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# An Outcome Evaluation of CHOICES: A Brief Alcohol Abuse Prevention Program at Georgia State University

Ethan Johnson

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An Outcome Evaluation of CHOICES: A Brief Alcohol Abuse Prevention Program at  
Georgia State University



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A Thesis Submitted to the Graduate Faculty  
of Georgia State University in Partial Fulfillment  
of the Requirements for the Degree

MASTER OF PUBLIC HEALTH

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APPROVAL PAGE

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Georgia State University

By  
Ethan Johnson  
Bachelor of Science  
University of Central Florida

Approved:

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Committee Chair

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Committee Member

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Date

## **Executive Summary**

### *Program Description*

CHOICES: A Brief Alcohol Abuse Prevention and Harm Reduction Program, is a research-based intervention program that can assist college students in making safer choices as it relates to alcohol consumption. Students in CHOICES are informed of the risks associated with alcohol use and are provided with the tools and strategies necessary for reducing these risks. Students who complete CHOICES leave with the knowledge and strategies that are required to modify risky drinking behavior and reduce negative consequences related alcohol consumption.

### *Evaluation Questions*

The purpose of the evaluation was to determine how effective is the CHOICES program. Program effectiveness was measured through the assessment of student's change in background knowledge, knowledge of health related risks associated with alcohol consumption, and attitudes towards excessive drinking. Student's perceived effectiveness of the program and their likelihood to modify their behavior was also assessed. Below are the five evaluation questions:

1. Do students display an increase in background knowledge of alcohol consumption?
2. Do students display an increased knowledge of health-related risks associated with alcohol consumption?
3. Do students display a change in attitudes towards excessive drinking?
4. Do students consider the CHOICES Program an effective alcohol abuse prevention program?

5. Are students likely to modify their behavior as a result of the CHOICES Program?

### *Methods*

There were 88 students mandated to participate in and complete Georgia State University's CHOICES Program from May 2013 to December 2013. Of those 88 students, 83 of them completed pre- and post-tests, and 84 completed the de-identified evaluation. The data was entered directly into IBM's SPSS Statistics Desktop Version 21. Reliability analyses were conducted to evaluate the internal consistency and reliability of the scales created to answer the evaluation questions. Frequencies were run on the responses from the pre-tests, post-tests and evaluations. A paired-samples t-test was used to compare mean scores of students before and after completing the CHOICES Program. An independent-samples t-test was used to compare the difference in mean scores between men and women.

### *Key Findings*

Statistically significant findings suggests that CHOICES is an effective alcohol abuse prevention program. There was a statistically significant increase in background knowledge scores from the pre-test to the post-test. These results indicate that students who complete CHOICES display an increase in background knowledge of alcohol use. There was also a statistically significant increase in health knowledge scores from the pre-test to the post-test. This indicates that students who complete CHOICES display an increase in knowledge of health-related risk associated with alcohol consumption. Statistical significance was also found in the increase of student's attitude scores from the

pre-test to the post-test, indicating that students who complete CHOICES display a positive change in attitude towards excessive drinking.

Over half of students gave CHOICES an overall rating of “excellent” and 38.6% gave it a rating of “good”. Also, 60.6% of students scored above a 28 on the Program Effectiveness Scale. These results indicate that students consider CHOICES an effective alcohol abuse prevention program. 60.7% of students reported that they would “definitely” change some aspect of their alcohol-related behavior as a result of the CHOICES Program. 29% reported “maybe”. These results indicate that the majority of students are likely to modify their behavior as a result of CHOICES. Students who participate in CHOICES leave the program with increased knowledge, a change in attitude towards excessive drinking and are motivated to make safer choices related to drinking.



## **Introduction**

### *Background*

Alcohol consumption and abuse affects the majority of college students in either a direct or indirect manner (NIAAA, 2013). Over the past few decades the consumption of alcohol has become engrained in collegiate culture. Approximately four out of five college students consume alcohol, and half of which do so while binge drinking (NIAAA, 2013). Many students believe that alcohol is a vital ingredient in social success (NIAAA, 2005). Some students perceive alcohol as a tool that can relax them and allow them to be truer versions of themselves (NIAAA, 2005). The problem with this pervasive culture of drinking amongst college students is that it leads to many adverse health outcomes.

Here in the United States 1,825 college students die annually from unintentional injuries related to drinking, more than 690,000 students are assaulted by a student who has been drinking, and more than 97,000 students are victims of alcohol-related sexual assault or rape (NIAAA, 2013). The public health implications of college drinking are more than apparent, and the methods of intervening vary. For alcohol abuse prevention and intervention programs on college campuses to have campus wide impacts they must be multi-level and implemented in a way that targets individual students, the student body, and the surrounding community (NIAAA, 2013). Most alcohol abuse prevention and intervention programs on college campuses focus on increasing knowledge, modifying behavior, influencing the culture of drinking on campus, and changing policies that enable students to drink while underage.

## *Choices*

CHOICES is a brief alcohol abuse prevention and harm reduction program geared towards college students. Historically, alcohol intervention programs for college students have had an exclusive focus on providing information to students about the risks and harm associated with alcohol (Marlatt, Parks & Calhoun, 2003). This focus is often coupled with scare tactics and enforcement threats. This is an approach that has been proven ineffective. Most college students are aware of the adverse health outcomes and risks associated with alcohol consumption and decide to drink excessively anyways. Unlike many prior alcohol abuse prevention programs, CHOICES seeks to assist students in building the motivation and skills necessary to reduce the risks associated with alcohol use and the harm it can cause to themselves and others (Marlatt, Parks & Calhoun, 2003).

CHOICES recognizes that abstinence is the only legal option for students under the age of 21. The program also recognizes that abstinence is the only way to avoid the risks associated with alcohol consumption all together. With that said, the CHOICES curriculum outlines abstinence as an important tool and concept, but the curriculum is also built around the belief that underage students who choose to drink should do so with the least amount of risks and harm as possible. Students who go through CHOCIES are expected to self-examine their drinking behavior, increase their knowledge of alcohol consumption and the risks associated with it, explore drinking norms on their campus and how those norms differ from their perceived norms, and modify their alcohol expectancies. This is achieved through a two-session course format where students are guided through a number of activities that incorporate group discussions, interactive journaling and motivational interviewing. Upon the completion of CHOICES students

should be motivated to make safer choices related to drinking and are knowledgeable of effective tools to make positive changes.

## **Literature Review**

Alcohol intervention programs on college campuses should be based on the demographic and behavioral characteristics of the student participants. A study was published that examined the baseline characteristics of college freshmen enrolled in the Brief Alcohol Screening and Intervention for College Students (BASICS) program (Kazemi, Sun, Dmochowski, Nies & Walford, 2012). BASICS is a multiple-component, individual-focused college drinking intervention program. It has a harm reduction approach that utilizes brief motivational interviewing. The study participants were college freshmen between the ages of 18 and 20 who were enrolled in state universities in the southeast US. Study participants were recruited from freshmen seminar classes. At the first visit, participants completed the Daily Drinking Questionnaire, the Rutgers Alcohol Problem Index, and the Government Performance and Results Act. The results found the study population to be demographically diverse, but also found that participants shared many of the same high-risk behavior characteristics. Heavy use of alcohol and other drugs, along with psychological and emotional problems were commonly shared characteristics. Heightened drinking between Thursday and Saturday was also observed.

The implications from this study suggest that alcohol interventions should be aimed towards risk and harm reduction. This study highlights the culture of drinking amongst college freshmen and the importance of extending alcohol interventions beyond abstinence only education. College freshmen are a high-risk group of drinkers therefore risk reduction strategies and motivating students to modify behavior should be the focus of collegiate alcohol abuse prevention programs. CHOICES has a strong emphasis on risk-reduction and motivational interviewing. In this evaluation, student's attitudes

towards drinking and their likelihood to modify their drinking behavior were assessed. These are key outcomes in a prevention program such as CHOICES.

First year college students' estimation of their own drinking and how this estimation, whether accurate or inaccurate, corresponds to alcohol-related consequences were examined by Hultgren, Cleveland, Turrisi & Mallett (2014). Social variables and the impact they have on first year college students' perceived drinker type were also examined. The authors of the study hypothesize that students who misperceive themselves as lighter drinkers are more likely to engage in high risk drinking behavior and as a result suffer consequences related to alcohol consumption. In contrast, they hypothesize that students who overestimate their drinker type are less likely to experience consequences. They also hypothesize that students with more positive social influences relating to alcohol consumption will be positively associated with underestimation of drinker type. A northern U.S. university was used for the study population. Incoming freshmen in 2007 and 2008 were randomly selected for the study for Cohort 1 and Cohort 2 respectively. Four drinking classes were identified with latent class analysis (LCA) using seven drinking measures. These seven measures included; typical daily drinking, number of drinks typically consumed on weekdays (Sunday-Wednesday), number of drinks consumed on Thursdays, number of drinks consumed on weekends (Friday-Saturday), frequency of drunkenness, number of times they've consumed 4 or more drinks in the past 2 weeks (5 or more for males), and peak blood alcohol content. The four drinking classes that were derived from these measures were non-drinkers, weekend light-drinkers, weekend heavy-episodic drinkers, and heavy drinkers.

The study found that both underestimation and overestimation increase the risk of consequences from alcohol consumption in first year college students. It's noted that these results could be attributed to the Alcohol Expectancy Theory, which explains that individuals will act as though they are intoxicated if they believe they are drinking alcohol, even when they are not actually consuming alcohol. The study also found that students who are in social environments that reinforce positive expectancies of alcohol have increased risky drinking. This study highlights the importance of college students' own perception of their drinking habits. In CHOICES students participate in interactive journaling throughout the program. This activity allows students to assess their personal relationships with alcohol in a meaningful way. This exercise, coupled with a series of activities, challenges students to assess how much alcohol they actually consume. Students then compare their drinking habits and perceived drinking habits of others to actual drinking norms. Self-reflecting is a vital component of alcohol abuse prevention programs and allows students to identify areas of concern in their own drinking habits. Realization of accurate drinking norms can be reflected in student's change in attitude towards drinking.

A goodness of fit assessment was conducted on an alcohol intervention program and the underlying theories of change (Ramos & Perkins, 2006). Theories of change guide the development and implementation of intervention programs; therefore it is vital that program elements align with the theories of change in order to ensure positive program outcomes. This particular study examined the goodness of fit between program elements in the Alcohol Intervention Program Level 2 (AIP2) at Pennsylvania State University, and the underlying theories of change that guide the program. AIP2's

program elements were evaluated and the health promotion theories attached to this program were identified. The theories that consistently matched each program element focused on college students and factors that lead to alcohol consumption. The four theories identified were The Health Belief Model, The Social Learning Theory, The Social Norms Theory and The Transtheoretical Model of Change. These components are utilized throughout the entire intervention, but the authors still give several recommendations that could improve the intervention program and strengthen the theories that are being used.

The social norms theory can be seen in the intervention through the heightened comprehension technique. Students compare their perceptions of drinking norms to actual drinking norms of their peers. The authors suggest that an activity-based intervention that addresses the universal perceptions of behavior norms related to college drinking could strengthen the Social Norms Theory. Many components of The Social Learning theory are utilized in the peer interventionist and education-based framework. The authors suggest that the Social Learning Theory could be strengthened through improved discussions of negative outcomes from drinking. The discussion should utilize activity-based handouts and videos to focus the discussion on more serious outcomes of heavy drinking. The Health Belief Model is used in the section of the program that identifies drinking patterns by frequency and amount as a potential health-related risk. Adding an assessment of participants' lifestyles could strengthen this model. This will aid in increasing awareness of high-risk behaviors. The Transtheoretical Model of Change operates a primary guide to the implementation of AIP2. This could be even better utilized through reporting readiness-to-change measures at the beginning of the

intervention so that discussions can be better tailored to individual participants' needs. Peer interventionist should develop intervention plans that target individuals' needs at each stage of change.

One can conclude from this article that not only is the inclusion of theories of change vital to intervention programs' implementation, but the degree to which they are incorporated play an integral part in program outcomes. CHOICES uses the Transtheoretical Stages of Change Model as a theoretical framework for the program. It is not expected that two 90 minute sessions will result in the immediate change in students drinking behavior, but the CHOICES curriculum was designed to reach students who fall anywhere in the stages of change model. Fidelity to the curriculum and the facilitator's guide ensures that all students receive the same research based program information and activities. This allows for students at every stage of change to be impacted by the program. The fidelity to the stages of change construct and the CHOICES curriculum was assessed through students' perceived effectiveness of the program and their increase in knowledge.

Many alcohol interventions on college campuses are voluntary or implemented through freshmen classes. Other alcohol interventions are mandated for students to attend and are incorporated into punitive sanctions for students violating the code of conduct as it relates to alcohol consumption. In an article from the *Journal of Substance Abuse Treatment* a systematic review was conducted on alcohol intervention programs that college students are required to attend (Barnett & Read, 2005). MEDLINE and PsycINFO were the two primary resources used to find and review published research on mandated alcohol intervention programs. The two criteria for inclusion in this review



were; participants had to be required to attend an alcohol intervention program or an alcohol related infraction, and post-intervention outcomes were reported. Thirteen single group studies and three randomized control trials were included in the study. The study found that the existing research points towards mandated alcohol intervention programs having a positive impact on college students. Participants in these types of interventions report positive responses and display an increased knowledge of alcohol consumption. This study was not without limitations, most of these studies used qualitative or quasi-experimental designs and did not include comparison or control groups, had small sample sizes, lacked behavioral measures of alcohol consumption, and had no follow-up, low follow-up rates, or short follow-up intervals. A couple of the studies also had some voluntary students included in their interventions. Even with that said, the authors concluded that mandatory interventions do show promise in modifying risky drinking behavior among college students.

CHOICES students at Georgia State are mandated to participate in the program upon violation of the code of conduct. CHOICES students also must pay a registration fee of 35 dollars. A hold is put on the student's accounts and is removed once the program is completed. Analyzing the mean differences from pre- and post-test scores will reveal the effectiveness of the mandated version of CHOICES.

The Brief Alcohol and Screening Intervention for College Students (BASICS) was evaluated for effectiveness by DiFulvio, Linowski, Mazziotti & Puleo (2012). There were 2,672 students who participated in the program between 2006 and 2008 and were included in the evaluation. Self-reported drinking behavior was collected at baseline and used as the basis for analysis. Six months after the intervention self-reported drinking

behavior was collected again. Students in the comparison group did the same. Typical, peak and heavy episodic drinking were analyzed using several measures. Typical alcohol consumption was assessed by average number of drinks per social drinking occasion, and by total number of drinks in a typical drinking week. Peak alcohol consumption was assessed by number of drinks consumed on the heaviest drinking occasion in the past 30 days, and by total number of drinks per heaviest week. Heavy episodic drinking was assessed by the number of times a student drank five (four for female students) or more drinks in one sitting within the two weeks prior to taking the survey. Knowledge of the consequences from alcohol use was measured using the Rutgers Alcohol Problem Index. The effectiveness of the intervention was examined based on single-episode drinking concentrations, weekly cumulative alcohol consumption, high-risk drinking behaviors, and knowledge of negative consequences. The study concluded that participants reduce their drinking rates, but they are still drinking in significantly high-risk ways. The results of this study indicated that implementing the program with fidelity might reduce risky drinking behaviors. The results also indicated that a program such as this is less effective for low-risk behavior students. In the evaluation for CHOICES pre- and post-test data collected at the beginning and the end of the program will be examined. Course evaluation data was examined. These data are sufficient for assessing short-term outcomes, but to analyze the long-term impact of CHOICES future studies will need to include collection of follow-up data.

