

I AM HERE TO RECEIVE A DEGREE NOT PARTY ALL THE TIME

An Analysis of Student Reflection Essays about Alcohol

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**colorado school of
public health**

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Executive Summary

Purpose & Context

In the fall semester of 2019, the Center for Peer Education (CPE) and the Office of Community Standards and Conflict Resolution (CSCR) implemented a validated, interactive web-based intervention called alcohol eCHECKUP TO GO (e-CHUG) for “low risk” students who violated the University of Northern Colorado’s (UNC) Student Code of Conduct. The first 68 collected reflection essays from 2019–2020 presented an opportunity to analyze this new process. CPE, CSCR, and the Colorado School of Public Health (CSPH) at UNC collaborated on the current study.

This research advances the UNC Biennial Review for the Drug Free Schools and Communities Act’s recommendation to “Enhance use of assessment data to shape future program development.” The research team utilized qualitative content analysis and the Health Belief Model (HBM) to identify themes from students’ reflection papers. Although conclusions about future behavior cannot be drawn, recommendations for harm reduction are provided based on data reflecting students’ lived experiences. These results will help CPE and CSCR develop and improve alcohol-use prevention and intervention programming to mitigate the negative consequences of underage and dangerous drinking at UNC.

Selected Prevention & Intervention Recommendations

Preventive measures are crucial. CPE should:

- Address student mental health and coping skills,
- Offer e-CHUG (or similar) to all students,
- Create custom training for student-athletes,
- Create an awareness campaign using student voices and the HBM,
- Offer and promote more alternative activities, and
- Prohibit alcohol-focused advertising on campus.

To improve their *intervention and harm reduction efforts*, CPE should:

- Use the Transtheoretical Model to personalize interventions based on a student’s stage of change,
- Add UNC student testimonials to e-CHUG,
- Connect e-CHUG participants with alternative activities,
- Utilize students’ social support systems,
- Update e-CHUG reflection questions,
- Continue offering Motivational Interviews and add an evaluation, and
- Follow-up with sanctioned students.

This study took e-CHUG as the starting point to understand the issues UNC students are experiencing related to underage drinking. CPE can improve their prevention and intervention programming with the guidance of the HBM and UNC-specific student data. Aligned priorities and messaging across CPE, the Counseling Center, campus leadership, and other offices could help to create a culture that supports students and encourages positive behavior change. This type of culture would ideally reduce the need for conduct violations and create upstream changes for a safer and more positive campus environment.



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University of Northern Colorado

The University of Northern Colorado (UNC) is a public university in northeastern Colorado.¹ UNC is an NCAA Division 1 school with a 17:1 faculty ratio and enrolls approximately 12,862 students (9,876 undergraduate and 2,916 graduate). In terms of diversity, 63% of the student population identify as White, 18% Latinx/Hispanic, 4% multi-racial, 4% African American, and 2% Asian. Approximately 46% of incoming first-year students are the first in their family to attend college.

Alcohol Use at UNC

Underage drinking on college campuses is a nationwide issue. UNC utilizes the National College Health Assessment, a nationally recognized biannual survey, to collect data on “student’s health habits, behaviors, and perceptions.”² The results of the 2019 UNC assessment ($N = 1,235$) highlighted that self-reported use of alcohol in the last 30 days was 63% among UNC students.³ This result is somewhat higher than the national average (58%) but lower than the average across Colorado universities (71%). Findings also indicated that many UNC students reported negative consequences when under the influence of alcohol. These consequences included doing something that one later regretted (34%), forgetting where one was or what they did (31%), having unprotected sex (26%), and physically injuring oneself (15%).

UNC’s drinking policy “neither encourages nor discourages the use of alcoholic beverages ... but does condemn the misuse/abuse and illegal use of alcoholic beverages.”⁴ An example of misuse of alcohol, according to university regulations, is underage drinking. Such policies aim to prevent alcohol and drug use from negatively impacting the learning environment and student well-being.

