Individual-level Alcohol Prevention Approaches for College Students: Skills, Motivation, and Normative Influences

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Focus on Underage/College Drinking

- NIAAA Underage Drinking Initiative
- Surgeon General’s Call to Action on Underage Drinking
- NIAAA 5 Year Strategic Priorities
- NIAAA College Drinking Initiative
Twelve-month prevalence and population estimates of DSM-IV alcohol abuse & dependence by age, United States, 2001-2002

**Alcohol Abuse**
- Total=4.65% of US Population (9,668,000)

**Alcohol Dependence**
- Total=3.81% of US Population (7,912,000)

Source: Grant et al., 2004
College Student Demographics

- More than 15 million college students nationwide
- Nearly 9 million between ages 18-24
  - 63% of high school graduates enter 2- or 4-year colleges immediately
  - 4 out of 5 enter college w/in 8 years
  - Includes only degree-granting institutions, not certificate programs or trade schools
College: A Vulnerable Period

- Period of transition
- Increased role stress
- New environment
- Critical developmental tasks
- Socialization is a high priority
“Now son, you don't want to drink beer. That's for Daddies, and kids with fake IDs.”

Homer J. Simpson

Groenig, The Simpsons
Alcohol Use in College

- Peak lifetime use of alcohol
- Highest lifetime and current prevalence of alcohol use disorders
- Many heavy drinkers mature out – 30% don’t

Significant negative consequences during college:
- Accidents—leading cause of death in this age group
- Fights, assaults, arguments
- Unplanned, unprotected, coercive sex
- Academic failure/drop-out
- Vandalism, property damage
- Mental Health/Suicide Co-morbidity
- Health consequences
Alcohol: Part of College Lifestyle?

- 85% have tried alcohol at least occasionally, despite that most students are under the legal drinking age
- 66% report being drunk at least once in the past year
- 45% report drinking 4+ (for women) or 5+ (for men) drinks on at least one occasion in the past 2 weeks
- But…most students drink moderately or not at all most of the time….
Mean score for 5+ drinks in a row in past 2 weeks by frequent heavy drinking trajectory group. Source: Schulenberg & Maggs (2002). Journal of Studies on Alcohol
Factors Influencing Alcohol Problem Development

Peer Influences
- perceived peer norms
- modeling of heavy drinking
- affiliation with deviant peer groups

Parental Influences
- family conflict
- insufficient parental monitoring
- parental drinking history
- parent-teen communication

Environmental
- price
- Availability/access
- Weak alcohol policies
- Institutional drinking traditions

Cognitive Factors
- low personal risk perception (perceived invulnerability)
- positive alcohol outcome expectancies

Personality/co-morbidity factors
- conduct history
- impulsivity
- sensation seeking
- mood disorders
- anxiety disorders/PTSD
- Other co-morbid conditions
College Alcohol Prevention

- Most campuses implement multiple alcohol prevention programs & have numerous policies regulating alcohol use
- Many programs and policies have no efficacy data
- Evidence-based programs often “reinvented” or adapted without evaluation
THESE ARE YOUR EGGS...

THESE ARE YOUR EGGS ON DRUGS
A CALL TO ACTION:
CHANGING THE CULTURE OF DRINKING AT U.S. COLLEGES

Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism
National Institute on Alcohol Abuse and Alcoholism
N.I.H., U.S.Dept.of Health and Human Services
www.collegedrinkingprevention.gov

What Colleges Need to Know Now
An Update on College Drinking Research

The comprehensive reports released by the National Institute on Alcohol Abuse and Alcoholism’s (NIAAA) Task Force on College Drinking turned a national spotlight on the problem of harmful drinking among college students. The central report, A Call to Action: Changing the Culture of Drinking at U.S. Colleges, has proven influential in the college alcohol and other drug (AOAD) prevention and treatment field. Statistics first introduced in the report are now routinely used to convey the magnitude of college drinking problems and their consequences. Policymakers, legal experts, and organizations that provide college programming assistance have modified their efforts to reflect the Task Force recommendations.

College drinking research remains a high priority for NIAAA, and ongoing projects continue to yield important new information. This bulletin summarizes these recent findings with updated statistical analysis and recommendations.

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5. Treatment for Alcohol Problems: An Unmet Need
6. College Drinking—A Global Issue
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9. A Word on Alcohol Poisoning
10. Questions Campus Leaders Should Ask
11. Keep an Eye on . . .

