# Assessing the Efficacy of BASICS as a Preventive Measure on Alcohol Usage Among Non-Dry Greek Organizations at Dartmouth College

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#### Literature Review

Alcohol consumption on college campuses is a major public health concern. Numerous studies demonstrate the detrimental effects of drinking on the personal and academic lives of college students (Hingson et al. 2009). Many efforts have been made to address these concerns, including intervention programs like the Brief Alcohol Screening and Intervention for College Students, or BASICS. At Dartmouth College, the BASICS program consists of a comprehensive survey that assesses student alcohol consumption and provides personal feedback and education aimed to reduce high-risk drinking (Lee et al. 2019). According to the Dartmouth Student Wellness Center, three groups that have been identified as being at particularly high risk for heavy drinking are: Greek-affiliated students, athletes, and first-year students. While research has been conducted on the effectiveness of BASICS for athletes, little research has been done on the efficacy of BASICS for Greek-affiliated students.

Through a literature review, the following claim was formulated: 1) High-risk drinking is a problem on college campuses, 2) Greek-affiliated students are more likely to be involved in high-risk drinking, and 3) Programs like BASICS are shown to be effective in mitigating high-risk drinking.

The consumption of alcohol on college campuses remains a significant problem, with numerous negative consequences for students. According to the National Survey on Drug Use and Health (NSDUH) in 2019, approximately 1,825 college students die each year from alcohol-related unintentional injuries. In addition, NSDUH data from 2016 reveals that around 600,000 college students are injured each year due to heavy drinking. Studies have found that 4 out of 5 college students consume alcohol to some degree; moreover, it is estimated that 50% of those students engage in high-risk drinking, defined as consuming five or more drinks for men and four or more drinks for women in a short period (McCabe et al. 2015). The negative consequences of drinking on college campuses can include academic problems and physical injuries, among other risks. Therefore, it is crucial for universities to address the issue of alcohol abuse and provide support for students who may be struggling with alcohol-related problems.

Greek-affiliated students have been found to have a higher likelihood of engaging in high-risk drinking compared to non-affiliated students, as demonstrated by various studies. One study by the Harvard School of Public Health found that fraternity and sorority members are 50% more likely to engage in high-risk drinking (Wechsler and Nelson 2001), while another study found that 4 out of 5 fraternity and sorority members are binge drinkers (Wechsler 1999). Additionally, over 67% of Greek-affiliated students were classified as high-risk drinkers in a later study (Brown-Rice 2017). The culture within the Greek system, including peer pressure and social norms that encourage excessive drinking, has been suggested to contribute to drinking in Greek houses (Wechsler and Nelson 2008). As a result, affiliated students are also more likely to experience negative consequences of drinking such as academic problems and risky sexual behavior (Parks et al. 2008; Cooper et al. 2002). Thus, addressing the issue of high-risk drinking within the Greek system and providing support for struggling students is crucial, particularly on a campus like Dartmouth, where 60% of students are involved in Greek life (Allen 2021).

Research shows that Brief Alcohol Screening and Intervention for College Students (BASICS) programs effectively reduce alcohol consumption, high-risk drinking behaviors, and negative consequences of drinking. For instance, a meta-analysis of 15 randomized controlled trials found that BASICS successfully reduced alcohol consumption and negative consequences of drinking, while other research has demonstrated improvements in academic performance and mental health (Carey et al. 2012). Similarly, a study of Dartmouth College student-athletes found

that BASICS led to a 53% reduction in drinking for up to a year after program completion (Bracken et al. 2018). These findings suggest that BASICS and similar programs can be effective in addressing alcohol-related problems among college students.

Therefore, this study aims to determine the efficacy of BASICS in reducing heavy drinking among Greek-affiliated students at Dartmouth, who are considered high-risk but for which the efficacy of BASICS has not been determined. By addressing the research question, "How does participation in the BASICS program influence the drinking habits of Greek-affiliated students?", this study seeks to contribute to the gap in knowledge regarding the use of effective strategies to mitigate the negative consequences of heavy drinking in college students involved with Greek life.