Prevention Education at UNC

The Center for Peer Education (CPE) and the Office of Community Standards and Conflict Resolution (CSCR) collaborate to provide substance use prevention and intervention education at UNC. CPE is “an undergraduate student-led organization that provides prevention education to student peers about alcohol, tobacco, marijuana and other drugs, mental health and overall healthy decision making”⁵ and is housed under the Prevention Education department. Their mission is to equip students with “the necessary tools to make safe and responsible decisions in an effort to create a safe and healthy campus experience for all.” CSCR enforces the Student Code of Conduct

and utilizes CPE’s programming to provide students who are caught underage drinking with learning experiences that foster growth and responsibility. CPE focuses on harm reduction and evidence-based interventions to reduce the negative consequences of drug and alcohol use, even for those who may continue to use substances.⁶ CPE recognizes harm reduction as an alternative to ‘zero tolerance’ approaches by encouraging practical goals that can be easily accomplished.

CPE uses the Health Belief Model (HBM)^{7,8,9} as a guiding framework for their educational programming. The HBM is built on the overall premise that individuals will choose a healthy behavior (i.e., to not engage in underage drinking) if they believe: 1) they are susceptible or at risk for dangerous or destructive drinking, 2) underage drinking could have severe consequences (perceived severity), 3) there are perceived benefits to not drinking underage that outweigh the barriers, and 4) the perceived barriers to quitting underage drinking are not enough to prevent action toward that goal. These beliefs must be triggered by cues to action and a person must have self-efficacy (confidence) in their ability to change their behavior. CPE uses this model to understand why students drink underage and to develop programs to help them reduce or eliminate destructive or dangerous drinking.

The Current Study

Research Design

In the fall semester of 2019, CPE and CSCR implemented a validated, interactive web-based intervention called alcohol eCHECKUP TO GO (e-CHUG)¹⁰ for “low risk” students who violated the UNC Student Code of Conduct for the first time. Students received personalized feedback from the online intervention and were required by UNC to write reflection essays about their results. The first collected essays from 2019–2020 presented an opportunity to analyze this new conduct process. Institutional Review Board approval was not necessary because the essays were collected for internal program improvement use only.

The purpose of the current study was to better understand students’ first experiences with the conduct process, their reactions to the e-CHUG intervention, and how they planned to change their alcohol consumption in the future. This research advances the UNC Biennial Review for the Drug Free Schools and Communities Act’s recommendation to “Enhance use of assessment data to shape future

program development.”¹¹ The research team utilized qualitative content analysis and the HBM^{7,8,9} to identify themes from students’ reflection papers to achieve this aim. However, because this was a post-test only design with no comparison group, it is not a true evaluation of the e-CHUG intervention. Although the research team cannot draw direct conclusions about students’ future behavior, recommendations for harm reduction are provided based on data reflecting students’ lived experiences. These results will help CPE and CSCR develop and improve alcohol-use prevention and intervention programming to mitigate the negative consequences of underage and dangerous drinking.

Research Team Description

CPE, CSCR, and the Colorado School of Public Health (CSPH) at UNC¹² collaborated on the current study. The Prevention Coordinator of CPE has a master’s degree in Public Health and is a Certified Health Education Specialist. Data analysis was conducted by 19 graduate students and the professor from the Behavior Change Theories course offered by the Department of Community Health Education from September 29, 2020 to November 11, 2020. Students were enrolled in the Master of Public Health or Certificate of Public Health program through CSPH. Data analysis team members were above the legal drinking age and had varied experience with alcohol awareness and education, including family histories of substance use, experience with alcohol conduct violations in college, and volunteer and paid work with CPE or other harm reduction and prevention programs. The graduate student members of the team had exposure to behavior change theories and were developing their qualitative research skills and earned course credit.

Participants

Between September 24, 2019 and September 24, 2020, 106 UNC students who received an alcohol citation that resulted in a code of conduct violation were sanctioned to pay \$25 to complete the e-CHUG intervention along with a written reflection paper. CPE and CSCR classified students by risk level: *low risk* (first minor offense), *moderate risk* (second minor offense, minor in possession charge, or medical support/hospital transport needed), and *high risk* (a third minor offense, second-time medical support/hospital transport needed, charged for Driving Under the Influence).¹¹ Only students classified as low risk were required to complete e-

CHUG and write a reflection paper. Moderate- to high-risk students received other services.

