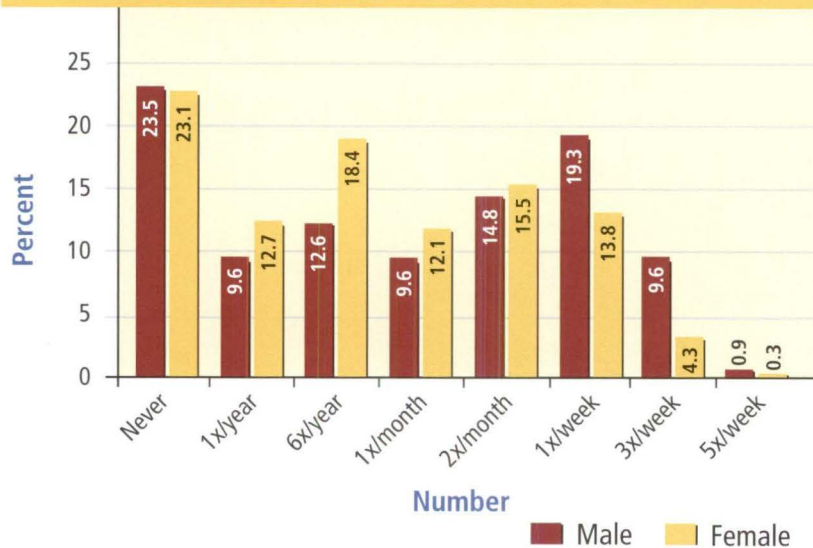
> Frequencies for the following survey question: How often in the past year did you drink enough to feel intoxicated?

(Only students who reported consuming alcohol within the past 30 days are included)



Among all University of Minnesota students who reported drinking to the point of feeling intoxicated 1 or more times per week, **35.0%** were male and **21.2%** were female. **4.0%** of students reported feeling intoxicated one time per month or more.

> Number of Times Intoxicated within the Past Year



Among the student who participated in the survey **29.8%** of males and **18.4%** of females reported being intoxicated between 1 and 5 times per week within the course of the past year. The percentage of students who reported they had never been intoxicated within the past year was similar for males and females **23.5%** and **23.1%**, respectively.

> The following table is percentages obtained from student's response to the following question:

In the past two week what percentage of students at the University of Minnesota do you think had 5 or more drinks at a sitting? (one drink = one shot of alcohol, a 12 ounce can of beer, a mixed drink containing 1 or 1 1/2 ounces of alcohol, a 12 ounce wine cooler, or a 5 ounce glass of wine).

	Students response to question (Their perception of High Risk Drinking)	Actual High Risk Drinking Rate
18-24 year olds		43.9
Males	43.4	
Females	45.2	
25+ year olds		
Males	36.3	
Females	38.7	

University of Minnesota students aged 18-24 tend to correctly estimate the amount of high risk drinking that takes place among their peers while students aged 25 and older tend to under-estimate the rate. There is some evidence to indicate that students who over estimate the amount that other students drinks, are more likely to drink at the level that they believe others in their colleges drink¹³. Programs such as social norms campaigns have attempted to bring the perception of use closer to the actual use rate as a way to reduce high risk drinking. It is unlikely this strategy will be successful at the University of Minnesota. The students are perceiving the norm accurately.

References

13. Perkins H.W., Linkenbach J., DeJong W (2001). Estimated blood alcohol levels reached by binge and non-binge drinkers: a survey of young adults in Montana. *Psychology of Addictive Behavior* 15(4), 317-320.

Alcohol Use and Negative Consequences

INTRODUCTION

In an attempt to understand the relationship between alcohol use and alcohol related negative consequences survey respondents were asked which negative consequences they have experienced as a result of their drinking or drug use. The list included 19 consequences that range from mild to severe (listed in table below).

Survey Question	
Please indicate how often you have experienced the following due to your drinking or drug use during the last year...	
... had a hangover	... done something I later regretted
... performed poorly on a test or important project	... been arrested for DWI/DUI
... damaged property, pulled fire alarm, etc.	... have been taken advantage of sexually
... got into an argument or fight	... have taken advantage of another sexually
... got nauseated or vomited	... tried unsuccessfully to stop using
... been in trouble with police, residence hall, or other college authorities	... thought I might have a drinking or other drug problem
... driven a car while under the influence	... seriously thought about suicide
... missed a class	... seriously tried to commit suicide
... been criticized by someone I know	
... had a memory loss	

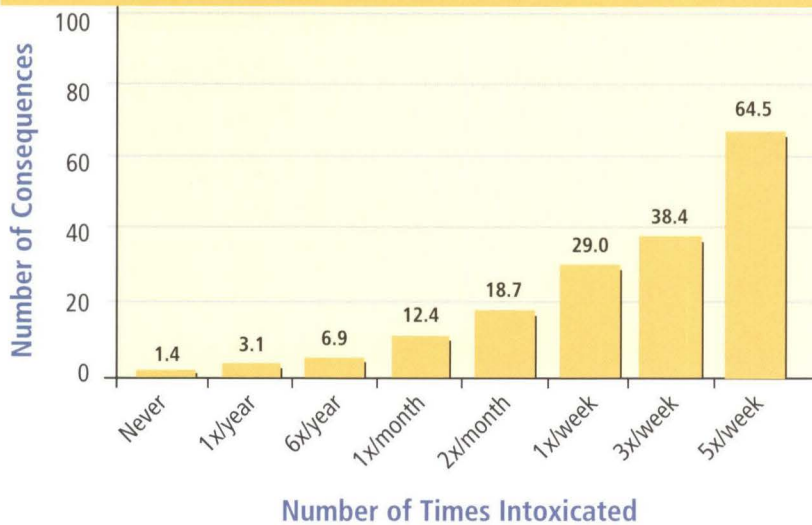
The respondents were to indicate which consequences they experienced and the number of times they experienced that consequence within the course of the past year. The consequences were tallied, resulting in a score for those surveyed. Ten occurrences of each consequence could be listed for each consequence resulting in a maximum possible score of 190.

> Highlights

- > Students who reported drinking alcohol within the past 12 months on average experienced 13.9 negative events as a result of their alcohol or drug use in the previous year.
- > On average, students who report drinking 6 or more drinks per week experienced 23.4 negative consequences in the previous year.
- > Students who engage in high risk drinking practices defined as consuming 5 or more drinks at one sitting within the past two week period, are more likely to report drinking and driving, and are also much more likely to receive DUIs.