#### **Measures and Methods**

The purpose of the study is to evaluate the effectiveness of the BASICS program in reducing risky drinking behavior among Greek-affiliated students. The study will use quantitative data collection and analysis, with the primary measure of interest being the drinking habits of Greek-affiliated students before and after participation in the BASICS program. The study will examine changes in the frequency and quantity of alcohol consumption, as well as any changes in attitudes toward alcohol use.

The BASICS program will be the primary intervention used to address high-risk drinking among Greek-affiliated students. This program is a brief, educational, feedback intervention designed to motivate behavioral change and reduce the negative consequences of risky drinking. A pre and post-design will be used to assess the effectiveness of the BASICS program, with measurements taken before and after participation in the program. The Alcohol Use Disorders Identification Test (AUDIT), developed by the World Health Organization, will be used as the primary tool to assess changes in drinking behavior. The AUDIT is a widely-used screening tool for alcohol misuse and has been shown to have high validity and reliability in identifying risky drinking behaviors. The pre-screening survey will include AUDIT as a part of the assessment, and follow-up surveys will be conducted after program completion to assess the sustainability of behavior change.

The conceptual model for this study is based on the assumption that participation in the BASICS program will lead to a reduction in risky drinking behavior among Greek-affiliated students. The independent variable is participation in the BASICS program, while the dependent variable is changes in drinking behavior of Greek-affiliated students, specifically regarding frequency and quantity of alcohol consumption.

The mediating variables in this study are limited to age, sex, and whether the subject has participated in the BASICS program before. To measure the independent variable as well as to track the progress of individuals during the check-ins, Qualtrics, a Dartmouth tool that allows the tracking of students' information anonymously without identifying them, will be used. To measure the dependent variable, changes in drinking behavior, the Alcohol Use Disorders Identification Test (AUDIT), a widely-used screening tool for alcohol misuse that assesses frequency and quantity of alcohol consumption, will be used.

Self-reported survey data from participants before and after the BASICS program and follow-up surveys will be collected at 3, 6, and 12 months after program completion to measure changes in their drinking behavior. The study utilizes a pre-post design with follow-up surveys, which is consistent with previous research evaluating the effectiveness of the BASICS program, such as the study conducted by the Student Wellness Center in 2012.

The pre-survey will be administered in the fall term of the participants' sophomore year and will require no more than 10 minutes to complete. Upon completing the pre-survey, participants will be invited to enroll in the BASICS program during the same term. After a period of three months following the completion of BASICS, which would fall in the participant's sophomore winter, the first check-in will take place. This check-in will comprise a 10-minute survey on the participant's drinking habits, with no educational content included. The second check-in will occur during the participant's sophomore spring, six months post-BASICS completion. Participants will participate in the same 10-minute survey from the first check-in. Lastly, the last check-in will take place 12 months after the completion of BASICS, which will be in junior fall. Participants will again complete the same 10-minute survey as the first check-in, and this will conclude the students' participation in the study. These check-ins aim to track the progress of participants' drinking habits over time, and the data gathered will be critical in assessing the effectiveness of the BASICS program in reducing high-risk drinking behaviors.

The study will use quantitative methods, which provide objective and standardized data that can be easily analyzed using statistical tools. This allows for a rigorous and systematic examination of the research questions and the ability to generalize the findings to larger populations. However, a disadvantage of using quantitative methods is that they may not capture the full complexity of individuals' experiences and attitudes toward drinking. This may limit the ability to fully understand the factors that contribute to risky drinking behavior among Greek-affiliated college students. Additionally, relying solely on self-reported data may lead to response bias or social desirability bias, where participants may underreport their drinking behavior due to a fear of judgment or stigma.