The efficacy of expectancy challenge Interventions to reduce college student drinking was reviewed using meta-analysis (Garey, Carey, Terry, Scott-Sheldon & Carey, 2012). Expectancy challenge interventions use the placebo effect to highlight the

expectations from drinking. Different beverages are given to groups of drinkers. Some of the drinks contain alcohol and others contain a placebo beverage. Participants engage in activities that promote social interaction, and afterwards participants are asked to evaluate whether other participants were drinking alcohol or the placebo. This opens up discussion on the effects of alcohol attributable to expectancies. In this meta-analysis intervention success was measured by alcohol expectancies and alcohol consumption. The authors hypothesized that college students who received an EC intervention would report lower positive alcohol expectancies, greater negative alcohol expectancies, and reduced alcohol consumption. 14 studies were examined that evaluated 19 interventions challenging alcohol-related expectancies among 1,415 college students. The authors found that compared with controls, EC interventions were more successful at reducing positive alcohol expectancies, the quantity of alcohol consumed, and the frequency of heavy drinking. EC interventions are not a part of the CHOICES curriculum, but depending on the likelihood of behavior modification and CHOICES perceived effectiveness, adding EC interventions as a component of CHOICES could be a potential program enhancement.

A community model for inclusion in the university setting for an alcohol treatment program for college students was examined (Palombi, 2006). The use of the community intervention model at a midwestern university for alcohol treatment was described. A community model of embeddedness, interdependence, intradependence, and evolution (CMEIIE) has been used to create this approach to intervention and treatment. This model takes into account current alcohol prevention programs and studies on campus, identifies university agencies involved with these students, uses available

resources within the university and local community, clarifies the role of each of these agencies, and charges the University Counseling Center to coordinate a systems approach to intervention and treatment through collaboration and intradependence. CMEIIE is a way to consolidate resources and ideas that can aid in alcohol education and interventions. CMEIIE is a tool that aids universities in designing their own community model that takes into account policies, resources and funding around the University and surrounding community. The article concludes that a campus environment that supports alcohol treatment aids in students' achieving their academic goals. While CHOICES is a program that specifically targets high-risk students, it is important to work across campus with different agencies and organizations to not only encourage risk-reduction, but also modify the culture of drinking on campus.

Alcohol consumption is a major public health problem across the country; therefore evidence-based interventions are a necessity for every college campus. Prevention programs should exist for all students entering their first year of college, and intervention programs should be implemented for students who display high-risk drinking behaviors. Best practices in college level alcohol interventions dictates that interventions should focus on behavior modification and risk reduction. Abstinence should be included in prevention programs but is by no means a gold standard. Although demographics and backgrounds of college students differ, they share many of the same high-risk behavior characteristics. Self-reflection that explores college student's perceived drinker type is also an important aspect of intervention. Students who under-perceive the amount of alcohol they consume are at a much higher risk of harm related to alcohol. Theoretical models should also be considered. The extent to which health models and theories are

utilized in alcohol intervention programs plays a role in the degree of positive outcomes. Lastly, college interventions should have a holistic campus wide approach. Interventions that reach across the entire campus can be more cost effective and have a greater influence on the culture of the entire university.

## **Program Description**

### *CHOICES*

CHOICES: A Brief Alcohol Abuse Prevention and Harm Reduction Program, is a research-based intervention program that can assist college students in making safer choices as it relates to alcohol consumption. Students in CHOICES are informed of the risks associated with alcohol use and are provided with the tools and strategies necessary for reducing these risks. Students who complete CHOICES leave with the knowledge and strategies that are required to modify risky drinking behavior and reduce negative consequences related alcohol consumption.

George Parks and Alan Marlatt developed the CHOICES Program in collaboration with The Change Companies. Marlatt and Parks based the curriculum for CHOICES off of more than 20 years of research funded by The National Institute of Alcohol Abuse and Alcoholism (NIAAA) on alcohol harm reduction programming for college students at the University of Washington (Marlatt, Parks & Calhoon, 2003). They found that interventions focusing on moderation are more effective than interventions that focus on abstinence only. Alcohol abuse intervention programs that focus on harm reduction rather than abstinence only can reduce drinking rates and alcohol related negative consequences among college students (Marlatt & Witkiewitz, 2002). The research also concluded that although it is important to recognize the illegal nature of underage drinking it is equally as important to provide college-aged young people with information and strategies that can aid in reducing their risk of harm if they choose to consume alcohol.

The Alcohol Skills Training Program (ASTP) Interventions are the product of this research and serve as the basis for the development of several alcohol intervention programs, the CHOICES curriculum included. CHOICES was designed as a intervention/prevention tool to deliver the research-based Alcohol Skills Training content in a brief and flexible facilitated group setting.

### *Program Format*

CHOICES can be administered to a variety of different groups, in a variety of different settings, and in a variety of different ways. CHOICES can be presented in a campus-wide format, or it can be facilitated in more targeted settings such as freshmen classes, fraternity/sorority houses, or mandated groups. Individuals with group facilitation skills and general background knowledge about alcohol tend to be the best facilitators, but counselors, resident assistants; teachers and coaches are all good candidates.

CHOICES is preferably implemented in a two 90-minute session format. The time between the two sessions allows for time to monitor alcohol consumption experiences, give students structured feedback and tailor the program activities to the specific needs of the participants. Two 90-minute sessions are not always feasible and in these cases it is possible to deliver the program in one session, but two sessions are much more preferable if time permits. Before students begin CHOICES they complete a web-based personal alcohol assessment and receive feedback. Following the web-based assessment students complete a screening with a counselor at Georgia State's Counseling and Testing Center in order to collect basic information on the student's current drinking habits and alcohol expectancies. Students are then able to register for the CHOICES class, which is led by a Health Educator from the Department of Student Health Promotion. During the first

session students take a pre-test and are introduced to facts about alcohol and the risk associated with the consumption of it. The second session emphasizes the material learned in the first, and focuses on the results of self-monitoring exercise and the application of harm reduction strategies. The Student Journal aids in guiding the students through four primary themes; Myths & Realities of Drinking, Facts About Alcohol, Drinking Risks & Harm, and Strategies For Reducing Risks (Appendix A). Woven throughout the program is an interactive journaling exercise the students return to after covering each theme. Interactive journaling is experiential writing that provides small amounts of information and helps students apply the information they are learning by asking “What does this mean to you?” in a variety of ways (Marlatt, Parks & Calhoun, 2003). Interactive journaling enables students to think about their relationship with alcohol in a more meaningful, in-depth way.



## **Program Objectives & Theoretical Basis**

### *CHOICES Mission*

The mission of CHOICES is to, “educate college students about the effects of alcohol on their behavior, to promote self-evaluation of drinking patterns and to facilitate the acquisition of effective coping strategies so that students can make informed decisions and reduce their alcohol-related risk and harm.” The main two objectives of CHOICES is for students to realize for themselves that their alcohol expectancies may not match their actual experiences, and that high risk drinking behaviors lead to negative consequences that can adversely affect their goals pertaining to their social life, academics and even their future career. There are nine basic premises of the CHOICES curriculum that aid in fulfilling this mission and achieving these objectives:

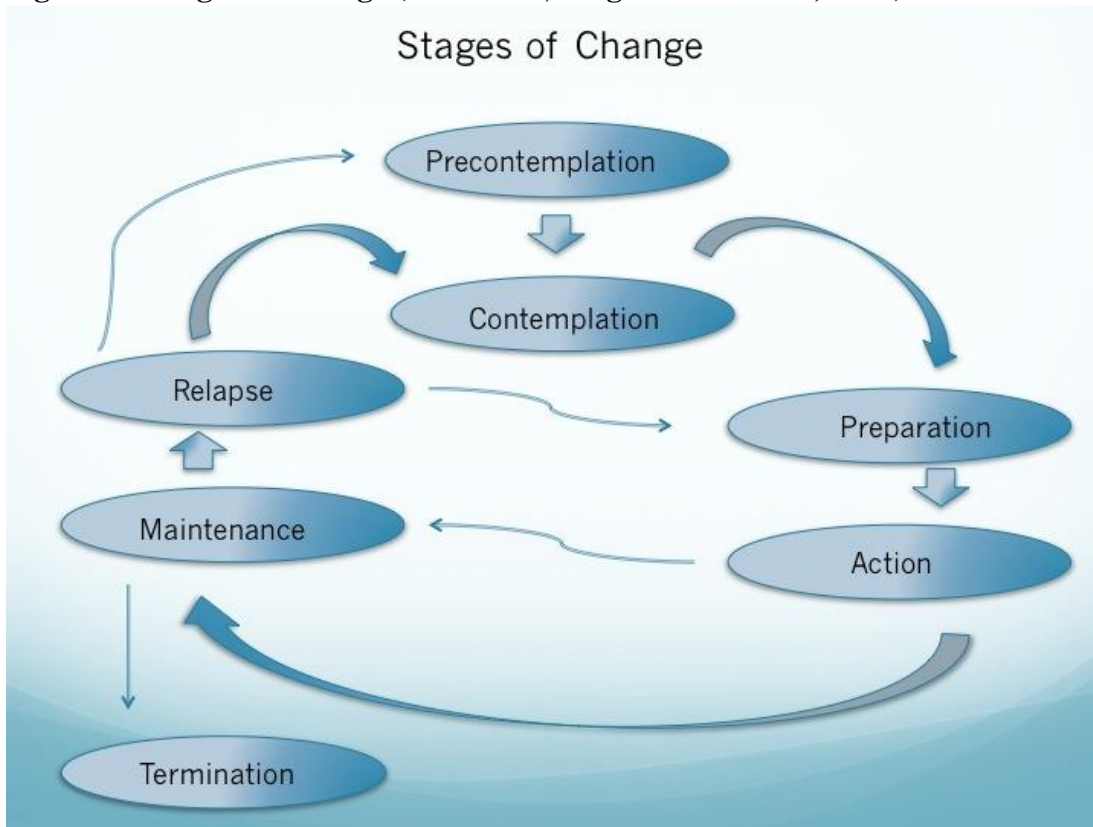
- 1.) All change is self-change.
- 2.) As young-adults, college students are deserving of our respect and compassion.
- 3.) Students are responsible for the choices they make.
- 4.) Students are more likely to make low-risk choices regarding drinking if they have accurate information about alcohol.
- 5.) Abstinence is one of many options available to students. It is the only legal one for underage students and the only no-risk alternative for all students.
- 6.) Knowledge does not equal change.
- 7.) Motivation can be enhanced by raising awareness of consequences and of the discrepancy between current behavior and important goals.
- 8.) Motivation can be enhanced by providing students with options and alternatives.
- 9.) Interactive Journaling is an important agent of personal change.

### *Program Theory*

CHOICES is based on the belief that college-aged students who are given accurate information about the negative effects of alcohol, motivated to change high risk drinking behavior and equipped with the right tools and strategies to make positive changes will be most successful in reducing harm related to drinking for themselves and others. To achieve this, CHOICES uses the Transtheoretical Stages of Change Model as a theoretical framework for the program. The Transtheoretical model is, “an integrative framework for understanding how individuals and populations progress toward adopting and maintaining health behavior change for optimal health. The Transtheoretical model uses stages of change to integrate processes and principles of change from across major theories of intervention.” (McKenzie, Neiger & Smeltzer, 2005). The core constructs of this theory are stages of change, the processes of change, the pros and cons of changing, and self-efficacy. The stages of change and the processes of change are vital constructs in the development and implementation of CHOICES. The stages of change model presents the temporal dimensions of change. Stages are as follows 1.) The *precontemplation* stage people have no intention to take action within the next six months, 2.) The *contemplation* stage when people now intend to take action within the next six months, 3.) The *preparation* stage people intend to take action in the next 30 days and have taken some behavioral steps in this direction, 4.) The *action* stage when overt behavior has been changed for less than six months, and 5.) The *maintenance* stage which is when overt behavior has been changed for more than six months. All of these stages lead to *termination*, which is when behavior is 100% modified and no temptation to return to old behavior patterns exist. Figure 4.1 depicts the stages of change model. It’s not expected

that two 90 minute sessions will result in students immediate change in behavior, but CHOICES was designed to reach students who fall anywhere in the stages of change model. For some students the program may only pique their interest in drinking behavior modification, for others the program may help them commit to a change, and in some cases CHOICES may reaffirm commitments that students have already made.

**Figure 4.1 Stages of Change (McKenzie, Neiger & Smeltzer, 2005)**



The processes of change are the covert and overt activities that people use to progress through the stages of change (McKenzie, Neiger & Smeltzer, 2005). Processes that are categorized as experimental are more often emphasized in the earlier stages because they increase intention and motivation, and processes categorized as behavioral are more often emphasized in the later stages because they aid in the maintenance of observable behavior change (McKenzie, Neiger & Smeltzer, 2005). Table 4.1 depicts

which processes are most emphasized at each stage of change. Many of the processes of change are incorporated into the Interactive Journaling activities as a way to guide students through a more personal change process.