College Drinking and Its Consequences: New Data

As national headlines attest, students continue to be seriously injured or die as a result of drinking. Are these attention-grabbing headlines designed to simply sell newspapers, or is the problem as extensive today as it was in 2002 when the NIAAA Task Force first reported its findings?

The news is mixed. Among college students and other 18- to 24-year-olds binge drinking (see the textbox, page 2, for a definition) and, in particular, driving while intoxicated (DWI), have increased since 1998. The number of students who reported DWI increased from 2.3 million students to 2.8 million (1). The number of alcohol-related deaths also have increased. In 2001, there were an estimated 1,700 alcohol-related unintentional injury deaths among students 18–24, an increase of 6 percent among college students (that is, per college population) since 1998 (1). In addition, it is estimated that each year, more than 630,000 students between the ages of 18 and 24 are assaulted by another student who has been drinking, and more than 97,000 students between the ages of 18 and 24 are victims of alcohol-related sexual assault or date rape (1). Clearly, alcohol-related problems on campus still exist (1).

Another line of research is examining how becoming intoxicated at a young age is linked to later drinking problems during the college years. The results showed that college students who first became intoxicated prior to age 19 were significantly more likely to be alcohol dependent and

Continued on page 2
Tiers of Intervention Efficacy

- Tier I: Evidence of Effectiveness Among College Students
- Tier 2: Evidence of Success with other populations that could be applied to college environments
- Tier 3: Evidence of Logical and Theoretical Promise, but require more comprehensive evaluation
- Tier 4: Evidence of Ineffectiveness

From: “A Call to Action: Changing the Culture of Drinking at U.S. Colleges,” NIAAA Task Force
Tier 1: Evidence of Effectiveness Among College Students

- Combining cognitive-behavioral skills with norms clarification and motivational enhancement interventions
- Offering brief motivational enhancement interventions
- Challenging alcohol expectancies

From: “A Call to Action: Changing the Culture of Drinking at U.S. Colleges,” NIAAA Task Force
COGNITIVE-BEHAVIORAL SKILLS TRAINING

- Moderate drinking skills (self-monitoring, limit setting, point of diminishing returns)
- Blood alcohol concentration discrimination
- Altering expectancies
- Assertiveness skills (drink refusal)
- Relaxation/Stress Management skills
- Lifestyle balance skills
What is a Standard Drink?

INTERPRETATION
When they tell you to have just one glass a day, never ask what size.
NORMS CLARIFICATION

- Examines students’ perceptions about:
  - Acceptability of excessive drinking
  - Perceptions of drinking rates of peers
  - Perception about peer drinking prevalence
“Look children, this is all I’m going to say about drugs…Stay away from them…There’s a time and a place for everything…and it’s called college.”

Chef

Parker & Stone, South Park
Motivational Interviewing
Basic Principles

1. Express Empathy
2. Develop Discrepancy
3. Roll with Resistance
4. Support Self-Efficacy
The Twinkie Pursuit
Motivation Device
From Contemplation
Alcohol Skills Training Program

Curriculum Manual
Alcohol’s Biphasic Effect

- Euphoria (Up)
- Dysphoria (Down)

Point of Diminishing Returns

Cultural Myth About Alcohol

After Tolerance Develops
# Blood Alcohol Concentration

## As a Function of Drinks Consumed and Time Taken to Consume

### Male 185 lbs.

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Specific Tips for Reducing the Risk of Alcohol Use

- Set limits
- Keep track of how much you drink
- Space your drinks
- Alternate alcoholic drinks w/non-alcoholic drinks
- Drink for quality, not quantity
- Avoid drinking games
- If you choose to drink, drink slowly
- Don’t leave your drink unattended
- Don’t accept a drink when you don’t know what’s in it
ASTP vs Information Only

Alcohol Skills Training Study I
Self-Reported, Peak BAL
Multi-Component Skills Training

- 12 of 19 interventions found to reduce alcohol use and/or consequences*
  - Higher quality studies have better outcomes


Source: Larimer & Cronce, 2007
Brief Alcohol Screening and Intervention for College Students

A Harm Reduction Approach

Linda A. Dimeff
John S. Baer
Daniel R. Kivlahan
G. Alan Marlatt
The Basics on BASICS