This study will utilize a longitudinal design, with participants completing a pre-survey before participating in the BASICS program and three follow-up surveys post-program completion. This design will enable the tracking of changes in drinking behavior over time and the assessment of the long-term effectiveness of the BASICS program. The employment of quantitative methods within a longitudinal study design will provide valuable insights into the program's ability to reduce high-risk drinking behavior among college students.

#### Sampling and Recruitment

The study will focus on non-dry Greek-affiliated students with registered physical spaces on campus, who are at high risk for alcohol use. The target population are sophomore students, as they are the most likely to join Greek organizations at this time and experience negative consequences related to drinking. A purposive convenience sampling approach is recommended to target all registered Greek houses that meet the criteria and invite their new members to participate. An advantage of this approach is that it allows focus on the specific population of interest while a disadvantage is that it may introduce sampling bias and limit generalizability.

To construct the sampling frame, a list of all registered Greek houses from the Greek Leadership Council at Dartmouth College will be obtained. This list will be used to target all the Greek houses that fit the desired descriptions and invite their members to participate in the study. Only active Greek members who are on campus and taking classes will be eligible to participate in the survey. If a student has participated in the BASICS program before such as for Dartmouth Peak Performance (DP2) or for an alcohol violation, they will undergo the program again for equity, except for those who participated in the same term as their sophomore fall.

To secure participation in the study, students will be invited to complete a pre-survey to assess their drinking habits before participating in the BASICS program. This pre-survey will be

available to everyone who has received a "bid", meaning that they have already been selected to join a house, yet they haven't formally declared their affiliation with a Greek house. Targeting students during this period can ensure higher participation numbers as new members haven't been fully immersed in the Greek environment, therefore they are more prone to engage in a preventive high-risk drinking course.

Given that participation is voluntary, houses will be incentivized with financial compensation if 80% of initial participation in BASICS is retained by the last 12-month check-in survey. BASICS can consider working with the Council on Student Organizations (COSO) and the Greek Leadership Council to explore financial compensation options. The compensation will be aimed at motivating the students and the houses to take part in the study and to also add to community sentiment and help Houses keep each other accountable. Finally, to determine when the sample is large enough, there will be a predetermined sample size based on statistical power calculations, which will depend on the number of people interested in rushing that year.

There will also be a set deadline for participation, and participants will have two weeks to complete the check-ins once they open. By setting a deadline, this will encourage more timely and accurate responses and minimize the potential for non-response bias.

## *Interpreting the data*

In the quantitative study, the effectiveness of the BASICS program on changing drinking habits among Greek-affiliated students will be measured. The questions in the survey will measure the following variables in the conceptual model:

- Pre- and post-program drinking frequency
- Pre- and post-program amount of alcohol consumed
- Changes in drinking habits (positive, negative, or no changes)

To analyze the data, there will be no need to create composite variables as BASICS will be working with the response options provided in the survey. Given that ordinal variables will be used in the survey, as well as descriptive and inferential statistics to evaluate changes in drinking behavior over time.

A positive correlation is expected between participation in the BASICS program and positive changes in drinking habits, indicating a decrease in drinking frequency or amount consumed. Conversely, no significant correlation is anticipated between participation and no changes in drinking habits. The causal relationship between BASICS and changes in drinking habits can be evaluated through differences in responses between the pre and post-surveys.

#### **Ethical Considerations**

The Belmont Report identifies three main principles for ethical research involving human subjects: respect for persons, beneficence, and justice. In regards to respect for persons, individuals should be treated as autonomous agents with the right to informed consent and the ability to withdraw from the study at any time. Participation in the program will be voluntary and incentives will be used to encourage participation without coercion.

The study focuses on reducing high-risk drinking and associated consequences, which aligns with the principle of beneficence. High-risk drinking can lead to a wide range of negative consequences, and participation in the program may benefit students by promoting safer drinking behaviors. A possible risk associated with the survey is that the survey includes sensitive data. Confidentiality is an important aspect of ethical research practices when working with human subjects. To ensure confidentiality, Qualtrics, which assigns a random ID to each email to track

the responses, will be used. This random ID is not linked to any identifying information about the participant, such as name or email address. This method will ensure that each participant only answers once per check-in, without compromising their confidentiality. By implementing this measure, the privacy and confidentiality of participants will be protected while still collecting the necessary data for the study.