**Table 4.1 Stages of change in which processes are most emphasized (McKenzie, Neiger & Smeltzer, 2005)**

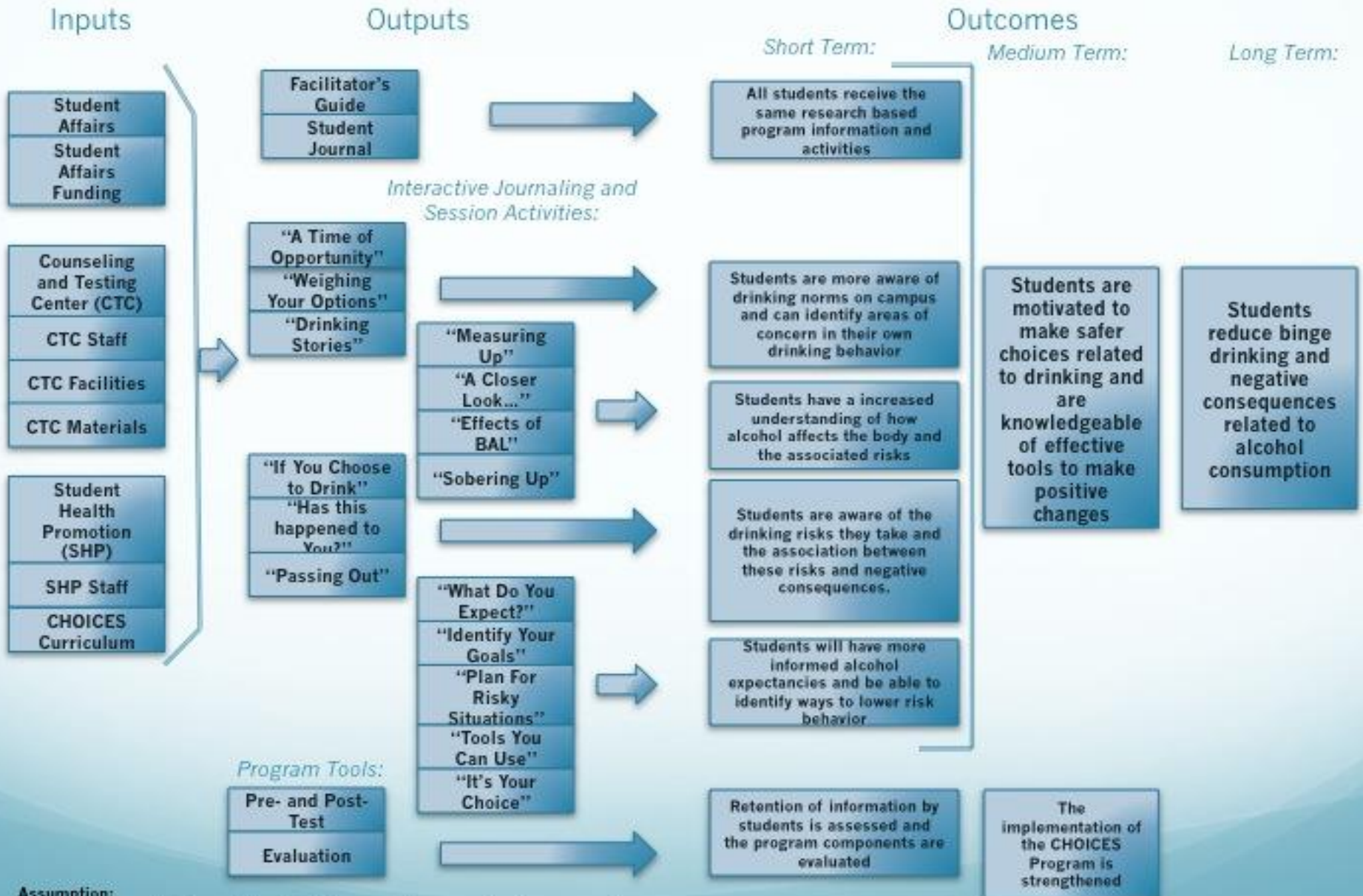
		Stages of Change			
		Precontemplation	Contemplation	Preparation	Action/ Maintenance
<b>Processes</b>	Consciousness raising				
	Dramatic relief				
	Environmental reevaluation				
		Self-reevaluation	Self-liberation		Contingency management
				Helping relationships	
				Counter conditioning	
				Stimulus control	

Motivational Enhancement Strategies are also a large part of the theory for the CHOICES program. The main strategy used in CHOICES is Motivational Interviewing. Motivational Interviewing is a collaborative, person-centered form of guiding to elicit and strengthen motivation for change ("Motivational interviewing basics," 2012). This strategy focuses on exploring and resolving ambivalence and centers on motivational processes within the individual that aid in the facilitation of change. The method differs greatly from the more traditional coercive approaches for motivating change being that it does not impose or suggest change, but rather supports change in a manner that aligns with the person's own values and concerns ("Motivational interviewing basics," 2009).

Motivational interviewing is utilized in a major way in CHOICES to raise discrepancy between college students' current use of alcohol and important goals in their lives that they are working to achieve.

# GSU CHOICES Program Logic Model

Figure 4.2 Logic Model



**Assumption:**

- Students have a misinformed view of drinking social norms and patters amongst peers
- Students possess inaccurate information/expectations about the risks associated with drinking
- Students are unaware of effective harm reduction techniques

## Evaluation Methods

### *Data Collection*

From May 2013 to December 2013, 88 students were mandated to participate in and complete Georgia State University's CHOICES Program. The CHOICES curriculum comes with pre- and post-tests and a course evaluation form. The test and the evaluation can be found in Appendices B and C. Of the 88 students, 83 of them completed both the pre- and post-test, and 84 completed the de-identified evaluation. Analysis of these data was conducted to answer the evaluation questions below.

### *Evaluation Questions*

#### **Table 5.1 Evaluation Questions**

---

**Program Outcomes:**

---

- 1.) Do Students display an increase in background knowledge of alcohol use?
- 2.) Do students display an increase in knowledge of health-related risk associated with alcohol consumption?
- 3.) Do students display a change in attitudes towards excessive drinking?

---

**Program Satisfaction:**

---

- 4.) Do students consider the CHOICES Program an effective alcohol abuse prevention program?
  - 5.) Are students likely to modify their behavior as a result of the CHOICES Program?
- 

### *Data Analysis*

IBM's SPSS Statistics Desktop Version 21 was used to analyze data collected from the student participants. Table 5.2 depicts the measures, scales and items used to answer the evaluation questions. The evaluation data and the test data were run in two separate data files. The codebooks for the files can be found in appendices C and D.

Responses for the tests and the evaluations were input directly into SPSS.

Reliability analyses were conducted to evaluate the internal consistency and reliability of the scales created to answer the evaluation questions. Frequencies were run on the responses from the pre-tests, post-tests and evaluations. A paired-samples t-test was used to compare mean scores of students before and after completing the CHOICES Program. Due to the lack of availability of demographic data gender was assigned based on the names of the student participants.

**Table 5.2 Measures**

<b>Indicator to be Measured</b>	<b>Tool Used to Measure Indicator</b>	<b>Items and/or Scales Used to Assess Indicator</b>
Background Alcohol Knowledge (Do Students display an increase in background knowledge of alcohol use?)	Student Pre- and Post-Test	<p><i>Single Items:</i>            Q1- Which of the following drinks contains the most alcohol?            Q5- In a recent survey of college students at 120 universities, approximately what percentage of students reported that they did not drink more than three or four drinks on three or more occasions over the past two weeks?</p> <p><i>Background Knowledge Scale:</i>            Q2- Which group of college students tends to drink the most            Q3- BAL stands for:            Q6- Who is most likely to face negative consequences as a result of drinking?</p>
Knowledge of Health Related Risk (Do students display an increase in knowledge of health-related risk associated with alcohol consumption?)	Student Pre- and Post-Test	<p><i>Health Knowledge Scale:</i>            Q4-On average, at what BAL is the “point of diminishing returns”?            Q7-The first thing that alcohol affects is:            Q8- On average, a standard drink will raise the BAL of a 140- to 180-pound person:            Q9- Which of the following factors does not influence BAL?</p>
Attitude Toward Excessive Drinking (Do students display a	Student Pre- and Post-Test	<p><i>Change in Attitudes Scale:</i></p>



change in attitudes  
towards excessive  
drinking?)

- Q10- I think it's important to be aware of how much I am drinking when I choose to consume alcohol.
- Q11- I think a lot of alcohol in a short period of time would put me at risk.
- Q12- I don't need to drink alcohol in order to have fun at a party.
- Q13- Drinking to get drunk is not worth it.
- Q14- I think it's important to have a plan in mind to limit my drinking before I go to a party.
- Q15-My personal goals (e.g., academic, athletic) keep me from drinking too much.
- Q16- If a friend passes out from drinking, I would not leave him/her alone to sleep it off.
- Q17- I am comfortable turning down a drink at a party if I don't want it.
- Q18- I limit my drinking so that I won't face negative consequences.

Program Effectiveness Student Evaluation  
(Do students consider  
the CHOICES  
Program an effective  
alcohol abuse  
prevention program?)

*Single Item:*  
Q1- Overall, how would you rate this program

*Program Effectiveness Scale:*  
Q2- How effective were each of the following program components in motivating you to make low-risk drinking choices for yourself?  
Facts about alcohol  
Facts about BAL  
The biphasic chart  
Self-assessment of drinking habits  
Strategies for reducing risk  
Interactive Journal/Workbook  
Your instructor  
Group discussion

Behavior Student Evaluation  
Modification  
(Are students likely to  
modify their behavior  
as a result of the  
CHOICES Program?)

*Single Item:*  
Q8- How likely are you to change some aspect of your alcohol –related behavior as a result of this experience?

## Results

A reliability analysis was run on the Background Knowledge Scale. Initially the Background Knowledge Scale was composed of questions 1, 2, 3, 5 and 6 from the pre- and post-test. With these items the reliability analysis yielded a Cronbach alpha score of .377 and a mean inter-item correlation of .129 (Tables 6.1 and 6.2). These values indicated poor internal consistency of the scale. SPSS determined that by removing questions 1 and 5 the internal consistency could be improved (Table 6.3). Upon the removal of these items the reliability analysis yielded a Cronbach alpha score of .461 and a mean inter-item correlation of .256 (Tables 6.4 and 6.5). Cronbach alpha values are sensitive to the number of items in a scale; therefore with short scales such as this one it is not abnormal to find quite low values (a Cronbach alpha coefficient of a scale should be above .7) (Pallant, 2013). In cases such as this, it is common to report the mean inter-item correlation for the scale. The recommended optimal range for an inter-item correlation value is .2 to .4. With an inter-item correlation of .256 this scale has good internal consistency.

**Table 6.1 Background Knowledge Scale Reliability Statistics (1)**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
.377	.425	5

**Table 6.2 Background Knowledge Scale Summary Item Statistics (1)**

Mean	Minimum	Maximum	Range	Max/ Min	Variance	Number of Items
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<b>Inter-Item Correlations</b>	.129	-.064	.436	.500	-6.804	.026	5
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**Table 6.3 Background Knowledge Scale Item-Total statistics (1)**

	<b>Scale Mean if Item Deleted</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item-Total Correlation</b>	<b>Squared Multiple Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
<b>Drink containing most alcohol (Post-Test)</b>	7.30	.603	.099	.036	.384
<b>Group that drinks the most (Post-Test)</b>	7.36	.478	.249	.205	.273
<b>BAL stands for (Post-Test)</b>	7.25	.655	.172	.243	.366
<b>Percentage of students who do not drink 3 or more drinks on 3 or more occasions (Post-Test)</b>	7.75	.313	.233	.059	.338
<b>Most likely to face negative consequences (Post-Test)</b>	7.30	.530	.315	.352	.253

**Table 6.4 Background Knowledge Scale Reliability Statistics (2)**

<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>Number of Items</b>
.461	.508	3

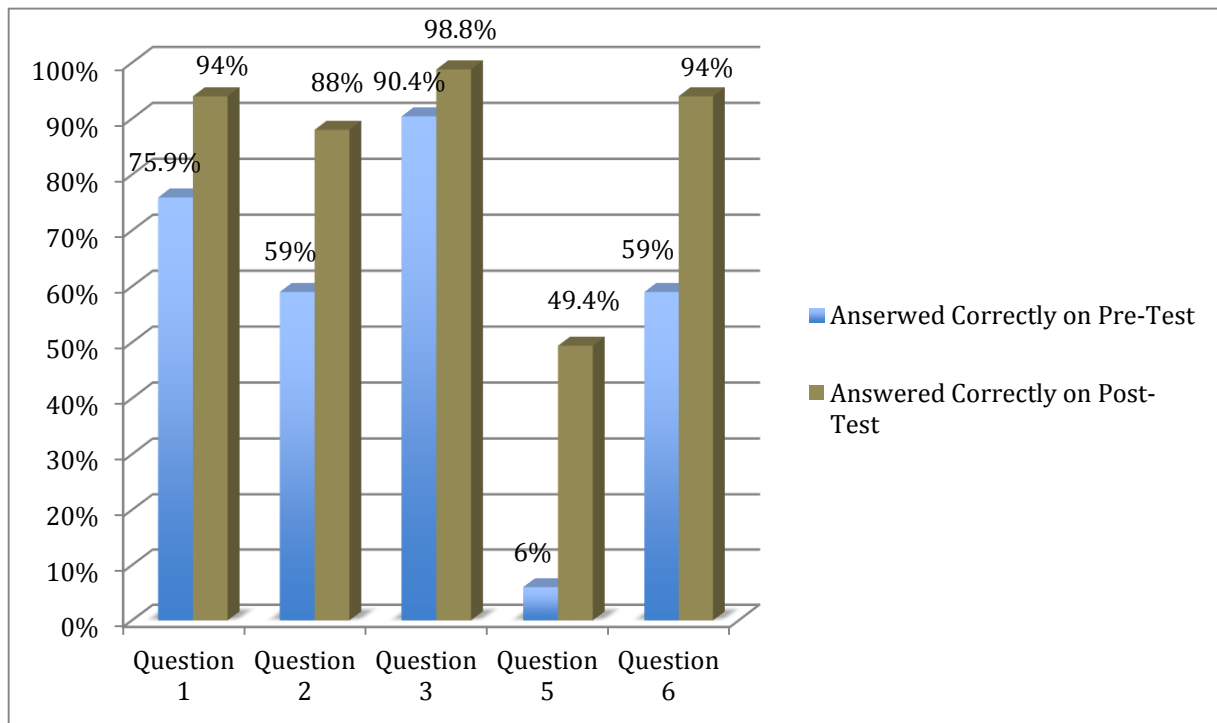
**Table 6.5 Background Knowledge Scale Summary Item Statistics (2)**

<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Range</b>	<b>Max/ Min</b>	<b>Variance</b>	<b>Number of Items</b>
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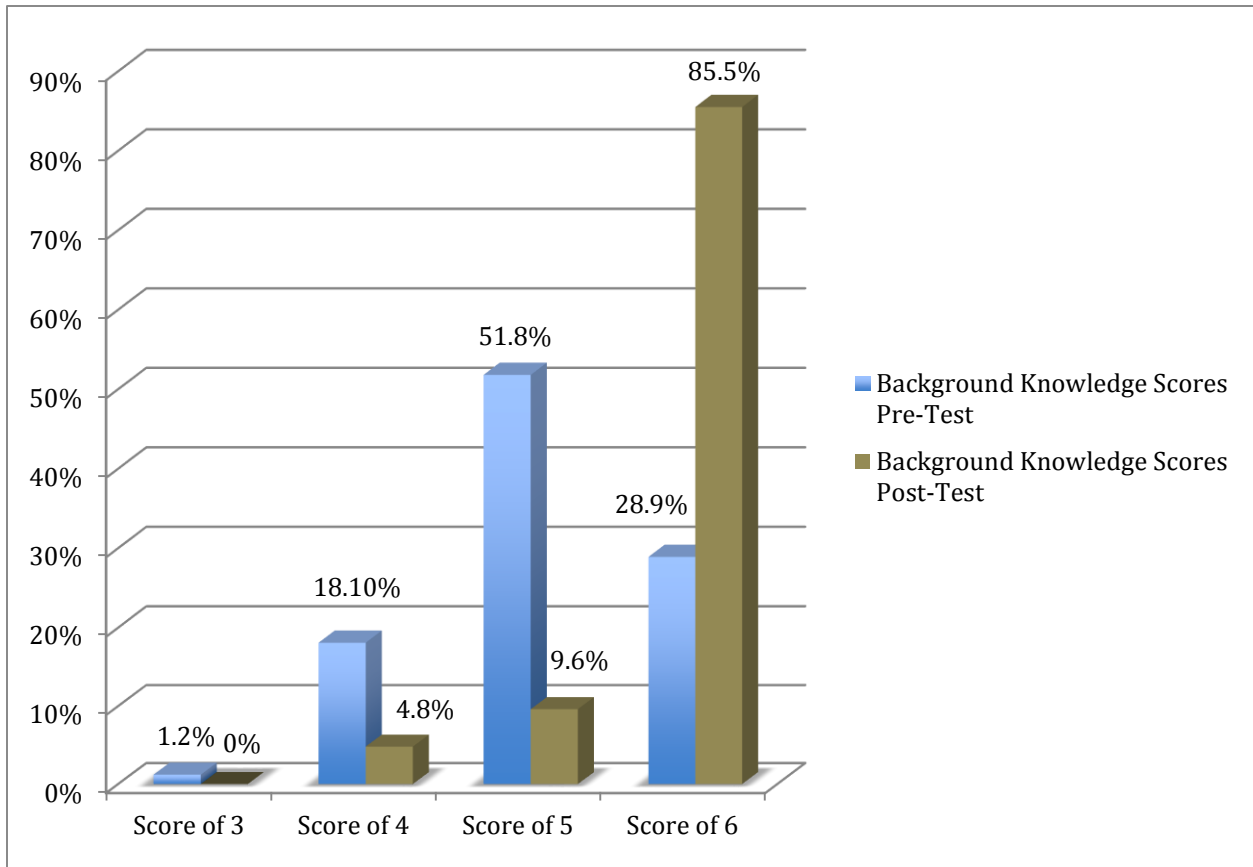
<b>Inter-Item Correlations</b>	.256	-.041	.436	.477	-10.671	.054	3
--------------------------------	------	-------	------	------	---------	------	---