- Assessment
- Self-Monitoring
- Feedback Sheet
- Review of Information and Skills
  Training Content

(Dimeff, Baer, Kivlahan, & Marlatt, 1999)
BASICS Feedback Areas

- Drinking Patterns
  - Quantity/Frequency
  - Daily Drinking Questionnaire
  - BAL Estimates

- Drinking Problems
  - RAPI
  - YAAPST

- Drinking Norms

- Alcohol Outcome Expectancies

- Stages of Change
BASICS 4-year Drinking Outcomes by Treatment Condition

![Graph showing drinking pattern Z-score over 4 years for different treatment conditions.](image)
BASICS for Fraternity Members

Average Drinks per Week for Men

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<th>Number of Drinks</th>
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- Blue line: Intervention
- Yellow line: Control
Peer Delivery of BASICS

# OF CONSEQUENCES (PAST MONTH) FOR MEN

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- PEER
- PROFESSIONAL
In-Person Brief Motivational Interventions

• 24 of 28 in-person motivational interventions reported reductions in drinking and/or consequences*
  • Effects persist up to 4 years post-intervention

• Studies with stronger methodology have more favorable findings in support of BMI

BMI vs. Multi-component Skills

- 2 of 3 studies found BMI superior to Multi-component skills for at least one outcome
  - Equivalent on most outcomes
Mandated Students

- Most significant area of progress in past 6 years
- 5 new studies with mandated students found support for multi-component skills training and brief motivational feedback interventions

Source: Larimer and Cronce, 2007
Group MI for Women

Source: LaBrie, et al., 2008
Individual vs. Group Implementation

- Most efficacious multi-component skills interventions implemented in groups (8-, 6-, 4-, & 2-session)

- 4 of 5 group BMI interventions produced reductions in drinking or consequences compared to controls.
  - No published research identified directly comparing group to individual
Your Drinking

According to the information you gave us, the number of occasions you drank (frequency) was:

4 days per week

On the weekends, you drank an average of:

4 drinks per occasion

The average peak and average typical values are based on what we know about students attending UW.

It would take approximately 16.93 hours for your peak Blood Alcohol Content (BAC) to return to .00, and approximately 11.50 hours for your typical BAC to return to .00.

Typical Weekly Pattern

This is what you told us you drank during a typical week.

Compared to other college students, your percentile rank is 88. This means that you drink as much as or more than 88 percent of students your age.

Assessment: Fall 2002
Participant: Jane Student

Drinking Norms

This is what you told us you believed to be the average frequency and quantity of alcohol consumed by students your age, as well as the actual drinking norms for UW students.

Frequency

Quantity

Most students think other students drink more than they actually do. Most UW students drink 2 or fewer drinks when they drink.

Beliefs About Alcohol Effects

You listed the following alcohol effects as "good" and "likely to occur" when you consume alcohol:

I would enjoy sex more.
I would feel peaceful.
I would feel calm.

Does alcohol really do these things? Research suggests many of the social effects of alcohol are based on myths, placebo effects, and expectations we bring to the drinking situation.
### Alcohol-related Problems
You indicated the following alcohol-related consequences had occurred at least 1-2 times in the prior six months:
- Had a fight or argument, or bad feelings with a friend or family member.
- Felt you were going crazy.
- Got into fights, acted bad, or did mean things.
- Not able to do your homework or study for a test.
- Went to work or school high or drunk.
- Missed out on other things because you spent too much money on alcohol.
- Experienced nausea or vomiting.
- Had a hangover.
- Passed out or fainted suddenly.
- Missed a day or part of a day of work or school.

You can minimize the negative effects of alcohol by choosing to drink less or not at all.

### Weight
You indicated that you have the following concerns regarding your weight and/or body:
- You are concerned about your weight, shape, or diet.
- You are fearful of being overweight.

You have used the following methods to counteract weight gain: diet pills, exercise.
- You have engaged in binge eating or have eaten more than you are comfortable with.

You indicated that in a typical week you are getting the following amount of calories from alcohol:

\[ 2592 \text{ calories} \]

It would require **566 minutes** of brisk walking or **443 minutes** on the steairmaster to expend this number of calories each week.