Justice requires that the benefits and burdens of research be distributed fairly. The plan is to distribute participation evenly among risk levels to ensure fairness. While it is true that BASICs is primarily effective for high-risk drinkers, it would be fair to distribute participation evenly among all participants rather than only Greek houses that are considered "high risk". The study strives for diversity of participants by including gender-inclusive houses.

Overall, these principles serve as a foundation for ethical research practices in the field of social sciences. The study aims to balance the need for valuable research with the protection of participants' rights and safety. By upholding these principles, the research will be conducted ethically and with integrity.

### Feasibility and Significance

BASICS employs various educational methods including normative data, clinically verified instruments, and motivational interviewing approaches to help reduce high-risk drinking (Bracken et al. 2012). The proposed study design will be feasible to conduct given the organization's activities, needs, and resources. BASICS already possesses existing resources to implement the study across a large body of students. These resources include email invitations, online surveys, email reminders, and follow-up invitations that remind students to complete components of the BASICS program, all of which will be helpful in obtaining a result from the research question. Brian Bowden, lead counselor in the Student Wellness Center (SWC), communicated that the SWC has conducted medium to large-scale studies using a 3 to 6 to 12 months follow-up survey within the past 10 years. Thus, the SWC has the time and experience to facilitate large-scale studies that compromise college students and alcohol-related drinking habits. This research follows a similar time frame, scale, and objective as their study with student-athletes; which adds to the feasibility of executing the design framework.

The findings from the design will provide valuable insights for guiding and informing BASIC's efforts to reduce college students' high-risk drinking. The study should find an expected similar decrease in high-risk drinking similar to what was demonstrated in the student-athlete study. Though it is important to note the implications of the expected findings and their generalizability. The participating cohort will only include students from one college and thus the external validity of the findings is limited. Furthermore, the likely low attrition survey response rate over time is something to note. Another concern is that the analysis will rely on self-reported data from surveys; though it is a reliable method to collect responses, their accuracy may be influenced by outside mediators

However, the research will be beneficial to conduct as it will add to existing literature in regard to greek-affiliated students drinking habits. During the literature review, there was limited research on greek-affiliated students drinking habits on a campus where 1) a large percentage of the student body is involved in greek life and 2) has a large social and cultural presence. Moreover, it will provide more nuanced and detailed information for Dartmouth and explore the efficacy of taking BASICS one or more times. The hope is to contribute to how to best mitigate the negative consequences of heavy drinking in college students involved with Greek life.

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#### Appendix A. Consent Form

<u>Introduction:</u> You are being asked to participate in a research study. Your participation in this study is completely voluntary.

## What does this study involve?

We would like to learn more about your experiences with BASICS, the alcohol intervention program on Dartmouth's campus, and its effect on your drinking habits. We will ask some questions regarding your drinking habits before participating in the BASICS program. The survey should take approximately 10 minutes. The BASICS program will take approximately 30-50 minutes. After you have participated in BASICS, you will complete a check-in survey at three different intervals over a year, 3, 6, and 12 months after completing the BASICS program. These questions will also regard your drinking habits.

## Who is eligible to participate?

To participate in this survey, this must be your sophomore fall, you must be on-campus, taking classes and a newly selected member of a Greek organization at Dartmouth.

#### Will you be paid to take part in this study?

If 80% of initial participation in BASICS is retained by the last 12-month check-in survey we will provide your Greek house with financial compensation.

### What are the options if you do not want to take part in this study?

Your participation in this study is completely voluntary. You may withdraw your consent and discontinue your participation at any time with no consequences to you.