Frequencies were run on the responses for questions 1,2,3,5 and 6. These results can be seen in figure 6.1. The responses for the pre- and post-test scores were coded as 2 for a correct response and 1 for an incorrect response. Using this code the highest students could score on the background knowledge scale was a 6 and the lowest they could score was a 3 (larger numbers indicating a higher level of background knowledge). Frequencies were run on the background knowledge scores from both the pre- and post-test. Figure 6.2 depicts the change in background knowledge scores from the pre-test to the post-test. A paired-sample t-test was conducted to evaluate the impact CHOICES had on students' background knowledge of alcohol. There was a statistically significant increase in background knowledge scores from the pre-test (M = 5.084, SD = .71916) to the post-test (M= 5.8072, SD= .50504), t (82) = -8.382, P< .001 (two-tailed) (Table 6.6). The mean increase in scores was -.722 with a 95% confidence interval ranging from -.89446 to -.55132 (Table 6.7). The eta-squared statistic (.46) indicated a large effect size.

**Figure 6.1 Background Knowledge Single Items**



**Figure 6.2 Background Knowledge Scores**



**Table 6.6 Background Knowledge Scale Paired-Sample Statistics**

	Mean	Number	Std. Deviation	Std. Error Mean
<b>Pre-Test</b>	5.0843	83	.71916	.07894
<b>Post-Test</b>	5.802	83	.50504	.05544

**Table 6.7 Background Knowledge Scale Paired-Samples Test**

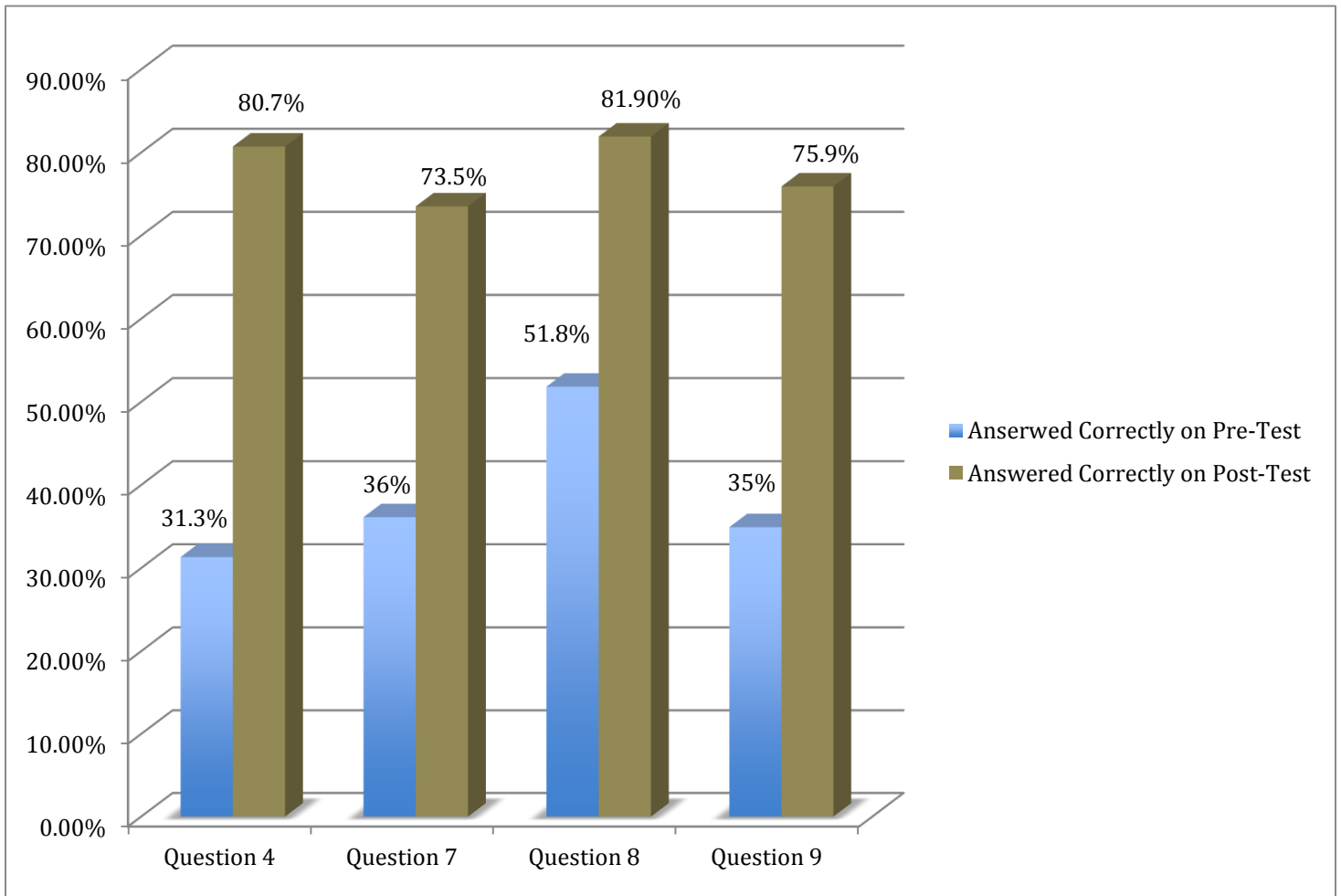
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
<b>Background Knowledge Pre- and Post-Test</b>	-.72289	.78575	.08625	-.89446	-.55132	-8.382	82	.000

A reliability analysis was run on the Health Knowledge Scale. The Health Knowledge scale is composed of questions 4, 7, 8 and 9 from the pre- and post-tests. With these items the reliability analysis yielded an inter-item correlation mean of .258 indicating that the scale has good internal consistency (table 6.8). Frequencies were run on the responses for questions 4, 7, 8 and 9. The results are shown in figure 6.3. The responses for the pre- and post-test scores were coded as 2 for a correct response and 1 for an incorrect response. Using this code the highest students could score on the health knowledge scale was an 8 and the lowest they could score was a 4 (larger numbers indicating a higher level of knowledge of health-related risk associated with alcohol consumption). Frequencies were run on the background knowledge scores from both the pre- and post-test. Figure 6.4 depicts the change in health knowledge scores from the pre-test to the post-test. A paired-sample t-test was conducted to evaluate the impact CHOICES had on students' health knowledge of alcohol. There was a statistically significant increase in health knowledge scores from the pre-test (M = 5.54, SD = 1.004) to the post-test (M= 7.12, SD= 1.0084),  $t(82) = -10.995$ ,  $P < .001$  (two-tailed) (Table 6.9). The mean increase in scores was -1.578 with a 95% confidence interval ranging from -1.864 to -1.293 (Table 6.10). The eta-squared statistic (.59) indicated a large effect size.

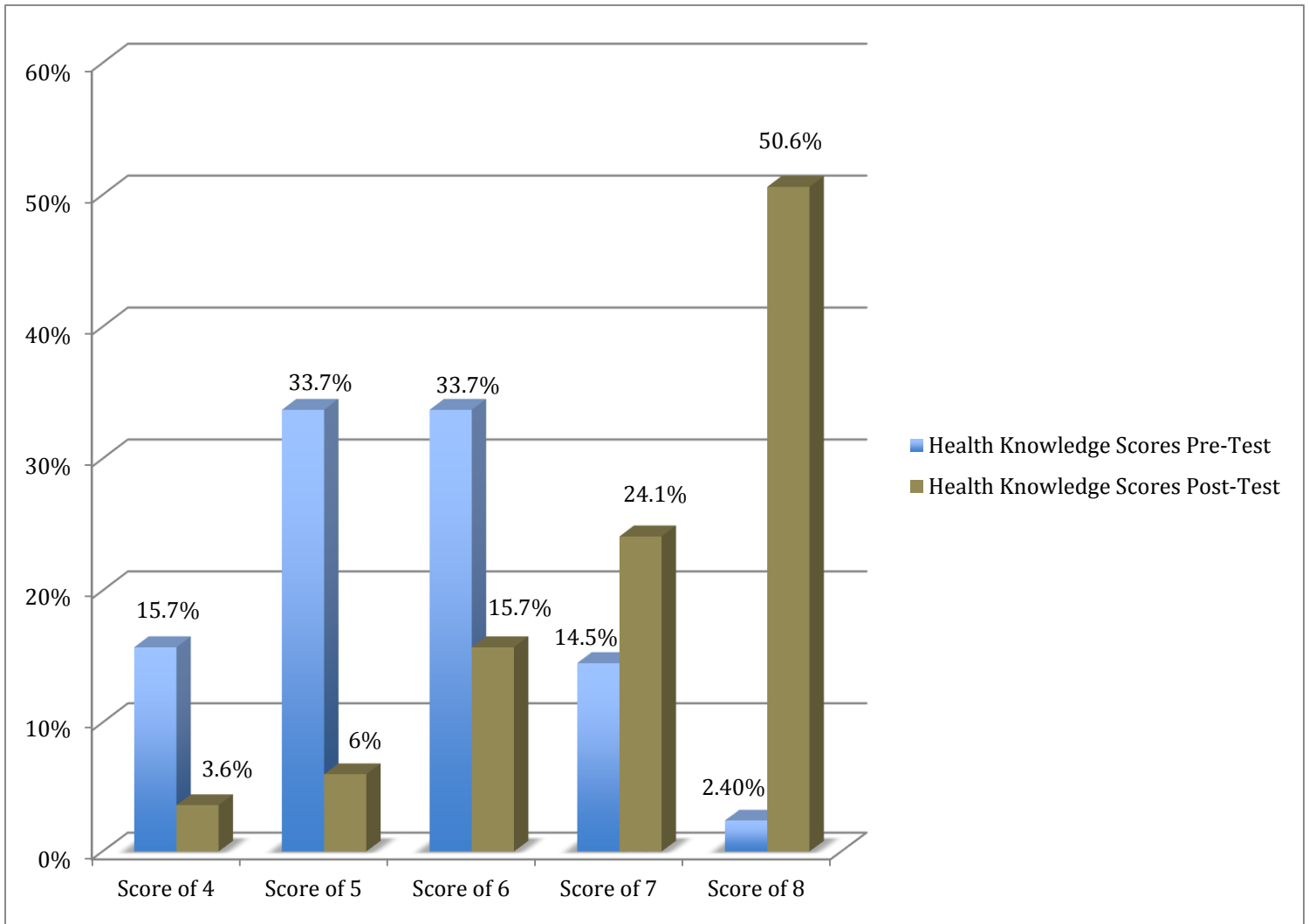
**Table 6.8 Health Knowledge Scale Summary Item Statistics**

	Mean	Minimum	Maximum	Range	Max/ Min	Variance	Number of Items
Inter-Item Correlations	.256	-.041	.436	.477	-10.671	.054	3

**Figure 6.3 Health Knowledge Single Items**



**Figure 6.4 Health Knowledge Scores**



**Table 6.9 Health Knowledge Scale Paired Sample Statistics**

	Mean	Number	Std. Deviation	Std. Error Mean
<b>Pre-Test</b>	5.54	83	1.004	.110
<b>Post-Test</b>	7.12	83	1.109	.122



**Table 6.10 Health Knowledge Scale Paired Samples Test**

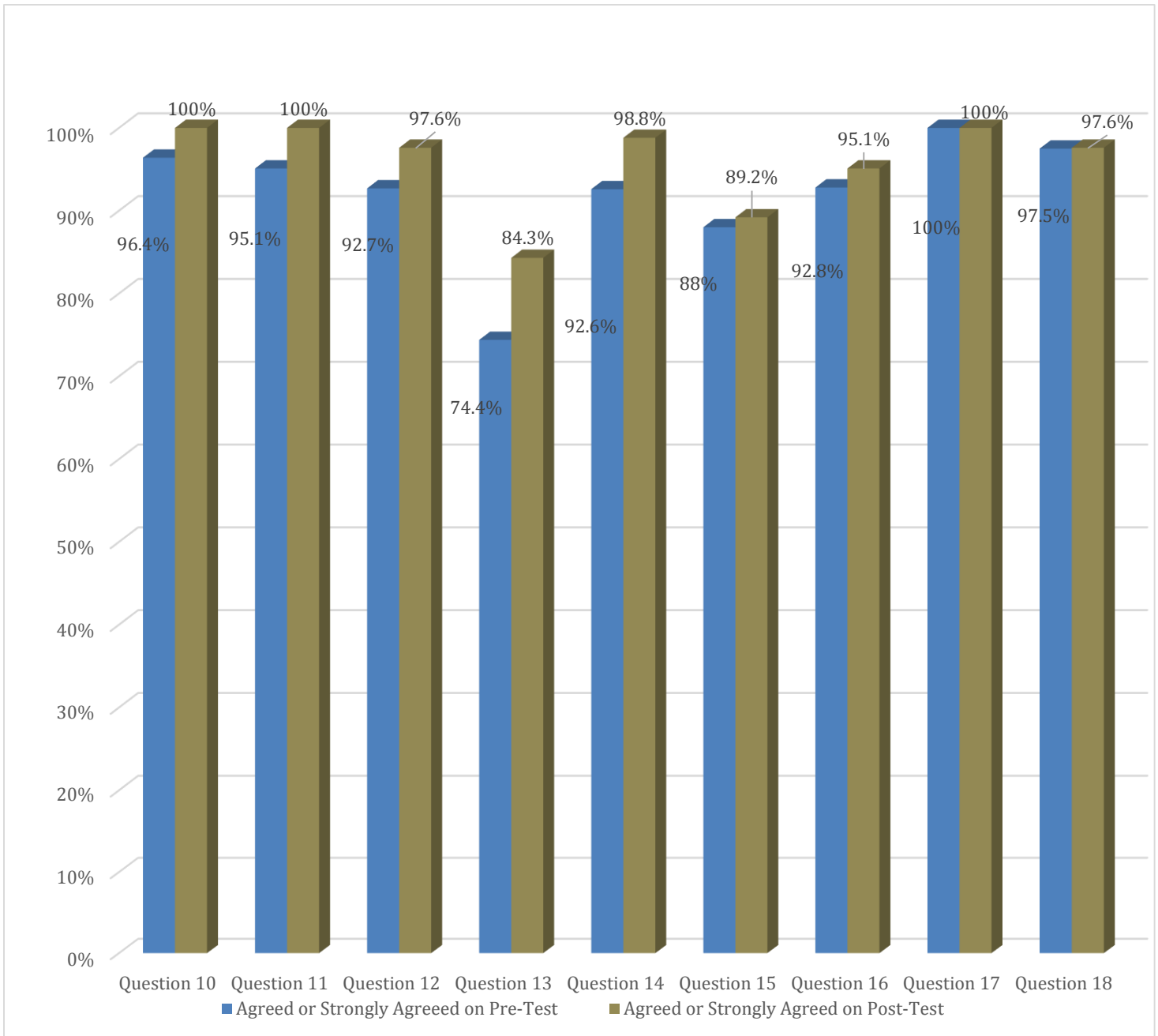
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2- tailed)
				Lower	Upper			
				<b>Background Knowledge Pre- and Post-Test</b>	-1.578			