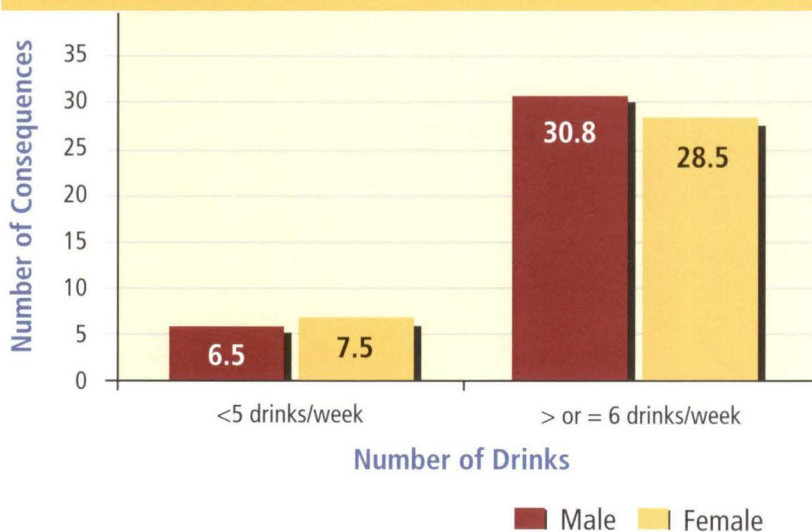
Results

> Average Negative Consequences by Number of Times Intoxicated



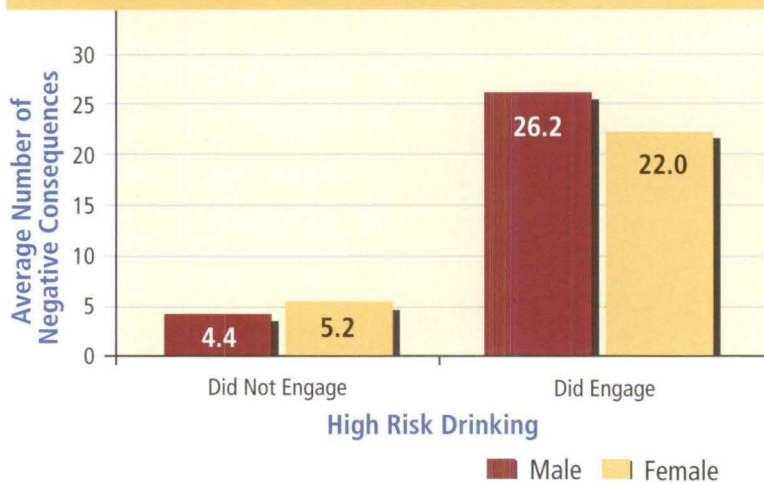
The more times a student reported being intoxicated in the previous year, the more likely they were to report negative consequences. For those who never drank enough to be intoxicated in the previous year, they experienced an average of **1.4** negative consequences from their alcohol consumption. However, for those that reported being intoxicated at least weekly or more, on average they experienced **30-70 times** the number of negative consequences.

> Negative Consequences Associated with Mean Number of Drinks per Week By Gender



Students who reported consuming on average 5 or fewer drinks per week experienced on average of **7.1** negative consequences over the past year. Whereas students who consumed on average 6 or more drinks per week experienced on average **29.5** negative consequences. The number of negative consequences reported by males and females was similar for both levels of average number of drinks consumed per week.

> Number of Negative Consequences Related to High Risk Drinking



Students who reported they do not engage in high risk drinking (consuming 5 or more drinks at one sitting within the past two weeks) experienced on average **4.9** negative consequences over the course of the past year. On the other hand, student who reported they engaged in high risk drinking within the past two weeks reported they experienced on average **23.7** negative consequences. The negative consequences experienced by males and females were similar based on whether or not they engaged in high risk drinking.

Frequencies for the following survey question:

If a person “passed out” from alcohol/drug use and you cannot wake them up, how likely is it you would call “911”?

Response to Question	Percent of Students		
	All Students	Did not use alcohol within the past 30 days	Used alcohol within the past 30 days
Very likely	54.5	65.3	50.7
Somewhat likely	27.5	23.2	29.0
Somewhat unlikely	13.0	8.4	14.5
Very unlikely	5.1	3.0	5.8

Students were asked if they would call 911 when someone has “passed out” due to drinking and they are unable to wake them. Though this is a clear example of when 911 must be called, only **54.5%** of University of Minnesota students reported they would be “very likely” to call 911. For University of Minnesota students who had consumed alcohol in the previous 30 days, **50.7%** said it was “very likely” they would call 911, while among those students who had consumed no alcohol in the previous 30 day, **65.3%** reported that they would be “very likely” to call 911.

High Risk Drinking (HRD)

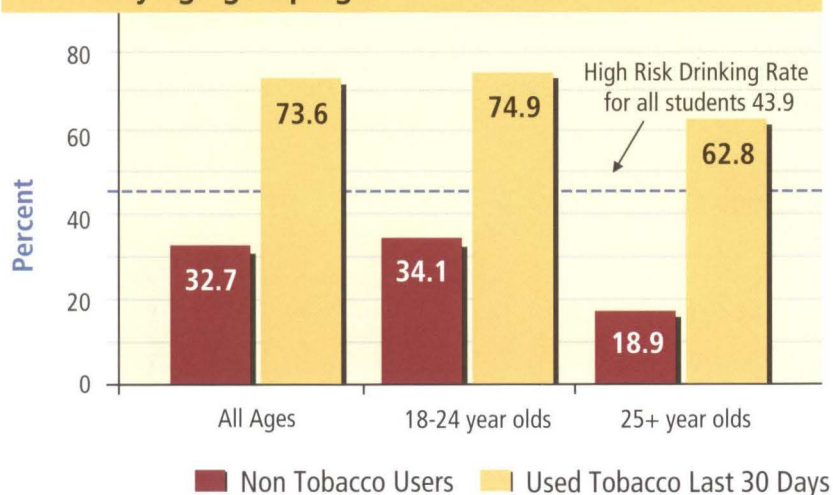
And selected consequences

Negative Consequences	Percent of Students		
	All Students	Non-HRD	HRD
driven	26.5	11.4	45.8
argument	30.2	13.4	51.6
poor test/project	19.6	7.4	35.1
missed class	29.5	11.8	52.1
been taken advantage of sexually	9.4	4.3	16.1

Smoking Status Relationship to Alcohol, Marijuana, and Other Drug Use

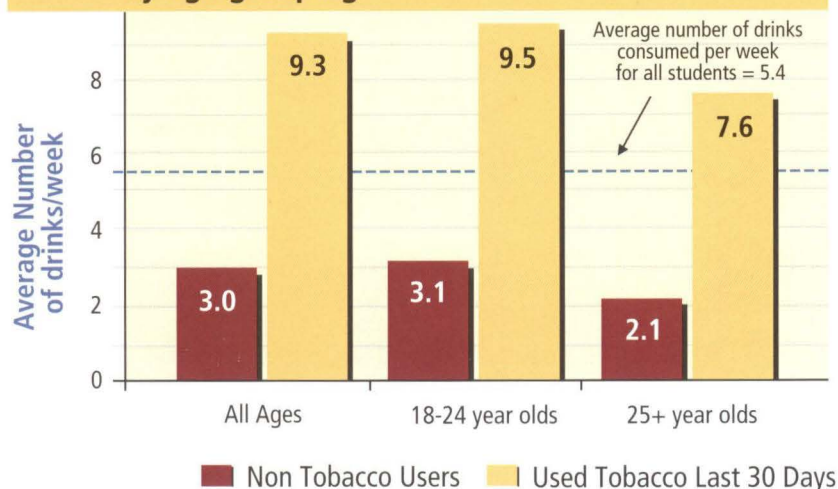
There is a compelling relationship between smoking status and other substances. Students who smoke are much more likely to drink, smoke marijuana, and use other drugs.

> Smoking Status: Relationship to High Risk Drinking Rates By age grouping



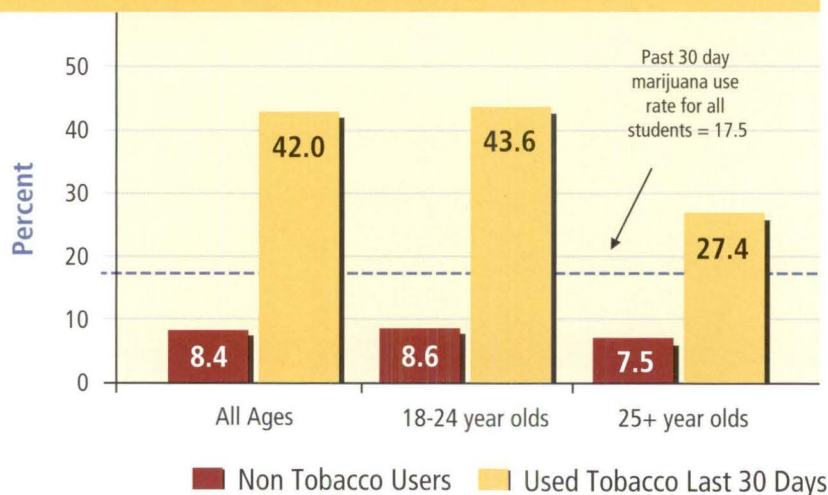
There is a strong association between tobacco use and alcohol use. As the graph illustrates students who use tobacco had significantly higher rates of high risk drinking versus students who do not use tobacco products (73.6% vs 32.7%), respectively.