## What are the options if you do not want to take part in this study?

You can personally benefit from this study by participating in BASICS. "BASICS is a program designed to help you make decisions around drinking based on your own values to minimize harmful effects in your life" (Student Wellness Center). There is a possibility that this design will work for you.

#### What are the risks involved with taking part in this study?

There are no known risks involved in participating in this study.

#### How will your privacy be protected?

CONSENT

The information collected for this study will be kept secure and confidential. Your name will not be linked to your responses in any way. Only the research team will have access to your data.

If you have questions about this study, you can contact the research director for this study, Brian Bowden - Email: <a href="mailto:Brian.Bowden@Dartmouth.edu">Brian.Bowden@Dartmouth.edu</a>.

CONSENT
I have read the above information and agree to take part in this study.
Name (Print)
Signature

## **Appendix B. Pre-Screening Survey**

Welcome to our pre-screening survey to assess drinking behavior among <u>newly admitted</u> Greek-affiliated students. This survey is an important part of our research study to evaluate behavior changes associated with high-risk drinking.

To participate in this survey, this must be your sophomore fall, you must be on-campus, taking classes and a <u>newly selected member</u> of a Greek organization at Dartmouth.

Age:
☐ Under 18
□ 18-19
□ 20-21
□ 22-23
☐ 24 or older
Biological sex:
☐ Male
☐ Female
□ Nonbinary
☐ Prefer not to say
*This question is not mandatory*
Have you previously participated in the BASICS program?
☐ Yes, I participated in it this term
☐ Yes, in the previous academic year but not this term
☐ No, I have not participated before
If you have participated before, in what term did you complete the program?
☐ Winter
☐ Spring
☐ Summer
How often do you have a drink containing alcohol?
□ Never
☐ Monthly or less
☐ 2-4 times a month
☐ 2-3 times a week
☐ 4 or more times a week
How many drinks containing alcohol do you have on a typical day when you are drinking?
□ 1 or 2
$\square$ 3 or 4

□ 5 or 6 □ 7-9
□ 10 or more
How often do you have six or more drinks on one occasion?  ☐ Never
☐ Less than monthly
<ul><li>☐ Monthly</li><li>☐ Weekly</li></ul>
☐ Daily or almost daily
How often during the last year have you found that you were not able to stop drinking once you had started?
□ Never
<ul><li>Less than monthly</li><li>Monthly</li></ul>
☐ Weekly
☐ Daily or almost daily
How often during the last year have you failed to do what was normally expected of you because of drinking?
Less than monthly
<ul><li>☐ Monthly</li><li>☐ Weekly</li></ul>
☐ Daily or almost daily
How often during the last year have you needed a drink in the morning to get yourself going after a heavy drinking session?  Never
Less than monthly
<ul><li>☐ Monthly</li><li>☐ Weekly</li></ul>
☐ Daily or almost daily
How often during the last year have you had a feeling of guilt or remorse after drinking?  ☐ Never
☐ Less than monthly
☐ Monthly ☐ Weekly
<ul><li>☐ Weekly</li><li>☐ Daily or almost daily</li></ul>

How often during the last year have you been unable to remember what happened the night before because you had been drinking?

Never
Less than monthly
Monthly
Weekly
Daily or almost daily

## **Appendix C. Check-In Surveys**

Welcome to our check-in survey to assess changes in drinking behavior among Greek-affiliated students who participate in the BASICS program. This survey is an important part of our research study to evaluate the effectiveness of the program in promoting behavior change and reducing negative consequences associated with high-risk drinking.