A reliability analysis was run on the Attitude Scale. The Attitude Scale is composed of questions 10 through 18 from the pre- and post-tests. With these items the reliability analysis yielded a Cronbach Alpha value of .842 indicating that the scale has strong internal consistency (table 6.11). Frequencies were run on the responses for questions 10 through 18 and the results are shown in figure 6.5. The responses for the pre- and post-test scores were coded as 1 for strongly disagree, 2 for disagree, 3 for agree and 4 for strongly agree. Using this code the highest students could score on the Change in Attitudes Scale was a 36 and the lowest they could score was a 9 (larger numbers indicating a more positive attitude change). Frequencies were run on attitude scores from both the pre- and post-test. Figure 6.6 depicts the change in attitude scores from the pre-test to the post-test. A paired-sample t-test was conducted to evaluate the impact CHOICES had on students' change in attitude. There was a statistically significant increase in attitude scores from the pre-test (M = 31.29, SD = 3.568) to the post-test (M= 33.09, SD= 3.327),  $t(81) = -5.220$ ,  $P < .001$  (two-tailed) (Table 6.12). The mean increase in scores was -1.793 with a 95% confidence interval ranging from -2.476 to -1.109 (Table 6.13). The eta-squared statistic (.25) indicated a large effect size.

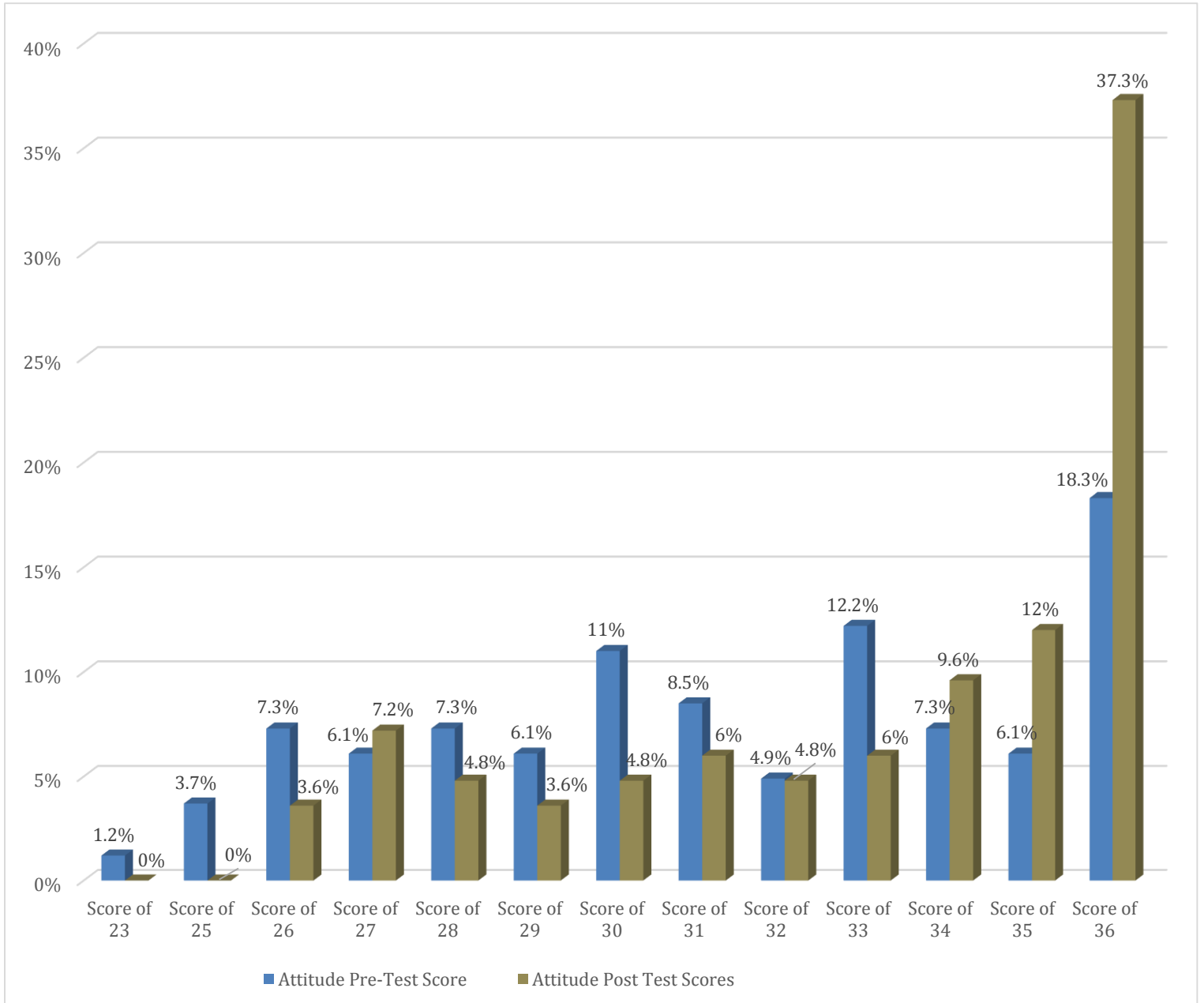
**Table 6.11 Attitude Scale Reliability**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.842	.865	9

**Figure 6.5 Attitude Scale Single Items**



**Figure 6.6 Attitude Scores**



**Table 6.12 Attitude Scale Paired Sample Statistics**

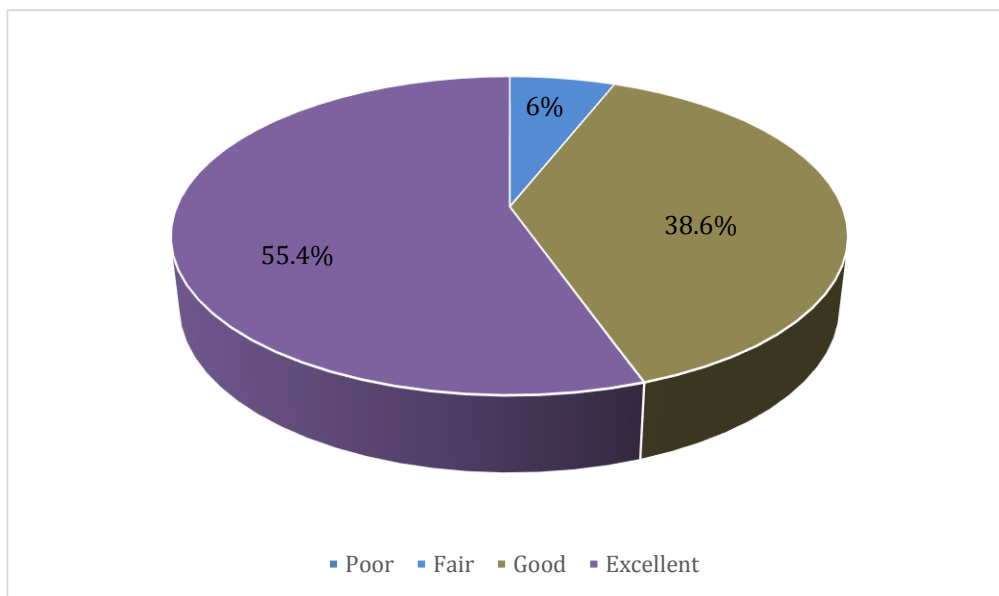
	Mean	Number	Std. Deviation	Std. Error Mean
Pre-Test	31.29	82	3.568	.394
Post-Test	33.09	82	3.327	.367

**Table 6.13 Attitude Scale Paired Sample Test**

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Background Knowledge Pre- and Post-Test	-1.793	3.110	.343	-2.476	-1.109	-5.220	81	.000

Frequencies were run on question 1 of the evaluation. This question asked for students to give the program an overall rating. The responses are depicted in figure 6.7. Over half of students gave the program an overall rating of “Excellent”.

**Figure 6.7 Overall Program Rating**

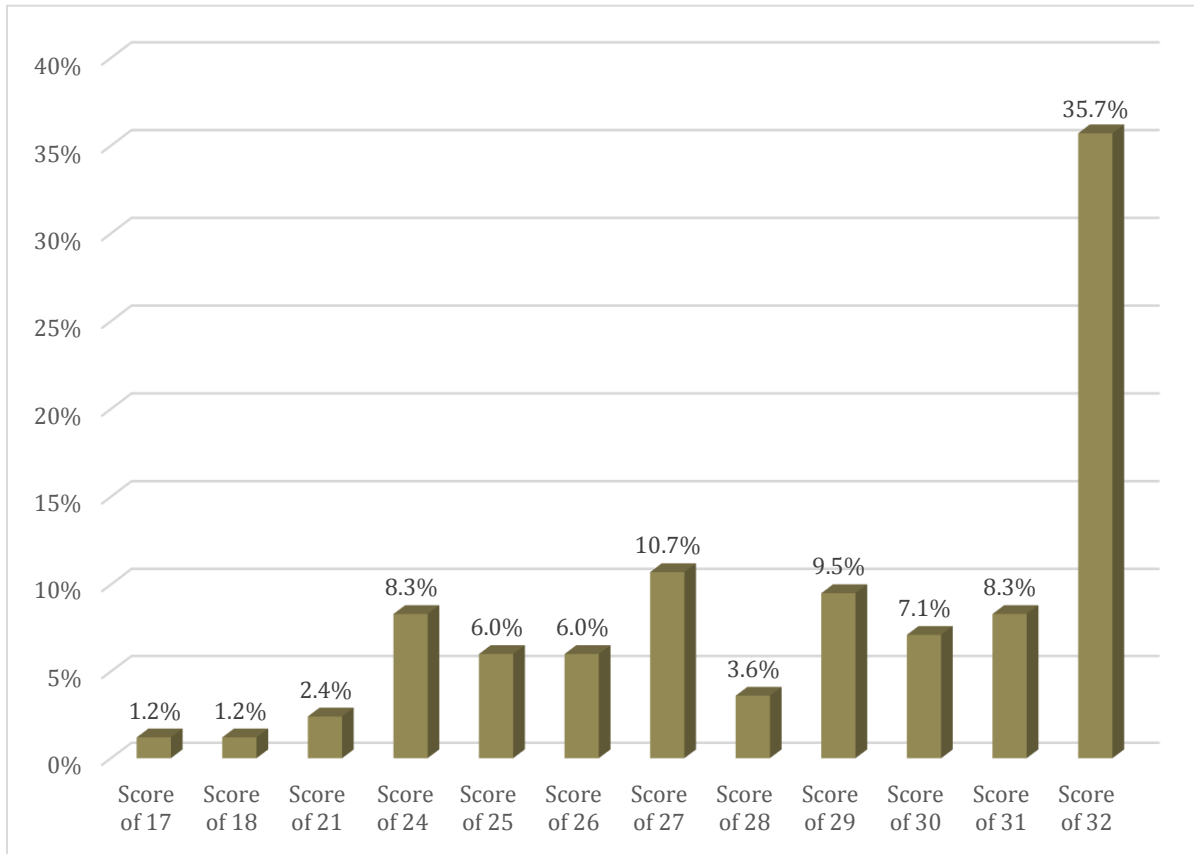


A reliability analysis was run on the Program Effectiveness Scale from question number 2 of the evaluation. The Program Effectiveness Scale is composed of 8 program components. The reliability analysis yielded a Cronbach Alpha value of .855 indicating that the scale has strong internal consistency (table 6.14). The responses for the scale were coded as 1 for not applicable, 2 for not effective, 3 for somewhat effective and 4 for very effective. Using this code the highest students could score on the Program Effectiveness Scale was 32 and the lowest they could score was 8 (larger numbers indicating higher levels of perceived program effectiveness). Frequencies were run on the scores of the Program Effectiveness Scale and are reported in figure 6.7. 60.6% of students scored above a 28 on the scale.

**Table 6.14 Program Effectiveness Scale Reliability Analysis**

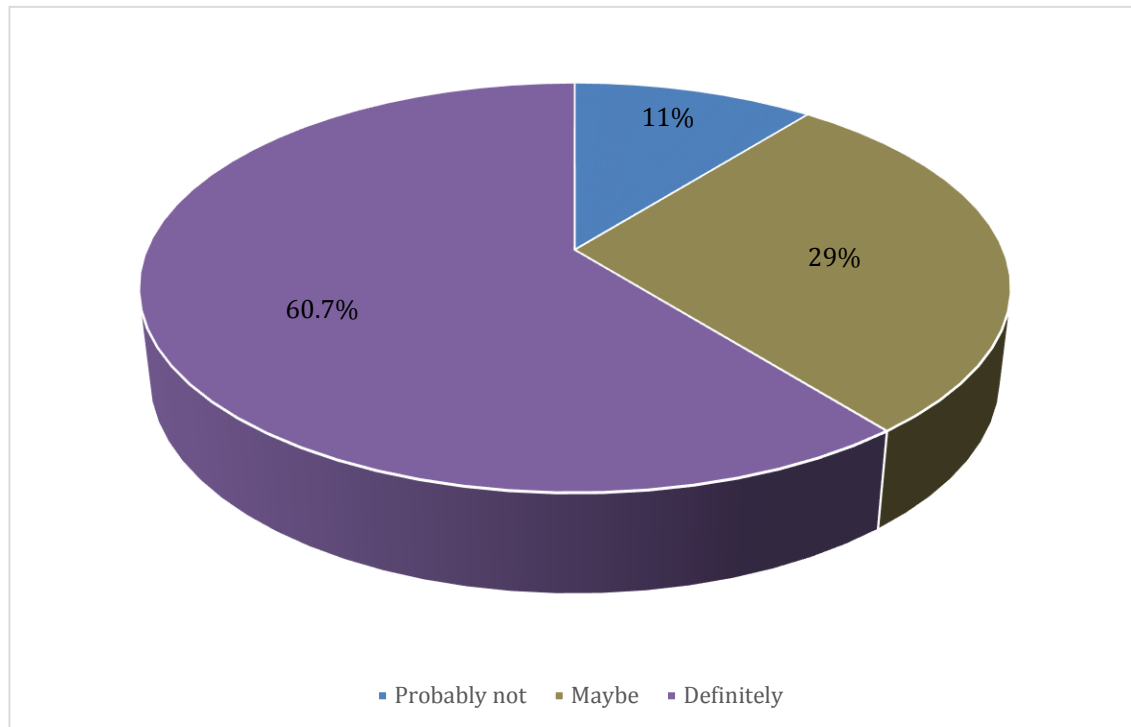
<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>N of Items</b>
.855	.865	8

**Figure 6.7 Program Effectiveness Scores**



Frequencies were run on question 8 of the evaluation. This question asked students how likely they are to change some aspect of their alcohol-related behavior as a result of the CHOICES Program. The responses are depicted in figure 6.8. 60.7% of students reported that they would definitely change some aspect of their alcohol-related behavior as a result of the CHOICES Program.