### Alcohol Dependence
You acknowledged the following experiences, which are associated with a pattern of dependency:
- Have driven a car after drinking.
- Have had blackouts.
- Felt like you needed more alcohol to get the same effect.
- Felt like you needed a drink first thing in the morning.

Based upon the data provided, we estimate your level of alcohol tolerance to be:

**Very High Risk**
Tolerance means needing more alcohol to get the same effect as you used to get at lower levels. Tolerance reduces pleasurable effects of alcohol and makes drinking more expensive. It can also be a sign that you are becoming dependent on alcohol.

### Family History
We consider your risk based on family history to be:

**Positive Risk**
Most people have heard that having a family history of alcohol problems increases your risk for alcohol problems yourself. While this is true, it’s also true that being aware of your drinking and making lower-risk decisions about drinking now can lessen your risk of developing an alcohol problem in the future.

### Perceived Risk
Your concern about your drinking habits is:

**Low**

### Protective Factors
These are some things you are doing to avoid negative consequences from drinking:
- Use a designated driver.
- Keep track of how many drinks you were having.

These are some other strategies you might use to reduce negative effects of drinking:
- Switch between alcoholic and non-alcoholic beverages.
- Determine, in advance, not to exceed a set number of drinks.
- Choose not to drink alcohol.
- Eat before and/or during drinking.
- Have a friend let you know when you’ve had enough.
- Pace your drinks to 1 or fewer per hour.
- Avoid drinking games.
- Drink an alcohol look alike (non-alcoholic beer, punch) or juice, water.

### Alcohol: Financial Costs
Based upon your typical quantity and frequency of alcohol use, you are typically spending the following, depending on your choice of alcohol:

**Domestic Beer (cans): $162.00/quarter**

**Microbrew Beer (bottles): $280.80/quarter**

### Alcohol and Sexual Behavior
You indicated that you have had the following alcohol-related sexual experiences:
- Have gotten into sexual situations you later regretted because of drinking.
- Have had sex when you really didn’t want to because of drinking.
- Have had sex with someone you wouldn’t ordinarily have sex with when drinking.
- Have felt pressured or forced to have sex after drinking.

Alcohol doesn’t improve sexual enjoyment or performance. You can reduce your risks of unwanted sexual experiences by being selective about whether and how much to drink, especially on first dates or at larger parties. Use the buddy system to watch out for friends.
Plan ahead.
Set a reasonable limit and stick to it (use last week’s postcard as a guide).
Remember to plan ahead for transportation too.

Keep track of what you’ve consumed.
Keep your bottle caps in your pocket, bring the bottles or cans to the recycling bin, line up the empty bottles and cans, or whatever works.

Think quality, not quantity.
If you drink less, you don’t need to buy the cheap, less tasty stuff.

Slow down. Pace yourself.
If you set a limit of 4 drinks over 3 hours, that doesn’t mean 3 drinks in first 5 minutes and one drink 2 hours and 55 minutes later.

Space your drinks.
Take a break or alternate alcoholic and non-alcoholic beverages.
Have a Coke. Then a rum and Coke. Back to a Coke. You get the idea.

Drink water between alcoholic drinks.
This will help you deal with the dehydration that occurs with alcohol use and that leads to the bad “day after” feelings.

Eat before you drink alcohol.
It slows down absorption and helps decrease the stomach irritation caused by alcohol. Mmm...pizza...
You can choose NOT to drink anytime

SOME REASONS YOU MIGHT NOT WANT TO DRINK:

- You really don’t want to
- You have a lot of homework or studying to do
- You have to get up early for class or work
- You’re upset, angry, or depressed
- You have plans or obligations the next day that require you to be at your best
- There is a chance of unwanted sexual activity
- You aren’t feeling well
- You’re taking prescription, over-the-counter medication, or other drugs. Many medications interact with alcohol; ask your health care provider for guidance.
- You’re pregnant or think you might be
- You’ll be driving
- The host ran out of limes and salt for the margaritas and has substituted Gatorade with a potato chip chaser

*84 state law prohibits the consumption of alcohol by those under 21 years of age (RCW 66.44.170)*
Drinking Prevention Outcomes

Drinking By Feedback Condition Over Time

Composite Drinking Z-Score

Baseline 1-Year Follow-up

F(1, 873) = 5.50, p < .05
Prevention of Heavy Drinking

Percentage of Students Having 5 or More Drinks

![Bar chart showing percentage of students with 5 or more drinks in different feedback conditions. The chart compares Baseline and 1-Year Follow-up periods. Feedback conditions include No Feedback and Feedback.]
Prevention of Drinking Initiation