> Smoking Status: Relationship to Average Number of Drinks Consumed per Week By age grouping



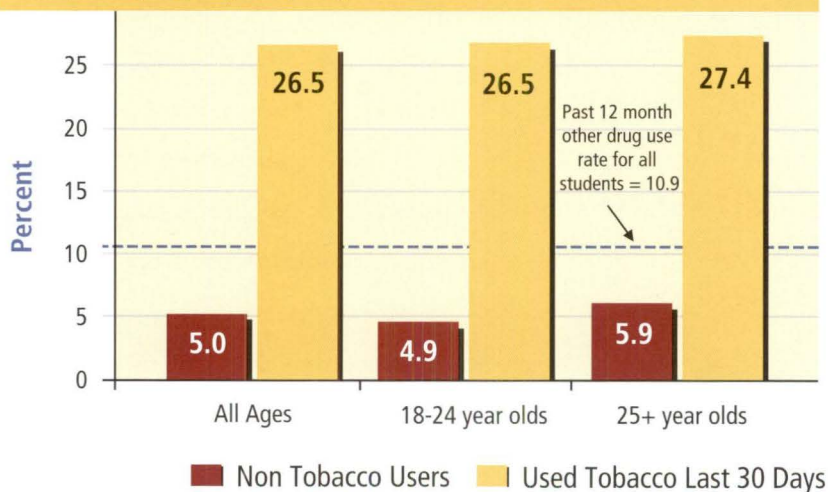
The average number of drinks consumed per week was also higher for tobacco users versus non-tobacco users. The average number of drinks consumed for all students who completed the survey was 5.4 drinks per week. The average number of drinks consumed per week for tobacco users versus non-tobacco users was 9.3 vs 3.0 respectively.

> Smoking Status: Relationship to Past 30 Day Marijuana Use By age grouping



There is a strong association between tobacco use and marijuana use. Students who used tobacco had 5 times the rate of marijuana use as compared to non-tobacco users.

> Smoking Status: Relationship to Past 12 Month Use of Any Other Illegal Drug (Does Not Include Marijuana) By age grouping



The past 12 months other drug use rate was also significantly higher for tobacco users versus non-tobacco users (26.5% vs 5.0%), respectively. The past 12 months other drug use rates for all students who participated in the survey was 10.9%. Students who used tobacco products had other drug use rates that were twice the average use rate for all students who participated in the survey.

Underage Alcohol Use

INTRODUCTION

Underage drinking poses a high risk to both the individual and society¹¹.

For example, the rate of alcohol-related traffic crashes is greater for drivers aged 16 to 20 than for drivers aged 21 and older¹². Adolescents also are vulnerable to alcohol-induced brain damage, which could contribute to poor performance at school or work. In addition, youthful drinking is associated with an increased likelihood of developing alcohol abuse or dependence later in life. Early intervention is essential to prevent the development of serious alcohol problems among youth between the ages of 12 and 20. Some of the most serious and widespread alcohol-related problems among adolescents are: drinking and driving, suicide, sexual assault and engaging in high risk sexual behavior.

Understanding the degree of underage drinking on college campuses and the associated negative consequences will lay a foundation for the development of policies and programs which can be implemented to improve the health of college age students.

References

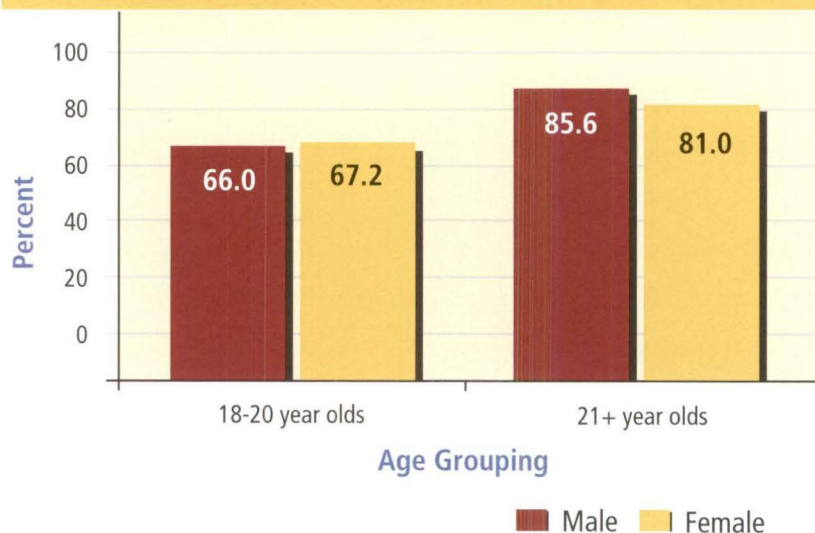
11. O'Malley PM, Johnston LD and Bachman JG. Alcohol use among adolescents. *Alcohol Health & Research World* 22(2):85-93, 1998.
12. Zador PL, Krawchuk SA and Voas RB Driver-related relative risk of driver fatalities and driver involvement in fatal crashes in relation to driver age and gender: An update using 1996 data. *Journal of Studies on Alcohol* 61(3): 387-395, 2000.

> Highlights

- > Among students aged 18-20 who participated in the survey, 80.5% report they used alcohol within the previous year.
- > The 30 day use rate for students aged 18-20 was 66.9%.
- > Survey respondents aged 18-20 reported a high risk drinking rate (consuming 5 or more drinks at one sitting within the past two weeks of 41.6%.

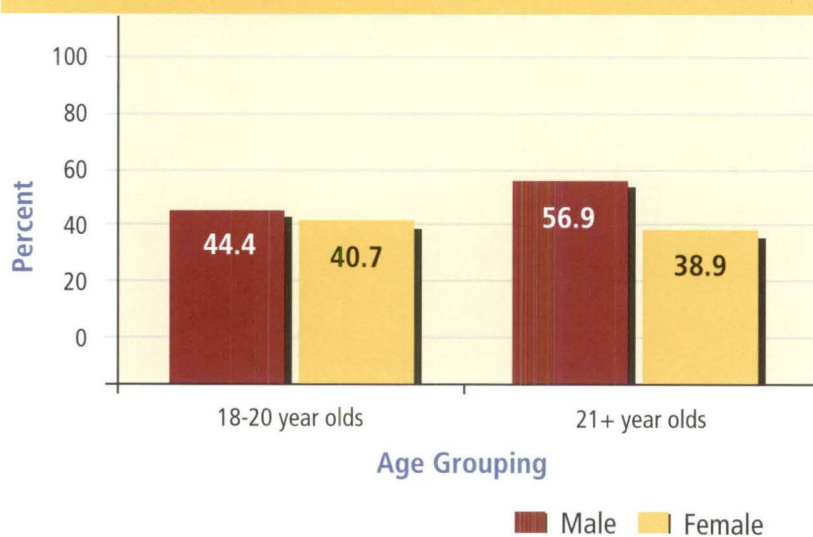
Results

> Alcohol Use in Past 30 Days By Age Group and Gender



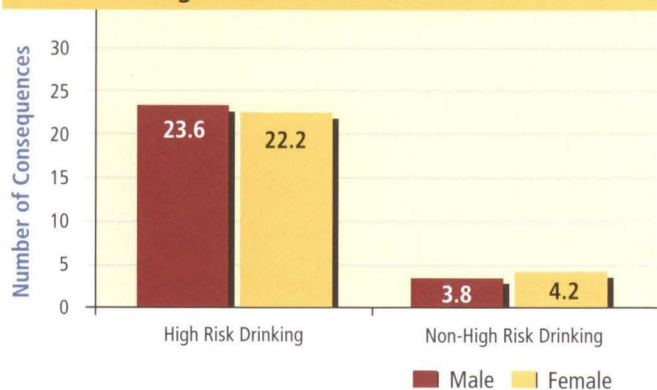
The percent of University of Minnesota male students aged 18-20 years who used alcohol within the past 30 days was **66.0%** compared to **67.2%** for females aged 18-20 years. The past 12 month alcohol use rate for males and females aged 21 years and older was **85.6%** and **81.0%**, respectively.

> High Risk Drinking Rates By Age Group and Gender



The percent of University of Minnesota male students 18-20 year olds who engaged in high risk drinking within the past two weeks was **44.4%** compared to **40.7%** for females. The high risk drinking rates for males and females aged 21 and older was **56.9%** and **38.9%**, respectively.