**Graph 6.8 Likelihood of Changing Alcohol-Related Behavior**



Six independent samples t-test were conducted to compare the background knowledge, health knowledge and attitude scores for males and females on the pre- and the post-tests. The student participants were 41% female and 59% male. The only statistically significant differences were found in the scores for background knowledge. There was a statistically significant difference on the pre-test between males ( $M= 4.9388$   $SD= .61237$ ) and females ( $M= 5.2941$   $SD= .62906$ ;  $t(81)= -2.269$ ,  $P= .026$ , two-tailed) (Table 6.15). The magnitude of the differences in the means (mean difference =  $-.36$  CI:  $-.66694$  to  $-.04374$ ) was small ( $\eta^2 = .012$ ). There was also a statistically significant difference on the post-test between males ( $M= 5.7143$   $SD= .61237$ ) and females ( $M= 5.9412$   $SD= .23883$ ;  $t(66.69)= -2.349$ ,  $P= .022$ , two-tailed) (Table 6.16). The magnitude of the differences in the means (mean difference =  $-.23$  CI:  $-.41971$  to  $-$

.03407) was small (eta squared= .012). These findings indicate that females who participate in CHOICES have higher pre-existing background knowledge of alcohol use, and higher background knowledge of alcohol use after the completion of CHOICES.

**Table 6.15 (Pre-Test) Background Knowledge Independent-Samples T-test (males and females)**

	Levene's test for equality of variances		t	df	Sig. (two-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of Difference	
	F	Sig						Lower	Upper
<b>Equal variance assumed</b>	.000	.993	-2.269	81	.026	-.35534	.15661	-.66694	-.04374
<b>Equal variance not assumed</b>			-2.341	77.917	.022	-.35534	.15179	-.65754	-.05315

**Table 6.16 (Post-Test) Background Knowledge Independent-Samples T-test (males and females)**

	Levene's test for equality of variances		t	df	Sig. (two-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of Difference	
	F	Sig						Lower	Upper
<b>Equal variance assumed</b>	20.632	.000	.000	81	.043	-.22689	.11058	-.44692	-.00686
<b>Equal variance not assumed</b>			-2.349	66.690	.022	-.22689	.09660	-.41971	-.03407

*Summary of key results*

There was a statistically significant increase in background knowledge scores from the pre-test to the post-test. There was also a noticeable increase in correct responses for the single items question 1 and 5. These results indicate that students who complete CHOICES display an increase in background knowledge of alcohol use. There was also a statistically significant increase in health knowledge scores from the pre-test to the post-test. This indicates that students who complete CHOICES display an increase in



knowledge of health-related risk associated with alcohol consumption. Statistical significance was also found in the increase of student's attitude scores from the pre-test to the post-test, indicating that students who complete CHOICES display a change in attitude towards excessive drinking. Males and females tended to score around the same on the Attitude Scale and the Health Knowledge Scale, but female scores were significantly higher than males on the Background Knowledge Scale.

55.6% of students gave CHOICES an overall rating of "excellent" and 38.6% gave it a rating of "good". Also, 60.6% of students scored above a 28 on the Program Effectiveness Scale. These results indicate that students consider CHOICES an effective alcohol abuse prevention program. 60.7% of students reported that they would "definitely" change some aspect of their alcohol-related behavior as a result of the CHOICES Program. 29% reported "maybe". These results indicate that the majority of students are likely to modify their behavior as a result of CHOICES.

## **Discussion**

### *Recommendations*

Students who complete CHOICES leave with an increase in knowledge and a willingness to modify behavior. Some small enhancements in the implementation and ongoing program monitoring may raise the effectiveness of CHOICES and increase program efficiency.

A few outliers were present in the pre- and post-tests data. There were a small number of cases where pre-test scores were higher than post-test scores. This could be attributed to some students' apathy towards participation in the program. Requiring a passing grade on the post-test will encourage students to be more engaged in the program content and will aid in evaluating the continued effectiveness of CHOICES. Requiring a passing grade on the post-test will more than likely have no effect on student's attitudes towards drinking, but potentially could raise the likelihood of students retaining background knowledge of alcohol consumption and knowledge of the health-related risks associated with alcohol consumption.

During the pre-assessment phase of the program demographic data is collected on the students. Once ongoing program monitoring commences it will be important to assess the differences in program outcomes between different genders, ethnicities and racial backgrounds. To simplify the evaluation process students should also complete a short demographic survey at the beginning of their first CHOICES session that, upon completion of the program, is attached to their pre-test, post-test and course evaluation.

Scheduling face-to-face follow-up meetings with students three to four months after the completion of CHOICES will enhance the continued evaluation of the program. This will give students a chance to report their most recent alcohol expectancies and drinking behavior allowing for further evaluation of the program's effectiveness. This will also be an opportunity for further motivational interviewing if necessary. Along with follow-ups, regular evaluation of CHOICES should be completed to monitor the effectiveness of the program and explore ways to broaden its impact on the student participants. Future evaluations should also include the assessment of the qualitative data provided by the course evaluation. This could lead to program enhancements. The Department of Student Health Promotion employs three Graduate Assistants (GAs), giving one of the GAs the responsibility of overseeing the continued evaluation of CHOICES will ensure the timely collection and analysis of data.

#### *Strengths and Limitations*

The results of this evaluation were significant and generalizable largely because of the sample size. There were 88 students who participated in CHOICES from May 2013 to December 2013. Pre- and post-test data was collected from 83 participants, and evaluation data was collected from 84 participants. The large sample size of this evaluation was one of its greatest strengths. The tools used for this evaluation (the pre- and post-test and the course evaluation) were created by the authors of the CHOICES curriculum and strategically composed of items that assess the program outcomes of CHOICES. The use of these tools was another key strength of this evaluation.

Upon completion of CHOICES students participate in the Brief Alcohol Screening and Intervention for College Students (BASICS). BASICS motivates students

to reduce alcohol use in order to decrease the negative consequences associated with drinking (Parks, 2014). It is delivered over the course of two 1-hour interview sessions. Occasionally students come for more than two sessions depending on their motivation to change. The assessment of BASICS was not a part of this evaluation and therefore the outcomes of this evaluation may be an underestimate of student's attitudes towards drinking upon completing the entire CHOICES process in the Counseling and Testing Center at Georgia State. Ongoing monitoring of CHOICES and future evaluations should include evaluation data from CHOICES as well as BASICS.

Due to the lack of access to demographic data all data analyzation of male and female differences was subject to bias. In this evaluation gender was assigned based on the names of participants. Self-reporting of willingness to change and effectiveness of the program on the course evaluation also introduced bias and therefore is a limitation of this evaluation as well.

Lastly, the lack of follow-up limits the extent to which program effectiveness can be evaluated. Students who report that it is highly likely for them to modify their behavior as a result of CHOICES may or may not actually modify behavior. Students who display an increase in knowledge of alcohol consumption and the risk associated with it after the completion of CHOICES may or may not retain the information learned over an extended period of time.

#### *Contribution to public health*

CHOICES at Georgia State has proven to be an effective alcohol abuse prevention program. Students who participate in CHOICES leave the program with increased knowledge, a change in attitude towards excessive drinking and are motivated to make

safer choices related to drinking. College students are one of the most high-risk groups for binge drinking, drinking and driving, and sexual assault crimes related to drinking. Alcohol abuse prevention programs, such as CHOICES, play a vital role in addressing the public health needs on college campuses across the country.

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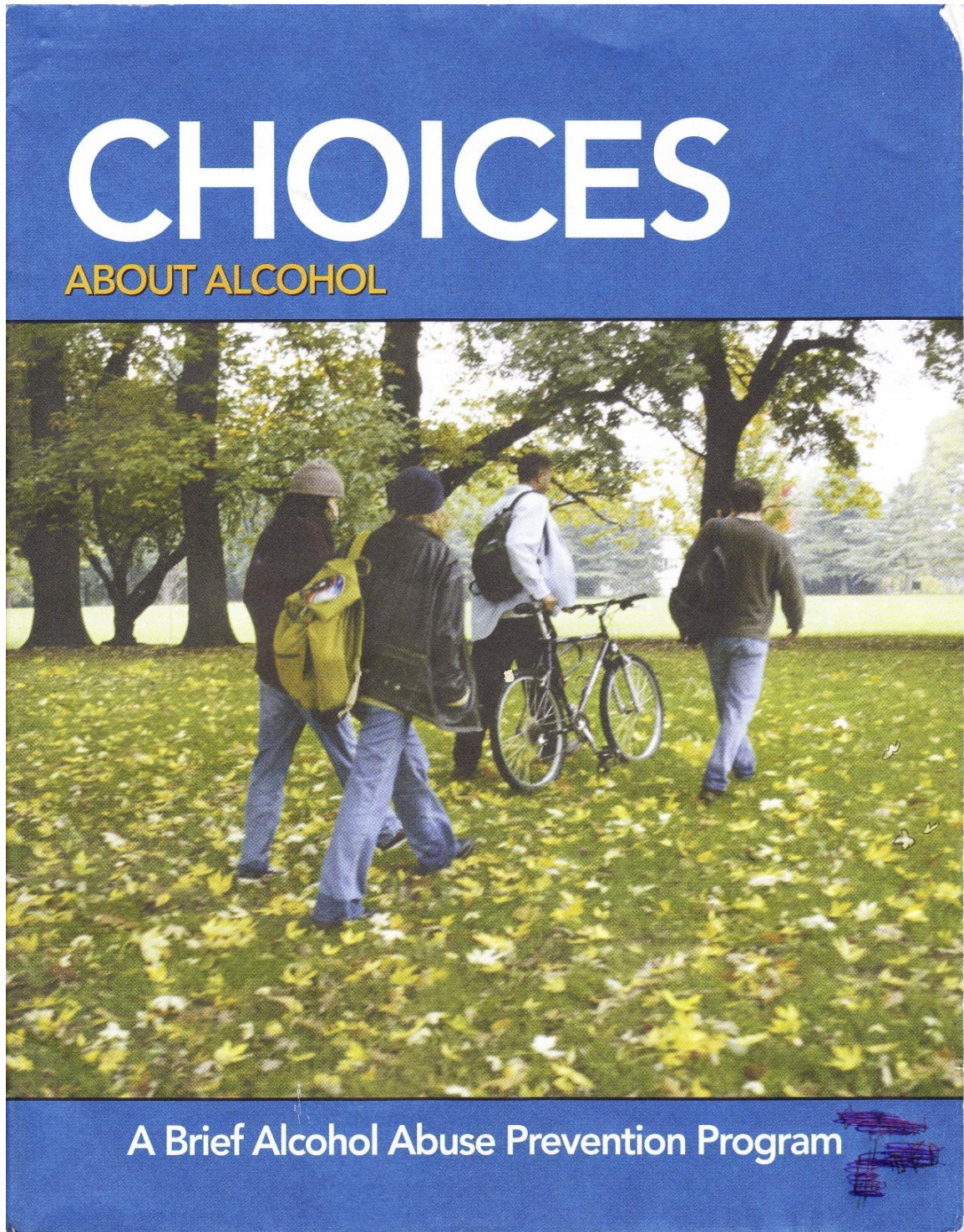
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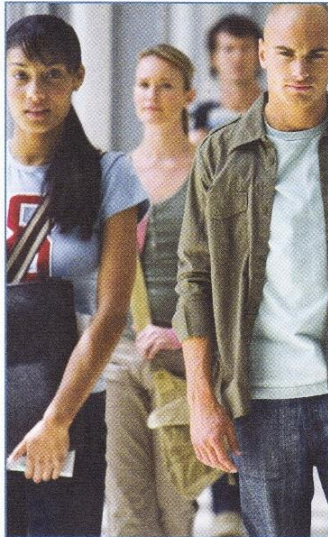
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**Appendices**  
*Appendix A:*







## A PERSONAL CHOICE

This Journal was designed to help you reflect on your choices about alcohol and to reduce your risk of being harmed by your own or someone else's drinking. You will not be judged or told what to do. The choices are yours.

Alcohol is a prominent part of the college social scene. Too often, college students are harmed by risky drinking, usually because of inaccurate information, misperceptions or lack of forethought about alcohol use.

To help you make lower risk choices about drinking, this program will offer you an opportunity to reflect on the role of drinking in your social life, review the facts about how alcohol works, identify common alcohol-related risks and learn ways to keep you and your friends out of harm's way.

HEAVY DRINKING  
HIGH BAC  
DRINKING & DRIVING

RISKY

CHOICES

LOWER  
RISK

DRINK LESS  
BAC LIMIT = .05  
DESIGNATED DRIVER

Do you drink alcoholic beverages?  yes  no... Why or why not?

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What role does alcohol play in your social life?

---



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*The safest option is choosing not to drink and your only legal alternative if you are under 21.*

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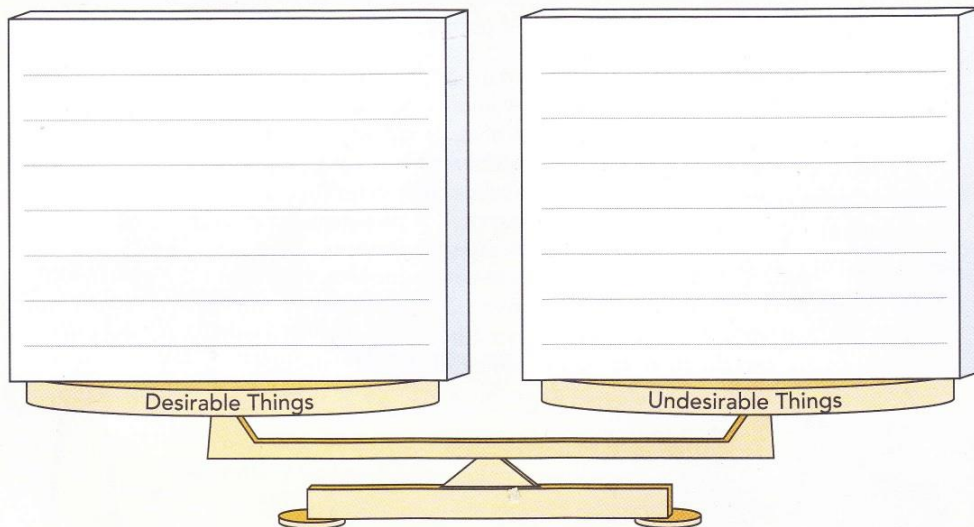
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# WEIGHING YOUR OPTIONS

List the desirable and undesirable things about drinking during college, from your point of view.