Percentage of Students Maintaining Abstinence from Baseline to 1-year Follow-up by Feedback Condition

- **Feedback**: Approximately 60% of students maintained abstinence.
- **No Feedback**: Approximately 40% of students maintained abstinence.
Stand-alone (Written or Computer/Web) Brief Motivational Feedback

- 13 of 17 studies found significant effects on drinking and/or consequences*
- 1 study of text messages on handheld computers showed reductions in drinking*
- 3 studies found in-person to be more efficacious than stand-alone feedback on at least some outcomes
  - Comparable on most outcomes, though emergent effects favor in-person
  - Few studies compare in-person to stand-alone

According to the information you provided us during the computer assessment, the number of occasions you drank (frequency) was 4 times a week. The average amount you drank on each occasion (quantity) was 6 drinks.

You completed questions asking you what you believed the average frequency and quantity of alcohol consumed by other college students. You told us that you believed that the average student drank 5 times a week and during each occasion, s/he consumed 7 drinks.

The actual drinking norm for students at the University of Washington is 1.5 times a week drinking about 3.5 drinks on each occasion.

Your percentile rank (comparing you to other college students) is 91%, which suggests that you drink more than 91% of other college students.
Typical Weekly Quantity

Manova $F(2, 221) = 3.76, p < .05.$
Results: Perceived Norms
Perceived Typical Frequency

MANCOVA $F (2, 221) = 12.66, p < .0001.$
Component Studies: Normative Feedback Alone

- 5 studies of web or computerized personalized normative feedback found reductions in perceived norms and drinking*
  - Changes in norms mediated effects on drinking outcomes
- One study found self-normative discrepancy feedback more efficacious than self-ideal discrepancy feedback*
- One study found group interactive normative feedback efficacious*
- One study found no effect of a normative feedback birthday card on 21st birthday drinking

Updated Findings... What's New Following the Task Force Report?

- Tier 1 recommendations unchanged at this time
  - Still strong support for multi-component skills training
  - Motivational feedback consistently efficacious
  - Expectancy challenge findings mixed

Larimer & Cronce (2007)
Updated Findings... What’s New Following the Task Force Report?

- Personalized normative feedback interventions reliably change drinking behavior/consequences
- More research on mandated students, athletes, and freshmen
- Emerging research on mediators of outcome

Larimer & Cronce (2007)
NIAAA Rapid Response...

- **Studies included**
  - Targets of brief interventions (individual, group, and/or personalized feedback interventions)
    - Patients in Health Center settings (Central Florida)
    - First-year students (Clemson, LMU, NDSU, San Diego)
    - Greeks (Virginia)
    - Mandated students (Albany, LMU, Northeastern, Wisconsin-Milwaukee)
    - Women (Loyola Marymount)
    - Students turning 21 (NDSU)
  - Implementation delivery strategy
    - In person as a UAP (Northeastern)
    - By peers (Albany, Clemson)
    - By parents (San Diego)
    - By primary care providers (Central Florida)
    - Multiple delivery methods (NDSU, UW-Milwaukee, Virginia)
From examples of findings thus far, participants...

- are less likely to transition to drinker status, and show less growth in drinking across the first year of college (San Diego)
- experience a reduction in overall alcohol-related harms and drinking variables (Central Florida; Northeastern University)
- delay increases in the quantity and frequency of drinking (Clemson)
- report less alcohol consumption at six month follow up (Albany)
- reduce drinking quantity and frequency after receiving norms feedback (NDSU)
- experience less risky drinking trajectory and reductions in drinking and related consequences during first semester (LMU)

Stay tuned... JSAD supplement forthcoming

Source: Project summaries
Additional Research and Implementation Considerations

- Reducing barriers to implementation (cost, training, fidelity)
- Screening/outreach and evaluation (confidentiality, access to data)
- Role of Parents, faculty/staff
- Assessment/measurement (necessary/sufficient)
- Harnessing technology (web, text-messaging, maintaining benefit with lower intensity)
- Co-morbidity (other substances/behaviors, dual diagnosis)
- Cultural and Contextual Moderators
Thank You

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