> **High Risk Drinking and Negative Consequences**
Underage males and females



> **Average Number of Drinks per Week**
By Age Group and Gender



> **Average Estimated BAC**
By Age Group and Gender



Those students who report that they engaged in binge drinking in the previous two weeks were more likely to experience negative consequences than those who did not participate in binge drinking in the previous two week period. Underage male and female binge drinkers experienced more than **7** times as many negative consequences than were those underage who had not binged in the previous two weeks

The average number of alcoholic drinks per week consumed by University of Minnesota students aged 18-20 was **7.8** drinks per week for males compared to **3.9** drinks per week for females. Students aged 21 and older averaged **8.1** drinks per week for males and **3.8** drinks per week for females.

The average estimated Blood Alcohol Content (based on the last time the student “partied/socialized”) for students age 18-20 attending the University of Minnesota was **0.10** for males and **0.11** for females. The average estimated Blood Alcohol Content for students aged 21 and older was **0.09** and **0.09** for males and females, respectively.

Tobacco Use

INTRODUCTION

According to a report prepared by the Surgeon General⁶ a large number of young people continue to use tobacco products despite decades of explicit health warnings.

> Highlights

- > Of all students surveyed, 27.2% reported that they are current smokers, defined as any use within the past 30 days.
- > Of all students surveyed, 5.9% report daily use of tobacco.
- > The average number of quit attempts among current smokers who have attempted to quit smoking in the previous year is 3.8.

Although tobacco use usually begins in high school, initiation also can occur during young adulthood⁷. Preventing smoking initiation and other types of tobacco product use among young adults is critical to reducing long term use of tobacco products and the subsequent negative health consequences.

Health People 2010 is an initiative by the U.S. Department of Health and Human Services which outlines health objectives to improve the health of Americans by the year 2010. One of the national health objectives for 2010 is to reduce the prevalence of cigarette smoking among adults to 12%⁸. In 2003, approximately 21.6% of U.S. adults were current smokers. This prevalence is lower than the 22.8% prevalence among U.S. adults in 2002 although the decline in rate is not sufficient to meet the national health objective for 2010⁹. For most age groups there has been a sustained decline in cigarette smoking. However, for persons aged 18-24 the prevalence increased during 1993-2002, before declining from 28.5% in 2002 to 23.9% in 2003¹⁰.

The reduction of tobacco use must remain a public health priority as it is considered the leading cause of preventable death in the United States. A concerted effort to understand current tobacco use habits, identifying environments where second hand smoke exposure occurs and documenting efforts at quitting will aid in the development of policies and programs that will assist college students in making choices that will maximize their quality of health.

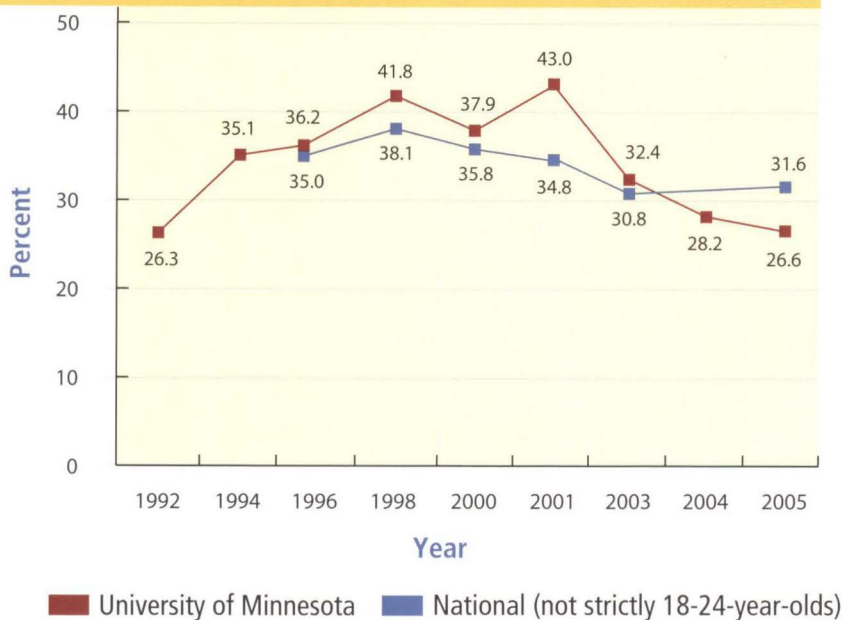
References

6. CDC, Preventing Tobacco Use Among Young People—A Report of the Surgeon General, 1994
7. Lantz PM. Smoking on the rise among young adults: implications for research and policy. *Tobacco Control* 2003; 12(Suppl. 1):i60-i70.
8. US Department of Health and Human Services. *Healthy People 2010: understanding and improving health*. 2nd ed. Washington, DC: US Department of Health and Human Services; 2000. Available at <http://www.healthypeople.gov>.
9. CDC. Cigarette smoking among adults—United States, 2002 *MMWR* 2004; 53:427-431.
10. CDC. Cigarette smoking among adults—United States, 2003 *MMWR* 2005; 54(20):509-513.

Results

> Current Tobacco Use

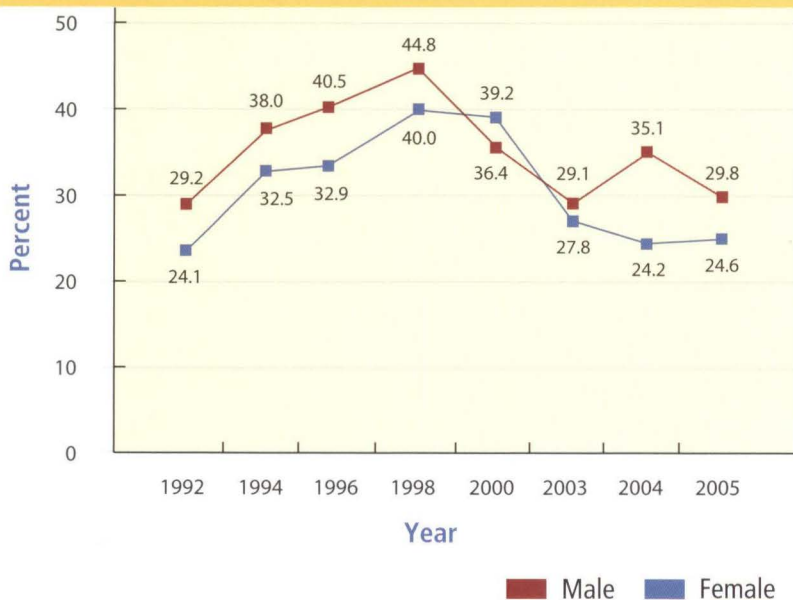
> Current Tobacco Use (18-24-year-old Undergraduates)



Current tobacco use among U of M 18-24 year old undergraduates has fluctuated over time ranging from a low of **26.3%** (1992) to a high of **43.0%** (2001). The current rate of **26.6%** is below the National average (CORE) of **31.6%**.

Current tobacco use is defined as any use in the past 30 days. Tobacco use includes use of cigarettes, cigars, and smokeless tobacco.

> Current Tobacco Use (18-24-year-old Undergraduates): By Gender



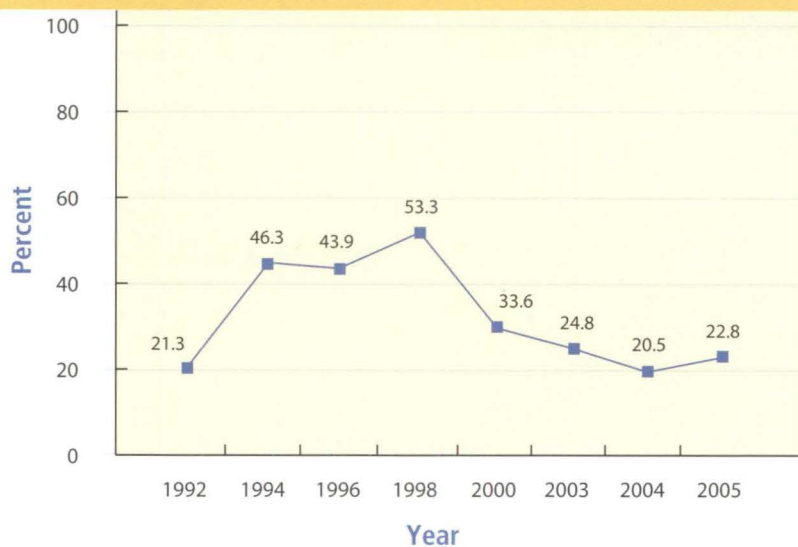
As with the over all current tobacco use rates the rates for males and females aged 18-24 has also fluctuated since 1992. In general, female use rates have been lower than male use rates. The one exception was in 2000 when the rate for females was **39.2%** versus a rate of **36.4%** for males.