What do you notice about each of your lists above? Write your observations below.

Observations about the desirable things:

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Observations about the undesirable things:

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## HOW MUCH DO YOU DRINK?

If you drink, your safest option is to know how much alcohol your drinks contain and to limit how much you drink during a given period of time.

The concept of a “standard drink” can help you calculate how much pure alcohol you are consuming.

*Your BAC (blood alcohol concentration) is the percentage of your blood volume that is alcohol.*

Different types of beer, wine, and liquor contain varying amounts of alcohol. On average, however, a bottle of beer, a glass of wine, or a basic mixed drink

contain about the same amount of alcohol. Each one of these “standard

drinks” will raise the blood alcohol concentration (BAC) of a 160-pound person by .02 percent. A lighter person’s BAC will rise even higher.

Be aware of the type and amount of alcohol you are drinking - mixed drinks and party mixers such as “jungle juice,” are unpredictable and can contain much more alcohol by volume than what you might expect.

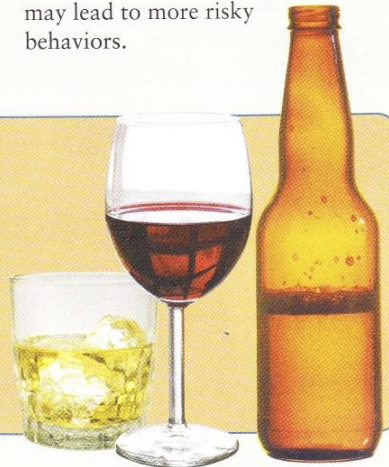
Also, mixing alcohol with energy drinks can be a risky combination. Caffeine, a stimulant, masks the intoxicating effects of alcohol, which may lead to more risky behaviors.

### A STANDARD DRINK\*...

12 ounces beer	=	<b>Approximately one-half ounce of pure alcohol</b>
8 ounces malt liquor		
5 ounces wine		
1.5 ounces 80-proof liquor		

\*National Institute on Alcohol Abuse and Alcoholism

Read the labels carefully on microbrews and malt liquor because the amount of pure alcohol liquor varies widely.



If you drink, what is your typical drink? \_\_\_\_\_

Does it contain the same amount of alcohol each time?  yes  no

How many days of the week do you typically drink? \_\_\_\_\_

How many “standard drinks” do you typically consume in a week? \_\_\_\_\_

How many “standard drinks” do you typically consume when you drink? \_\_\_\_\_

## HOW MUCH DO STUDENTS DRINK?

How much do college students drink? Often, the stories that get passed around on Monday about the partying that went on over the weekend represent the extreme.

No one talks about the majority of students who drink less than three or four drinks over the course of a

Friday night or the growing number of students who choose to abstain from alcohol altogether.

It's easy to overestimate how much alcohol your peers consume. So what

are the facts? How much do college students really drink?

### FACT:

Students drink less as they progress through college. Heavy drinking is most common among first-year students.

Recent national surveys have estimated the actual rates of drinking by college students across the country. The results may surprise you.

- ✓ 27 percent have never drank any alcohol.
- ✓ 42 percent have not consumed five or more drinks when they "partied" or socialized in the last two weeks.
- ✓ 66 percent of students estimated that their BAC remained below .08 percent the last time they socialized.

Where does your drinking fit into these survey results?

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What are your thoughts about how your drinking compares to other college students?

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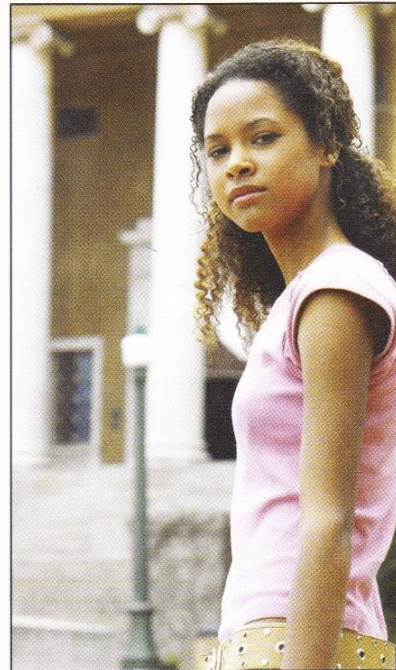
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What factors determine how much you choose to drink on a given occasion?

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## A CLOSER LOOK...

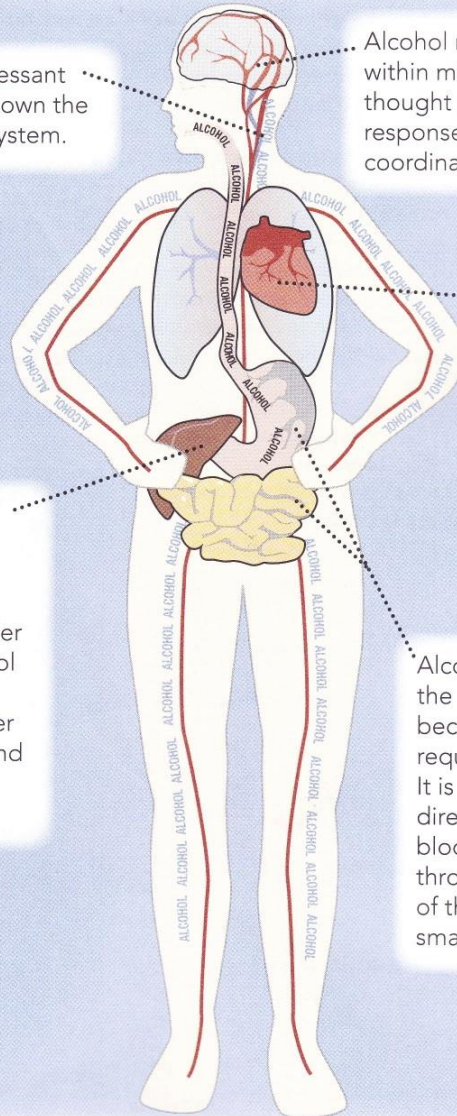
Alcohol is a depressant drug that slows down the central nervous system.

Alcohol reaches the brain within minutes. As BAC builds, thought processes, emotional responses and motor coordination are impaired.

At low doses, alcohol temporarily increases heart rate, creating a mildly stimulating effect.

The liver removes alcohol from the bloodstream at a constant rate of about one drink per hour. When alcohol is consumed at a faster rate, the liver cannot keep up and BAC continues to rise.

Alcohol affects the drinker quickly because it does not require digestion. It is absorbed directly into the bloodstream through the walls of the stomach and small intestine.



## ...AT HOW ALCOHOL WORKS

### BAC EXPLAINED

As people drink more alcohol, their blood alcohol concentration increases. BAC is the ratio of alcohol to blood in the body, usually expressed as a percentage. For example .10 percent BAC means one

part of alcohol for every thousand parts of blood. Most states set .08 percent BAC as the legal limit for drivers over 21 years old. Remember that any measurable alcohol is against the law for those under 21.

### FACTORS THAT INFLUENCE BLOOD ALCOHOL CONCENTRATION INCLUDE:

- ✓ the amount of alcohol a drinker consumes.
- ✓ the rate at which a person drinks.
- ✓ the drinker's weight and body mass – the amount of blood that is mixing with the alcohol.
- ✓ gender – women have less of the enzyme that metabolizes alcohol in their stomachs, on average they weigh less and they have less blood volume than men do, even at equal weight.
- ✓ the amount of food in the stomach – a full stomach slows the pace at which alcohol is absorbed. However, eating before drinking will not prevent high blood alcohol concentrations from occurring.

Which of these factors stand out as most important for you to keep in mind? Explain your answer.

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## EFFECTS OF BAC

For nontolerant drinkers the relationship between BAC and the effects experienced is predictable, as shown in the chart below. At low to moderate BACs (.02-.07), the

effects of alcohol are mainly pleasant, although some impairment is present. As BAC increases, the effects of alcohol become progressively more unpleasant and dangerous.

BAC	PREDICTABLE EFFECTS
.02% to .04%	<b>Lightheaded</b> – Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	<b>Buzzed</b> – Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad)
.08% to .10%	<b>Legally Impaired</b> – Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	<b>Drunk</b> – "High" reduced and depressive effects (anxiety, depression or unease) more pronounced, gross motor impairment, judgment and perception severely impaired
.16% to .19%	<b>Very Drunk</b> – Strong state of depression, nausea, disorientation, dizzy, increased motor impairment, blurred vision, judgment further impaired
.20% to .24%	<b>Dazed and Confused</b> – Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand/walk, impervious to pain, blackout likely
.25% to .30%	<b>Stupor</b> – All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	<b>Coma</b> – Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 percent of drinkers

### ABOUT TOLERANCE

A drinker who has tolerance to alcohol needs a higher BAC than a nontolerant drinker to experience the same effects shown in the chart. If your BAC has to be higher than shown above to experience the same effects, you are probably tolerant to alcohol. Alcohol tolerance is dangerous because physical damage and impairment are occurring without your knowledge.

Describe how your experiences or observations compare with the chart above.

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## SOBERING UP TAKES TIME

An evening of heavy drinking follows you into the next day. Alcohol leaves your system at a rate of .015 percent per hour (less than one drink per hour). Drinking coffee, taking a shower and other activities have no effect on how fast you sober up. Only time will sober you up.

If a person went to bed at 2 a.m. with a BAC of .20, the next 14 hours might look like this:



Time	Activity	BAC
2 am	in bed, dizzy and disoriented	.200
3 am	nauseous, unable to sleep	.185
4 am	very restless	.170
5 am	sleeping, but not well	.155
6 am	sleep	.140
7 am	get up for class – headache	.125
8 am	drive to school – risk of DUI or worse	.110
9 am	in class – trouble focusing on lecture	.095
10 am	judgment still impaired	.080
11 am	mind still foggy, fatigued	.065
Noon	not hungry, cottonmouth	.050
1 pm	in afternoon class – still unfocused	.035
2 pm	head clearing	.020
3 pm	feeling a little better	.005
4 pm	sober at last, but not fully recovered	.000

How does the chart above affect your future decisions about drinking?

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### FACT:

The rate at which alcohol leaves your system is constant, regardless of gender, body type and size.

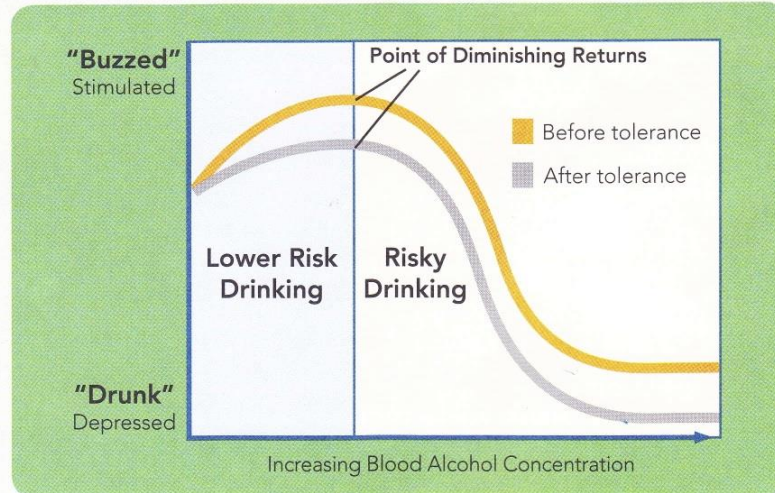


## IS MORE REALLY BETTER?

Alcohol is a drug that quickly affects the central nervous system. The normal reaction to alcohol is twofold or “biphasic.” The first phase occurs while your BAC is low. The effects of alcohol may be a mild buzz or pleasant high. The second phase occurs at higher levels of alcohol concentration. The effects of alcohol become more negative including fatigue and physical impairment. The “point of diminishing returns” (see

graph) is where one more drink will not make you feel any better, but instead will make you more impaired. This begins around .05 percent BAC for nontolerant drinkers.

*Students experience the most harmful consequences when they drink past the point of diminishing returns.*



Have you ever drank past the point of diminishing returns or seen others who did?  yes  no

If so, how did drinking that much or being around others who did, affect you?

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## WHEN DRINKING IS MOST RISKY



Examining alcohol-related risks means looking at the likelihood that you or a friend will experience harm as a result of drinking.

The main alcohol-related risks fall into three categories. These include risks associated with the following:

### ✓ YOUR STYLE OF DRINKING

Examples of risky drinking styles: *drinking a lot of alcohol in a short period of time; drinking to get drunk.*

Your own examples: \_\_\_\_\_

\_\_\_\_\_

### ✓ YOUR ACTIVITIES AND THE SETTINGS IN WHICH YOU DRINK

Examples of risky drinking activities and settings: *drinking and driving; drinking in exposed or remote places.*

Your own examples: \_\_\_\_\_

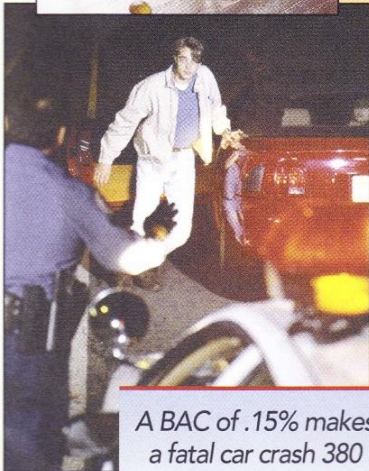
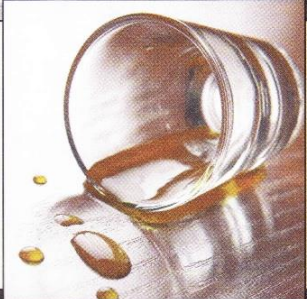
\_\_\_\_\_

### ✓ SOCIAL SITUATIONS

Examples of risky social situations: *pressure from peers to drink a lot; illegal activities; heavy drinking events.*

Your own examples: \_\_\_\_\_

\_\_\_\_\_



A BAC of .15% makes a fatal car crash 380 times more likely.

# PASSING OUT

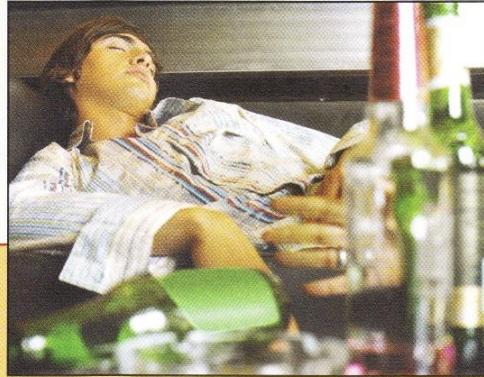
## AN ALCOHOL EMERGENCY

Alcohol poisoning is serious. Too much alcohol too quickly can overload your system, leading to an alcohol emergency.

Heavy drinking affects brain areas that control vital functions like breathing, heart rate and the reflex that prevents choking. Alcohol slows down the brain and, in large quantities, can shut it down completely and lead to death. BACs over .30 percent can be fatal.

### A TRUE STORY

John might be alive today if his friends had read this page. He consumed 20 drinks in three hours and passed out. John's friends left him on the couch to "sleep it off" while they went out for pizza. When they returned, John was not breathing. While his friends were gone his heart stopped and he died.