To participate in this survey, you must be on-campus, enrolled for classes during the term, a **current** member of a Greek organization at Dartmouth and <u>have previously participated in the BASICS program your sophomore fall or earlier.</u>

Age:
☐ Under 18
□ 18-19
□ 20-21
□ 22-23
☐ 24 or older
Biological sex:
☐ Male
☐ Female
□ Nonbinary
☐ Prefer not to say
*This question is not mandatory*
Have you previously participated in the BASICS program?
☐ Yes, during sophomore fall
☐ Yes, earlier than my sophomore fall and during sophomore fall
☐ Yes, during my sophomore fall and again after my sophomore fall
☐ No, I have not participated before
*If the answer is no, then you can stop the survey here*
How often do you have a drink containing alcohol?
□ Never
Monthly or less
2-4 times a month
2-3 times a week
☐ 4 or more times a week
How many drinks containing alcohol do you have on a typical day when you are drinking?
□ 1 or 2
□ 3 or 4
□ 5 or 6
$\square$ 7-9

□ 10 or more
How often do you have six or more drinks on one occasion?  Never Less than monthly Monthly Weekly Daily or almost daily
How often during the last year have you found that you were not able to stop drinking once you had started?  Never Less than monthly Monthly Weekly Daily or almost daily
How often during the last year have you failed to do what was normally expected of you because of drinking?  Never Less than monthly Monthly Weekly Daily or almost daily
How often during the last year have you needed a drink in the morning to get yourself going after a heavy drinking session?  Never Less than monthly Monthly Weekly Daily or almost daily
How often during the last year have you had a feeling of guilt or remorse after drinking?  Never Less than monthly Monthly Weekly Daily or almost daily
How often during the last year have you been unable to remember what happened the night before because you had been drinking?  Never Less than monthly

☐ Monthly
☐ Weekly
☐ Daily or almost daily
Since completing the BASICS program, have you noticed any changes in your drinking habits?  Yes, I have reduced the frequency and/or amount of alcohol I consume  No, I have not noticed any changes in my drinking habits  No, I have actually increased the frequency and/or amount of alcohol I consume
How confident are you in your ability to maintain the changes in your drinking habits made as a result of the BASICS program?
☐ Not at all confident
☐ Slightly confident
☐ Moderately confident
☐ Very confident
☐ Completely confident

Thank you for taking the time to complete this survey and helping us improve our understanding of how the BASICS program can benefit Greek-affiliated students!

## Appendix D. Alternative Method Explanation

To assess the efficacy of the BASICS program on changing drinking habits, an alternative method is to group Greek houses based on their identified high-risk behavior, such as Good Samaritan calls, alcohol violations, and safety and security walkthrough report. The groups will then be divided into two cohorts, with one cohort undergoing the BASICS program and the other not participating. Both groups will take part in pre-survey and post-survey assessments to compare the results and identify if the BASICS program is effective in reducing risky drinking behaviors.

One advantage of this method is that it allows for a more rigorous evaluation of the effectiveness of the BASICS program by using experimental design and statistical methods. It also provides a control group to help determine the causal relationship between participation in the BASICS program and changes in drinking habits.

However, there are ethical concerns with this method. It may seem unfair to randomly assign some students to undergo the BASICS program while others do not, which could lead to feelings of resentment or dissatisfaction among those who are not selected. This dissatisfaction can lead to low response rates and students not being willing to participate. Additionally, there are potential risks to participants who continue to engage in high-risk drinking behaviors but do not receive the intervention.

To address this ethical concern, the cohort that would not participate in BASICS could undergo another training of the same length, for example, another module of the Sexual Violence Prevention Project, or any other program that doesn't directly target alcohol.

Overall, while the alternative method of using experimental design and control groups to assess the efficacy of the BASICS program may provide more rigorous results, it is essential to balance the benefits with the potential ethical concerns and risks to participants.

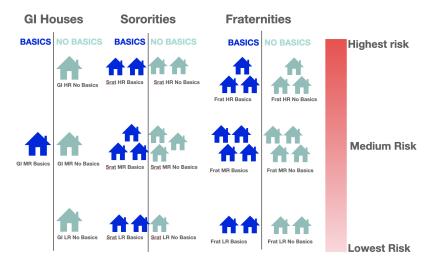


Figure 1. Visualization of Greek house cohort divisions based on risk and whether or not they participate in BASICS for the experiment in the alternative method.