> Current Tobacco Use By Age Group and Gender



Among University of Minnesota students who completed the survey, **26.6%** of all 18-24 year olds and **31.4%** of students aged 25 and older reported they are current tobacco users.

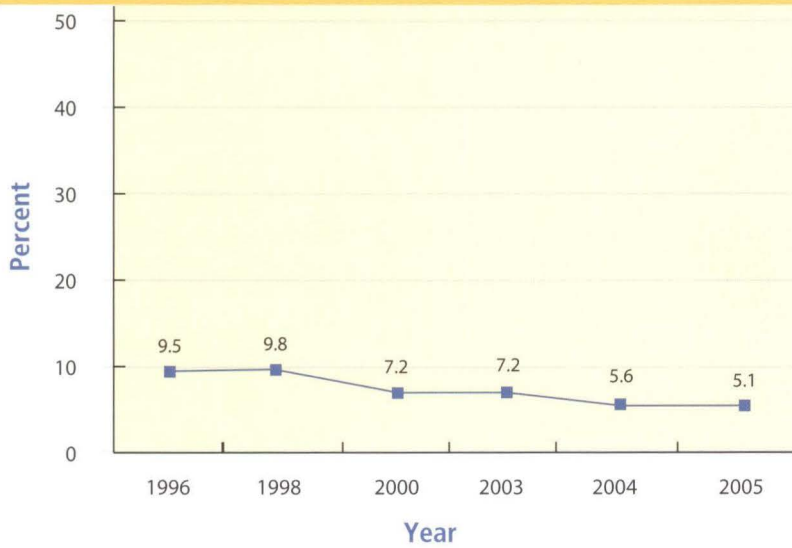
> Current Tobacco Use First Year Students



Current tobacco use among first year students has been used to indicate possible future trends for the over 21 student population. The current tobacco use rate is similar to the rate occurring in 1992.

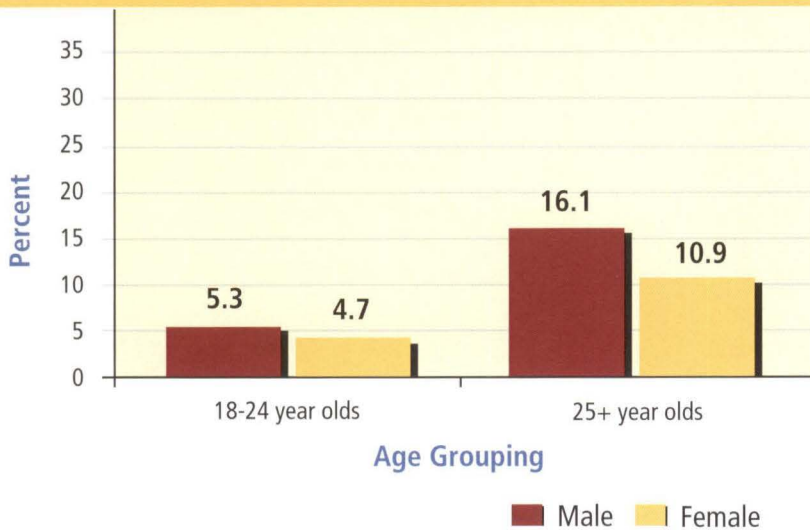
> Daily Tobacco Use

> Frequency of Daily Tobacco Use 18-24-year-old Undergraduates



Among 18-24 year old undergraduates, the frequency of daily tobacco use has dropped **46.0%** from **9.5%** to **5.1%** since 1996. The frequency of daily tobacco use by students aged 18-24 is at the lowest rate since 1996.

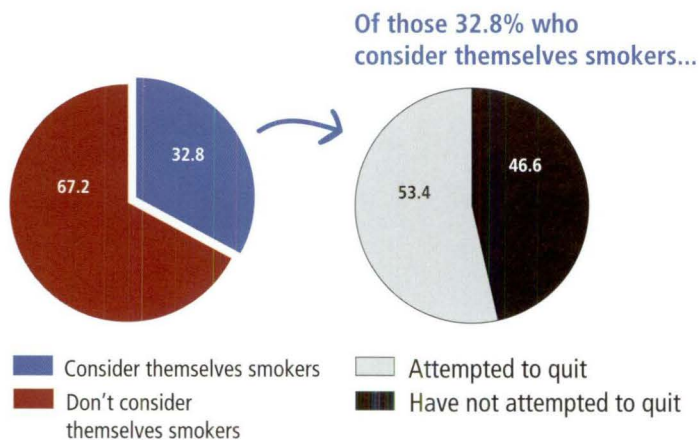
> Daily Tobacco Use By Age Group and Gender



Overall, **5.9%** of University of Minnesota students surveyed reported they use tobacco on a daily basis. Among 18-24 year olds, **5.1%** reported daily tobacco use, while **13.4%** of students aged 25 and older indicated daily tobacco use.

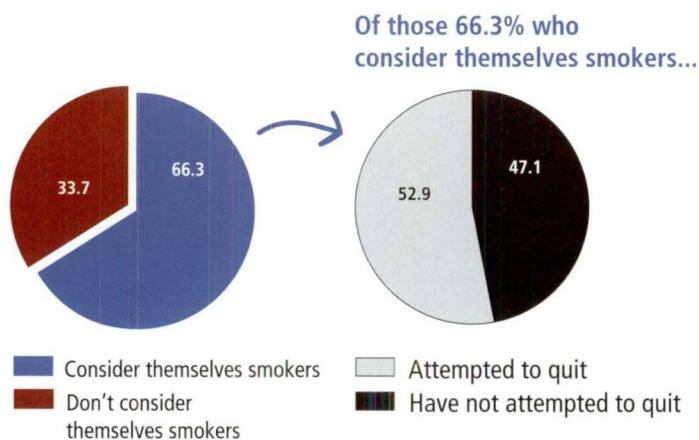
> Quit Attempts

> Quit Attempts: Current Tobacco Users 18-24-year-old Undergraduates



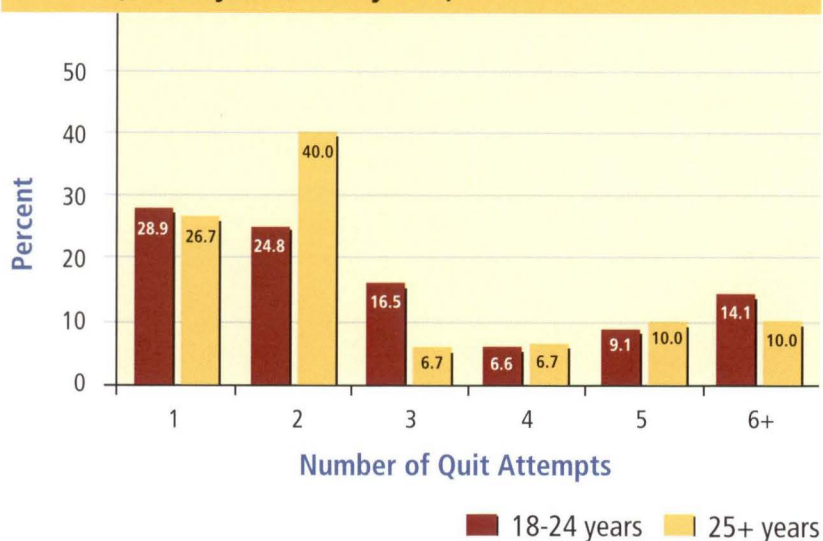
Two-thirds (**67.2%**) of University of Minnesota students 18-24 years old who reported using tobacco products within the previous 30 days, do not consider themselves smokers. Of the one-third (**32.8%**) who defined themselves as a smoker, **53.4%** have attempted to quit within the past 12 months. A quit attempt is defined as having stopped smoking for one day or longer because they were trying to quit smoking.