**A person who has been drinking heavily and passes out may be suffering from acute alcohol poisoning and could die if you don't help.**

### SIGNS OF ALCOHOL POISONING

- Person cannot be awakened
- Cold, clammy, pale or bluish skin
- Breathing is slow or irregular
- Person has vomited while passed out

### TAKE ACTION

- Call 911, do not leave the person alone.
- Never put the person to bed to sleep it off.
- Turn the person on his or her side.
- If breathing stops, perform CPR or find someone who knows how.

Describe the scariest time when you or someone you know experienced the effects of drinking too much too fast.

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## IF YOU DRINK, DRINK SMART

If you choose to drink, your drinking style will impact your level of risk. Heavy drinking, competitive drinking and drinking to get drunk are all risky. In contrast, moderate drinking – maintaining a BAC of .05 percent or lower – tends to produce more

pleasure with less risk of negative consequences.

First clarify what you hope to gain and to avoid as a result of your choices about drinking, then review the strategies below.

Regarding drinking, I want to...

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Regarding drinking, I don't want to...

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Below are some strategies to help you maintain a lower risk drinking style. These ideas have worked for other students – check those you have tried or which might be useful.

- |   |  |
|---|--|
| <input type="checkbox"/> Set a drinking limit near a BAC of .05.                                | <input type="checkbox"/> Alternate alcohol and nonalcohol drinks.            |
| <input type="checkbox"/> Experiment with drinking less and refusing drinks.                     | <input type="checkbox"/> Avoid drinking games.                               |
| <input type="checkbox"/> Keep track of how much you drink by counting "standard drinks."        | <input type="checkbox"/> Never leave your drink unattended.                  |
| <input type="checkbox"/> Eat before and while you are drinking.                                 | <input type="checkbox"/> Don't drink too much, too fast.                     |
| <input type="checkbox"/> Be cautious when drinking liquor or mixed drinks due to their potency. | <input type="checkbox"/> Don't use alcohol with stimulants such as Red Bull. |
|   | <input type="checkbox"/> Space your drinks over time.                        |
|   | <input type="checkbox"/> Other: _____  |

Of the strategies you checked, which one will be most useful to you? Explain your answer.

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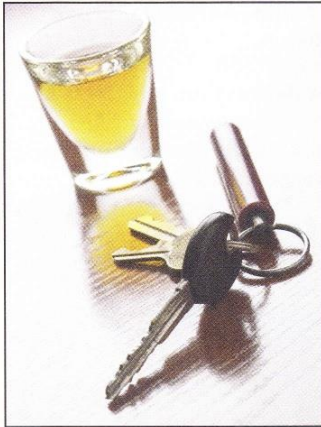


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## RISKY ACTIVITIES AND SETTINGS



Students sometimes engage in risky activities or drink in risky settings. Common examples include drinking and driving, drinking near bodies of water and drinking on rooftops or in remote areas. Take a moment to think about how you will handle or avoid these activities and settings.

Describe a setting that you experienced or knew of that made drinking especially hazardous.

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Below are strategies to help minimize the alcohol-related harm associated with risky activities and settings. Check (✓) those that might be useful to you.

- |  |  |
|--|--|
| <input type="checkbox"/> Select a designated driver who will not drink that night.                                 | <input type="checkbox"/> Don't swim after drinking alcohol.  |
| <input type="checkbox"/> Be cautious in settings where large quantities of free or low cost alcohol are available. | <input type="checkbox"/> Avoid drinking on rooftops, by open windows on upper floors or by cliffs. |
| <input type="checkbox"/> Refuse to ride in a car with an intoxicated driver.                                       | <input type="checkbox"/> Avoid drinking in remote areas.   |
| <input type="checkbox"/> Have an exit plan in mind before attending a drinking event.                              | <input type="checkbox"/> Don't operate machinery after drinking alcohol.                           |
| <input type="checkbox"/> Don't play sports after drinking alcohol.   | <input type="checkbox"/> Let a nondrinker know where you will be if you go out drinking.           |
|  | <input type="checkbox"/> Other: _____  |

Of the strategies you checked, which one will be most useful to you? Explain your answer.

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## PLAN FOR RISKY SOCIAL SITUATIONS

Your peers can have a strong influence on the choices you make about alcohol. You might feel pressured to drink in risky ways. You also might find yourself on dates, at sporting events, at parties, on spring break or in other social situations where risky drinking is expected or encouraged. Too often, students take

part in risky drinking during these events simply because they have not planned ahead how to handle, escape or avoid these situations.

To reduce your risk of harm from drinking, you do not have to give up socializing – you just have to plan ahead and implement your plan.

How do your friends' choices about alcohol impact you?

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How do your choices about alcohol impact your friends?

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Below are strategies to help minimize alcohol-related harm associated with risky social situations. Check (✓) those that you have tried or that might be useful to you.

- |  |  |
|--|--|
| <input type="checkbox"/> Be prepared to refuse assertively when pressured to drink more than you want. | <input type="checkbox"/> Use the "buddy system" to watch out for each other.                         |
| <input type="checkbox"/> Keep in mind that choosing not to drink is always a legitimate choice.        | <input type="checkbox"/> Be cautious about drinking too much on dates or where sex is a possibility. |
| <input type="checkbox"/> Be aware of the legal risks of underage drinking.                             | <input type="checkbox"/> Don't let others get you a drink or mix a drink for you.                    |
| <input type="checkbox"/> Be aware of university policies governing drinking.                           | <input type="checkbox"/> Take appropriate action if a friend passes out.                             |
| <input type="checkbox"/> Practice ways to be comfortable in social situations without drinking.        | <input type="checkbox"/> Spend more time with friends who don't drink heavily.                       |
|  | <input type="checkbox"/> Other: _____  |

Of the strategies you checked, which one will be most useful to you? Explain your answer.

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## IT'S YOUR CHOICE

The choice whether to drink or not is yours to make. If you do choose to drink, your pattern of drinking and the consequences of the decisions you make will also be yours to experience and accept.

This brief program has given you accurate information, realistic options and an opportunity to reflect on your personal choices. The rest is up to you.

You are encouraged to keep this Journal. Many students refer back to it periodically to refresh their knowledge and to review their personal choices about alcohol.

What was the most memorable part of this program for you?

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How do you think this program will influence your choices about drinking?

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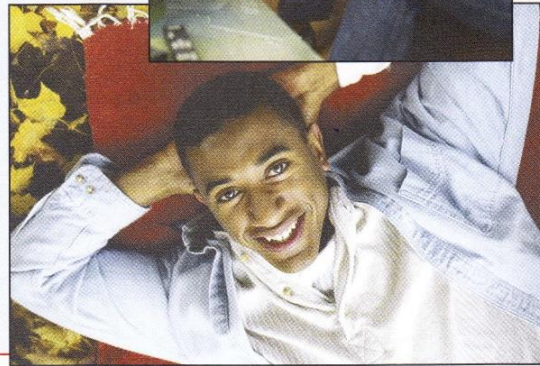
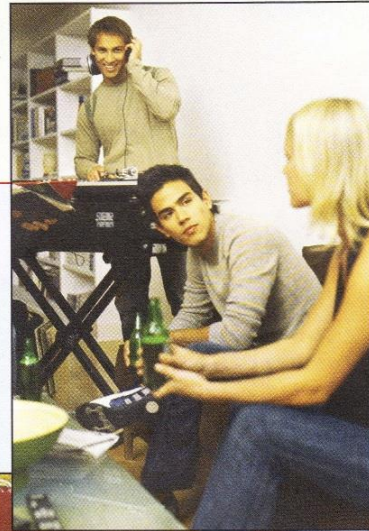
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## CHOICES PRE/POST-TEST ANSWER KEY

1. Which of the following drinks contains the most alcohol?
  - a. 12-oz. beer
  - b. 4 oz. glass of wine
  - c. 1.25 oz. of 80-proof liquor
  - d. 1 oz of 100-proof liquor
  - e. They all contain the same amount of alcohol.
2. Which group of college students tends to drink the most?
  - a. freshmen
  - b. sophomores
  - c. juniors
  - d. seniors
  - e. They all drink the same amount.
3. BAL stands for:
  - a. body alcohol limit
  - b. biphasic alcohol level
  - c. blood alcohol level
  - d. beer and liquor
  - e. balanced alcohol level
4. On average, at what BAL is the "point of diminishing returns"?
  - a. .00%
  - b. .05%
  - c. .10%
  - d. .15%
  - e. .20%
5. In a recent survey of college students at 120 universities, approximately what percentage of students reported that they did not drink more than three or four drinks on three or more occasions over the past two weeks?
  - a. 10%
  - b. 25%
  - c. 50%
  - d. 65%
  - e. 75%
6. Who is most likely to face negative consequences as a result of drinking?
  - a. students who drink alone
  - b. students who drink past the point of diminishing returns
  - c. students who go to parties where everyone is drinking
  - d. students who drink more than just beer
  - e. students who drink in order to feel less shy and inhibited
7. The first thing that alcohol affects is:
  - a. coordination
  - b. vision
  - c. sexual performance
  - d. judgment
  - e. dancing ability
8. On average, a standard drink will raise the BAL of a 140- to 180-pound person:
  - a. .01%
  - b. .02%
  - c. .03%
  - d. .04%
  - e. .05%



9. Which of the following factors does not influence BAL?
- tolerance
  - type of drinks
  - gender
  - time
  - weight

#### Attitude Questions

Questions 10-18 assess student attitudes toward excessive drinking. Below, see the score that should be ascribed to each answer. An increase in score from pre-to-post testing indicates a positive change in a student's attitude.

10. I think it's important to be aware of how much I am drinking when I choose to consume alcohol.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
11. I think drinking a lot of alcohol in a short period of time would put me at risk.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
12. I don't need to drink alcohol in order to have fun at a party.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
13. Drinking to get drunk is not worth it.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
14. I think it's important to have a plan in mind to limit my drinking before I go to a party.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
15. My personal goals (e.g., academic, athletic) keep me from drinking too much.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
16. If a friend passes out from drinking, I would not leave him/her alone to sleep it off.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
17. I am comfortable turning down a drink at a party if I don't want it.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)
18. I limit my drinking so that I won't face negative consequences.
- strongly agree (4)
  - agree (3)
  - disagree (2)
  - strongly disagree (1)

# CHOICES: A Brief Alcohol Prevention and Harm Reduction Program

## COURSE EVALUATION

1. Overall, how would you rate this program?

- Excellent
- Good
- Fair
- Poor

2. How effective were each of the following program components in motivating you to make low-risk drinking choices for yourself?

	<u>Very</u> <u>Effective</u>	<u>Somewhat</u> <u>Effective</u>	<u>Not</u> <u>Effective</u>	<u>Not</u> <u>Applicable</u>
Facts about alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facts about BAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The biphasic chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-assessment of your drinking habits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strategies for reducing risk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interactive Journal/Workbook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Did you write responses in your Journal?

- Most of the time
- Here and there
- Not much at all
- None

4. Will you keep the Interactive Journal for future reference?

- Definitely
- Maybe
- Probably not

5. Will you share or discuss the Interactive Journal with someone else?

- Definitely
- Maybe
- Probably not

6. Will you discuss the content of this program with your peers following this program?  
 Definitely  
 Maybe  
 Probably not
7. Do you think this program will help you reduce your risk of exposure to harm associated with alcohol use?  
 Definitely  
 Maybe  
 Not really
8. How likely are you to change some aspect of your alcohol-related behavior as a result of this experience?  
 Definitely  
 Maybe  
 Probably not
9. Would you recommend this program for all freshmen students at your college or university?  
 Very strongly recommend  
 Strongly recommend  
 Might recommend  
 Do not recommend

10. The thing I liked most about this experience was... \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. The thing I liked least about this experience was... \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. How would you describe this program to a friend? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Appendix D:

**Choices: A Brief Alcohol Abuse Prevention Program  
Pre/Post-Test Codebook**

**Pre-Test**

<b>Full Variable Name</b>	<b>SPSS Variable Name</b>	<b>Coding Instructions</b>
Drink containing most alcohol	Mostalc	1=Incorrect, 2=Correct
Group that drinks the most	Drinksmost	1=Incorrect, 2=Correct
BAL stands for	BAL	1=Incorrect, 2=Correct
Point of diminishing returns	Diminish	1=Incorrect, 2=Correct
Percentage of students who do not drink 3 or more drinks on 3 or more occasions	Numdrinks	1=Incorrect, 2=Correct
Most likely to face negative consequences	Negcon	1=Incorrect, 2=Correct
The first thing alcohol effects is	Firsteff	1=Incorrect, 2=Correct
Standard drink raises the BAL of a 140- to 180- pound person to	RaiseBAL	1=Incorrect, 2=Correct
Which factor does not influence BAL	BALinflu	1=Incorrect, 2=Correct
Students attitudes towards excessive drinking	Att1 to Att9	1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

**Post-Test**

<b>Full Variable Name</b>	<b>SPSS Variable Name</b>	<b>Coding Instructions</b>
<b>Drink containing most alcohol</b>	<b>Mostalc2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Group that drinks the most</b>	<b>Drinksmost2</b>	<b>1=Incorrect, 2=Correct</b>
<b>BAL stands for</b>	<b>BAL2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Point of diminishing returns</b>	<b>Diminish2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Percentage of students who do not drink 3 or more drinks on 3 or more occasions</b>	<b>Numdrinks2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Most likely to face negative consequences</b>	<b>Negcon2</b>	<b>1=Incorrect, 2=Correct</b>
<b>The first thing alcohol effects is</b>	<b>Firsteff2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Standard drink raises the BAL of a 140- to 180- pound person to</b>	<b>RaiseBAL2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Which factor does not influence BAL</b>	<b>BALinflu2</b>	<b>1=Incorrect, 2=Correct</b>
<b>Students attitudes towards excessive drinking</b>	<b>AttPost1 to AttPost9</b>	<b>1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree</b>

Appendix E:

## Choices: A Brief Alcohol Abuse Prevention Program Course Evaluation Codebook

Full Variable Name	SPSS Variable Name	Coding Instructions
Overall rating of CHOICES program	Overall	1=Poor, 2=Fair, 3=Good, 4=Excellent
Effectiveness of each program component	Comp1 to Comp8	1=Not applicable, 2=Not effective, 3=Somewhat effective, 4=Very effective
Utilization of journal	JournUtilize	1=None, 2=Not much at all, 3=Here and there, 4=Most of the time
Keeping journal for reference	JournRef	1=Probably not, 2=Maybe, 3=Definitely
Discussing journal with others	JournDisc	1=Probably not, 2=Maybe, 3=Definitely
Discussing program content with peers	ContDisc	1=Probably not, 2=Maybe, 3=Definitely
Reduced risk of harm associated with alcohol use as a result of CHOICES	Reduc	1=Probably not, 2=Maybe, 3=Definitely
Likelihood of changing an aspect of alcohol-related behavior as a result of CHOICES	Behavmod	1=Probably not, 2=Maybe, 3=Definitely
Recommend this program for all freshmen at your college/university	Reco	1=Do not recommend, 2=Might recommend, 3=Strongly recommend, 4=Very strongly recommend
What I like most	Likemos	
What I liked least	Likeleast	
How I would describe the program	Describe	