> Quit Attempts: Current Tobacco Users 25+ year-old Undergraduates



Among students aged 25 and older who reported using tobacco products within the past 30 days, **33.7%** do not consider themselves smokers. Among the nearly two-thirds (**66.3%**) who do consider themselves to be a smoker, **52.9%** have made at least 1 quit attempt within the past 12 months.

> Quit Attempts: By age groupings (18-24 years; 25+ years)

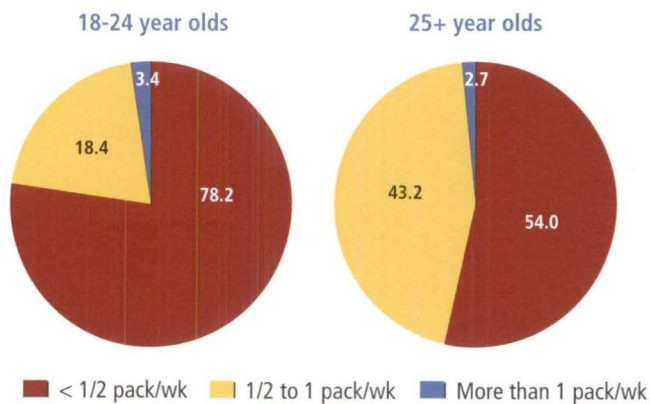


Among 18-24-year-olds, the average number of quit attempts (by those who consider themselves smokers and reported they attempted to quit at least once within the past 12 months) was **3.2** quit attempts with a range of 1 to 15 attempts. The average number of quit attempts (by those who consider themselves smokers and reported they attempted to quit at least once within the past 12 months) for students age 25+ was **3.1** quit attempts with a range of 1 to 15 attempts.

Among 18-24 year old students who reported they were current tobacco users **30.8%** indicated they were planning on quitting smoking prior to graduation. Of current smokers aged 25 and older, **34.1%** reported they planned on quitting smoking prior to graduation.

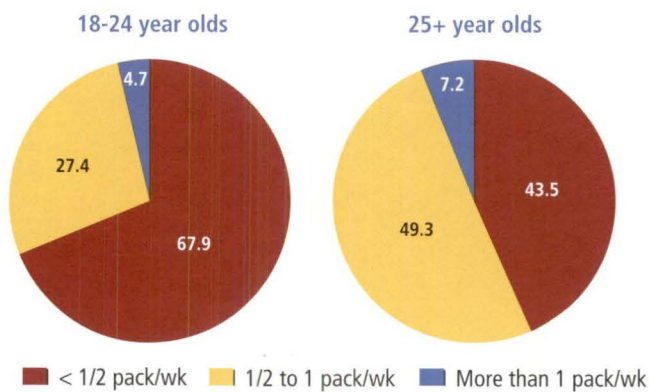
> Number of Cigarettes Smoked by Current Tobacco Users By Age Grouping (18-24 years; 25+ years)

> Average Number of Cigarettes Smoked Per Weekday Weekday (Monday through Thursday)



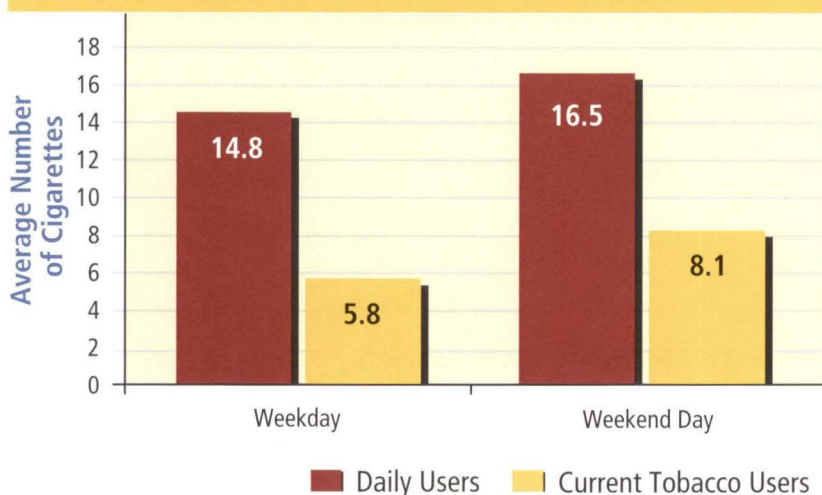
University of Minnesota students 18-24 years old reported smoking, on average, **5.4** cigarettes per weekday and students aged 25 and older averaged **8.8** cigarettes.

> Average Number of Cigarettes Smoked Per Weekend Day Weekend Day (Friday through Sunday)



University of Minnesota students 18-24 years old reported smoking, on average, **7.7** cigarettes per weekend day and students age 25 and older averaged **11.5** cigarettes.

> Average Number of Cigarettes Smoked By Daily Tobacco Users vs. Current Tobacco Users



University of Minnesota students who reported they used tobacco on a daily basis smoked on average **14.8** cigarettes on weekdays and **16.5** cigarettes on weekend days. While students who were current tobacco users smoked on average **5.8** cigarettes on weekdays and **8.1** cigarettes on weekend days.

Where have you used tobacco...

(based on responses from students who used tobacco in the past 30 days)

Location	Percent who indicated use	
	18-24 year olds	25+ year olds
Campus Event	30.1	18.2
Residence Hall	29.0	7.6
Fraternity/Sorority	23.7	7.0
Bar/Restaurant	75.1	87.5
In a Car	77.2	85.1
Where I Live	67.9	83.6
Private Party	80.0	79.9
Work Site	46.0	54.4
Other	34.2	36.5

The percentages included in the table on the left indicate that the highest rate of tobacco use occurs in the following locations:

- > Bar/Restaurants
- > In a car
- > Where the student lives
- > Private parties
- > Work site

Due to the issues surrounding second hand smoke and smoke free bars and restaurants, a follow-up survey will be very helpful in determining the impact of local tobacco ordinances on use in bars and restaurants.

This survey was conducted in the spring of 2005. This was prior to the smoking bans in bars and restaurants around the Twin Cities on April 1, 2005.

Marijuana and Other Drug Use

INTRODUCTION

In 2004, an estimated 19.1 million Americans aged 12 or older were current illicit drug users (past month).¹⁴ This estimate represents 7.9 percent of the population aged 12 and older.

> Highlights

- > Among students who participated in the survey, 17.5% reported using marijuana within the past 30 days.
- > Past 30 day use for 18-24-year-olds is higher than for students aged 25 and older – 17.9% and 13.7% respectively.
- > Survey respondents reported an overall illegal drug use rate of 10.3% (this rate does not include marijuana) within the past 12 months.
- > The two most commonly used illegal drugs other than marijuana are cocaine and amphetamines.

The overall rate of current illicit drug use among persons aged 12 or older in 2004 (7.9 percent) was similar to the rate in 2003 (8.2 percent) and in 2001 (8.3 percent)¹⁴. Marijuana is the most commonly used illicit drug (14.6 million past month users) in the United States, with approximately 33 percent of all Americans having tried it at least once in their lifetime¹⁵.

In 2004, marijuana was used by 76.4 percent of current illicit drug users. An estimated 56.8 percent of current illicit drug users used only marijuana, 19.7 percent used marijuana and another illicit drug, and the remaining 23.6 percent used only an illicit drug other than marijuana in the past month. Results from the 2003 National Household Survey on Drug Abuse and Health show that illicit drug use in 2003 tended to increase with age among young persons, peaking among 18-20 year olds (23.3 percent)¹⁴.

Use of illicit drugs and sustained use of marijuana may directly affect academic achievement among college students who may experience increasing difficulty in problem solving and poor long term memory. Understanding the current drug use practices of college students and the negative consequences related to their use will enable college administrators, faculty and staff to develop and implement policies and programs that will aid students in making healthy choices related to drug use.

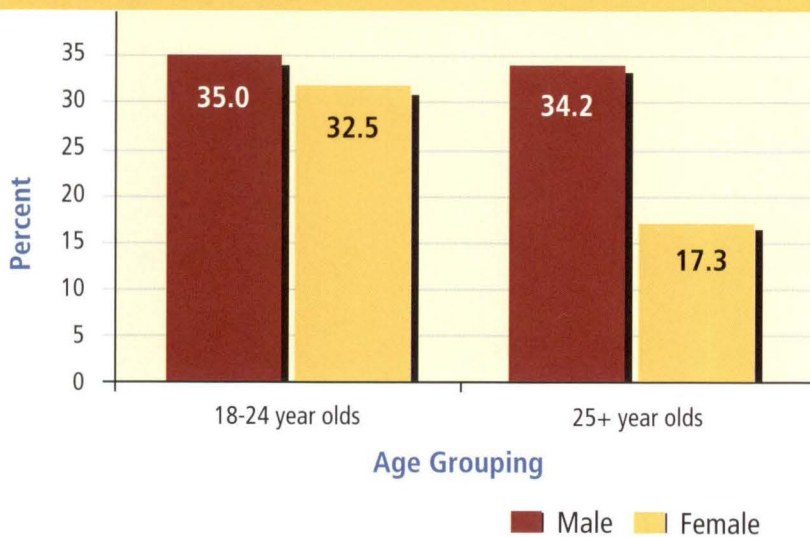
References

14. Substance Abuse and Mental Health Services Administration. Results from 2003 National Health Survey on Drug Abuse: Volume 1. Summary of National Findings (Office of Applied Studies, NHSDA Series H-17, DHHS Publication no. SMA 02-3758, Rockville, MD.
15. National Institute on Drug Abuse: Marijuana Update. Available at <http://165.112.78.61/NIDACapsules/NCMarijuana.html>

Results

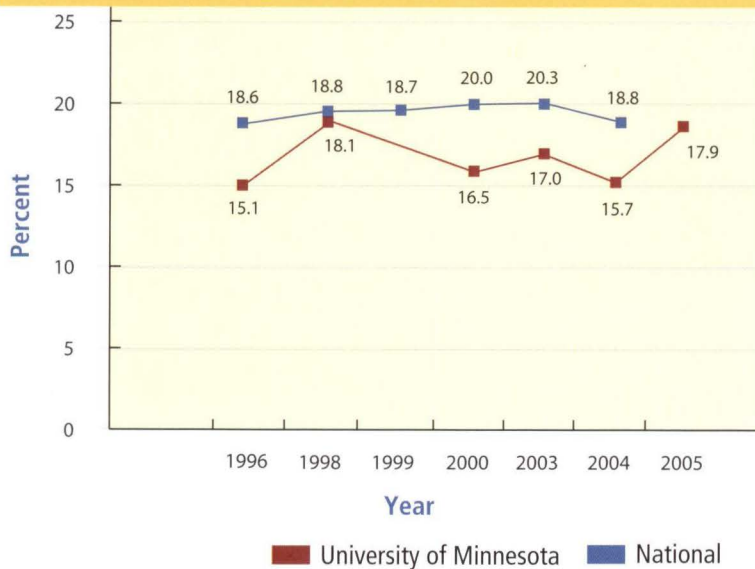
> Current Marijuana Use

> Marijuana Use Past 12 Months By Age Group and Gender



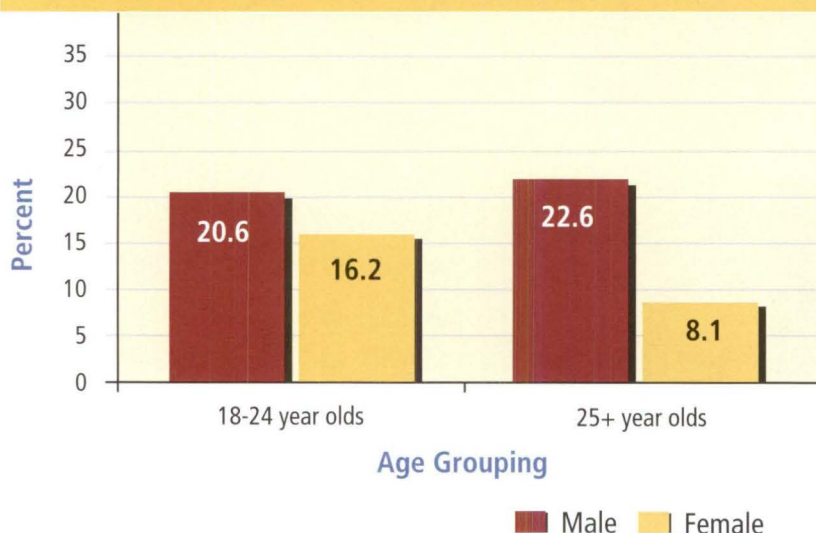
The past 12 month marijuana use rate for students attending the University of Minnesota was 32.4% for all students. The past 12 month marijuana use rate for University of Minnesota students aged 18 - 24 was **33.3%** and **23.8%** for student aged 25 and older.

> Current Marijuana Use (18-24-year-old Undergraduates)



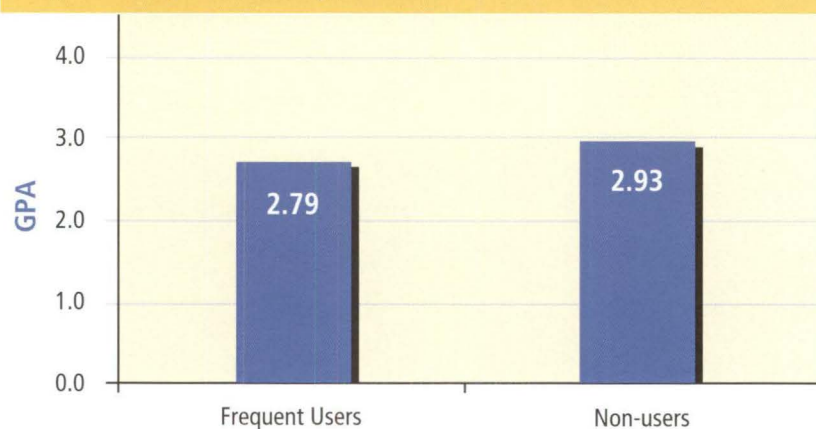
The current marijuana use rates for 18-24-year-old undergraduates have ranged from a low of **15.1%** (1996) to a high of **18.1%** (1998). The rates for the U of M have been consistently below the national rates since 1996.

> Marijuana Use Past 30 Days By age (18-24 year; 25+ years) and gender



The current marijuana use rate (within the past 30 days) for all University of Minnesota students was **17.5%**. The current marijuana use rate for University of Minnesota students 18-24 years old was **17.9%** and **13.7%** for students aged 25 and older.

> Grade Point Average Frequent Marijuana Users vs. Non-users



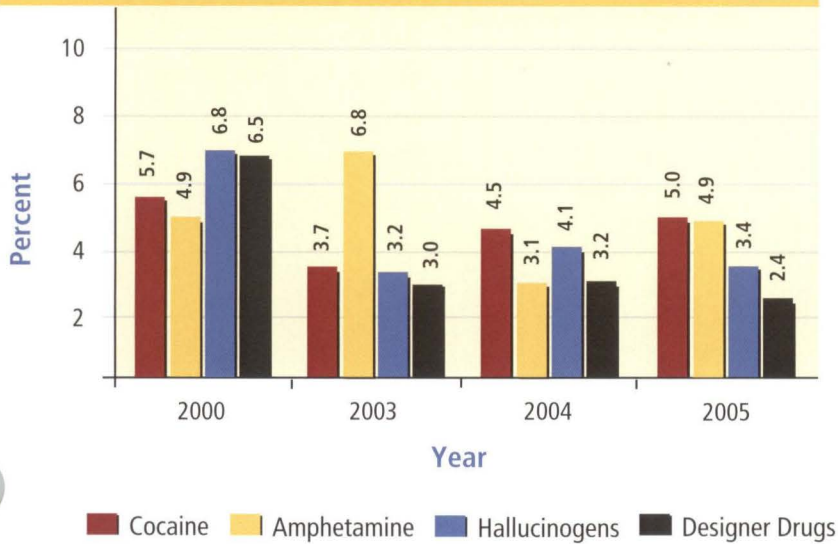
University of Minnesota marijuana use rates have remained stable since 1996. This trend has also been seen nationally. When all marijuana users' GPA is compared with the whole student population there is no significant difference. However, frequent marijuana users* have a significantly lower GPA than non-users.

Statistical difference between frequent users* of marijuana and non-marijuana users: $p < .01$

* Frequent marijuana use is defined as use 10 or more days in the past 30 days.

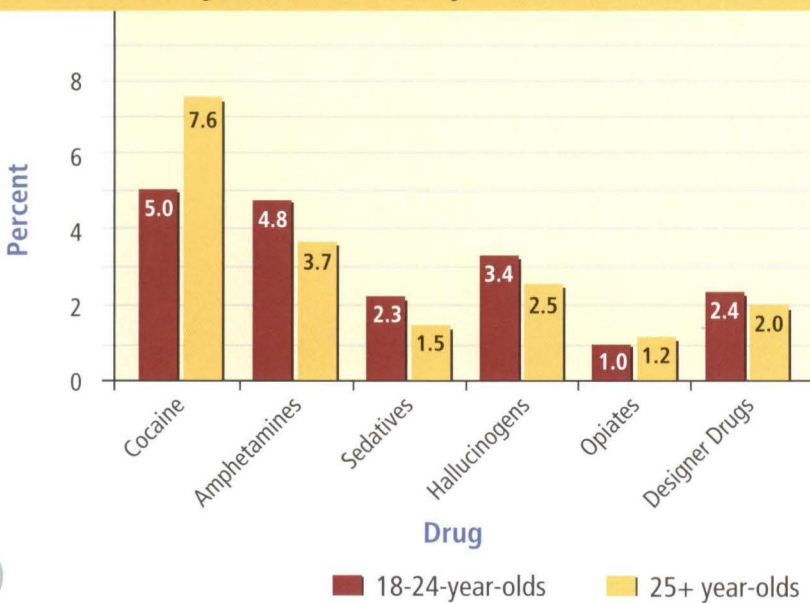
> Other Drug Use

> Selected Drug Use Past 12 Months (18-24-year-old Undergraduates)



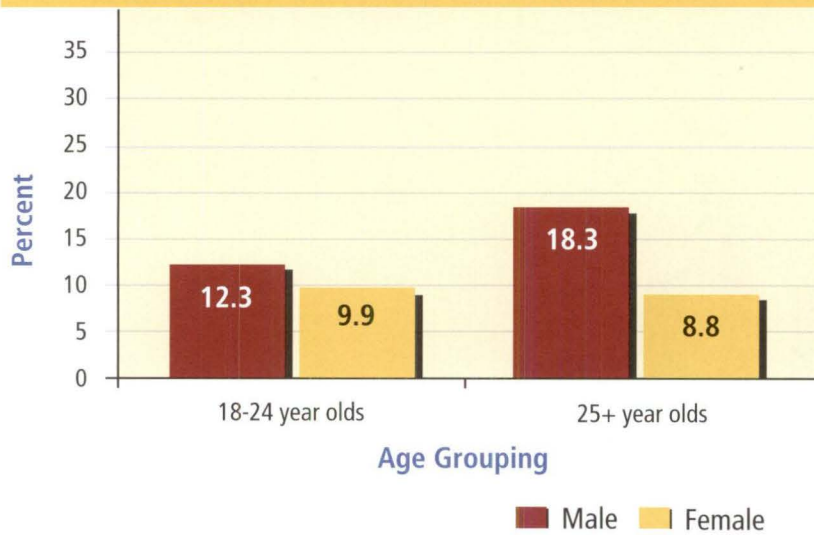
Selected drug use has remained relatively stable since 2000. Fluctuation in rates are not statistically different.

> Selected Drug Use: Past 12 Months 18-24-year-olds vs. 25+ year-olds



The past 12 month use rate for selected drugs among University of Minnesota aged 18-24 ranged from **1.0%** for opiates to **5.0%** for cocaine. Among University of Minnesota students aged 25 and older, the past 12 month use rate for selected drugs ranged from **1.2%** for opiates to **7.6%** for cocaine.

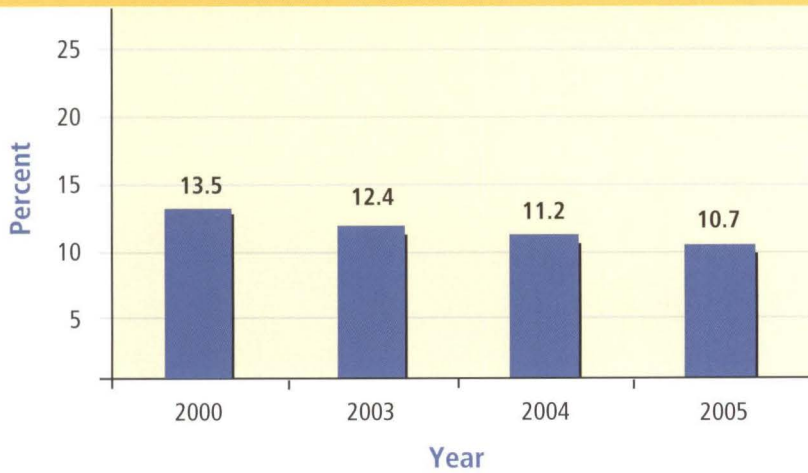
**> Other Drug Use (not marijuana) Past 12 Months
By age (18-24 year; 25+ years) and gender**



Illegal drugs included in the survey:

- > Cocaine (crack, rock, freebase)
- > Amphetamines (diet pills, speed)
- > Sedatives (downers, ludes)
- > Hallucinogens (LSD, PCP)
- > Opiates (heroin, smack, horse)
- > Inhalants (glue, solvents, gas)
- > Designer drugs (ecstasy, MDMA)
- > Steroids
- > Other illegal drugs

> Any Drug Use Past 12 Months* (18-24-year-old Undergraduates)



*Drug use other than alcohol, tobacco, and marijuana

The rates for any other drug use by U of M students aged 18-24 though fairly stable, has appeared to head downward since the year 2000 (**13.5%** in 2000 to **10.7%** in 2005).

Conclusion

The University of Minnesota has undertaken one of the most sophisticated analyses of student alcohol, tobacco, marijuana and other drug use in the nation.

The University of Minnesota has been able to benefit from an open and honest look at use rate among students. By directing attention to the smoking rates among 18-24 year olds, the University was able to help direct national and local attention to this population. Some of these data were used to help influence the smoking ban in Minneapolis and Hennepin County. Although there are great strides yet to be made in the area of tobacco use reduction the results of the past 5 years are very encouraging. Staff members at the University have implemented policies and programs such as smoking restrictions on campus, smoke free residence halls, ending the sale of tobacco on campus, providing cessation counseling and offering other help such as programs with free nicotine replacement have all helped contribute to this positive trend.

High risk drinking is rising and like tobacco, resources need to be directed to this area. The University has a history of sharing data that will encourage staff members from around the campus to participate in efforts to reduce high risk drinking on campus. This open sharing of data is an effective method of gathering support for current efforts underway and to help create new strategies to address the issue. Campus police, Housing, University Counseling Consulting Services, New Student Programs, Boynton Health Service and others have played an active role with students and high risk drinking but more needs to be done.

Marijuana and other drugs have remained as a steady presence on campus. Frequent marijuana use is associated with lower GPAs and students have reported in other surveys that it has an impact on their academics. More analysis needs to be done to better understand the impact of marijuana and other drugs.

The assessment of alcohol, tobacco and other drugs will continue with another survey scheduled for spring of 2006. The University of Minnesota has led the state and the nation through an honest and open disclosure of high quality and credible data. This report is part of the process designed to continue to address issues in a forthright manner.

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