Of the 106 participants who completed e-CHUG, 60% identified as female, 39% identified as male, and 1% identified as another gender. Most were first-year (74%) or second-year students (22%). Most (88%) lived on campus, 17% were involved with Greek life, and 16% were student-athletes. This analysis includes 68 reflection papers, a 64% response rate. So few papers were collected because 1) CPE occasionally shares their e-CHUG access for educational purposes, and 2) some students with an alcohol-related violation did not properly submit their reflection papers with both CPE and their resident assistant.

Procedure

e-CHUG is a valid and reliable online intervention developed by San Diego State University that has demonstrated a reduction in risk-related drinking behaviors.^{10,13} It asks a series of questions about alcohol-related behaviors and personal and family risk factors, and provides each student with a “risk score.” Then, using text and illustrations, e-CHUG presents personalized information about “the amount of alcohol consumed, caloric intake from alcohol use, a gender-specific comparison between how much they drink and other students’ drinking nationwide, estimated annual monetary cost of the alcohol consumed, estimated BAC, tolerance, and negative alcohol-related consequences.”¹³ e-CHUG also includes an educational component about standardized drink definitions, BAC, and the biphasic alcohol response curve through three short videos. Finally, it presents strategies for safer drinking and referrals to local and national resources.

After students completed the e-CHUG intervention and received their results, they wrote short reflection papers responding to specific prompts created by CSCR (see Table 1). e-CHUG’s feedback and the writing process allows students to look at their behaviors and how these behaviors influence their future goals. These reflection papers were submitted to the students’ resident assistants if they lived on campus and to CPE.

Data Management

Data were stored and managed using Google Drive. The CPE Prevention Coordinator digitally shared the data with the analysis team lead, the professor of the Behavior Change Theories course. Each reflection paper was de-identified and labeled with a participant number before being uploaded. The analysis team

was divided into five, three- or four-member groups. Each group was tasked with data coding and synthesis of 13 to 14 papers, with each researcher assigned three to four papers. Each group created sub-folders on Google Drive for organizing their coding and “project memo” files.

Table 1. Alcohol Reflection Questions

<p>e-CHUG Results Reflection Questions</p> <ul style="list-style-type: none"> • Please describe your current risk scores and your reaction to this information. • What information/results from your assessment were the most surprising to you and why? • Describe some behavior changes that you can make in regards to your alcohol use. • What resources do you have available to support you in these changes?
<p>Behavior Reflection Questions</p> <ul style="list-style-type: none"> • Describe your current alcohol use and how this has impacted your experience, both socially and otherwise, here at UNC. • Describe a situation where being under the influence of alcohol had an impact on your behavior and how it might have turned out differently if alcohol had not been involved • What do you feel you have learned from this experience and what will you do differently should a similar situation arise in the future?

Data Analysis

The first phase of thematic analysis was *open coding*. Team members read their assigned reflection papers and wrote memos about their observations. A codebook with *a priori* themes based on the components of the HBM was created and applied. The HBM themes included perceived threats (severity, susceptibility), perceived benefits, perceived barriers, cues to action, and self-efficacy. After reading the reflection papers for the first time, the team convened to discuss sub-codes, inclusion and exclusion criteria, and emergent themes with the goal of finalizing the codebook. Sub-codes were created for the *a priori* codes when the team noticed recurring sub-themes. The final codebook (see Appendix A) included: 1) perceived susceptibility to dangerous or destructive drinking (sub-codes: true risks, minimized/downplayed risks), 2) perceived severity/consequences of their drinking, 3) perceived benefits of changing their drinking behavior, 4) perceived barriers to responsible drinking (sub-codes: peer pressure, coping, fun), 5) cues to action, and 6)

self-efficacy for reducing alcohol use and/or changing problematic drinking behavior.

The second phase of thematic analysis was *focused coding*. The analysis team applied the codebook to all 68 reflection papers. Half of the reflection papers were randomly selected to be double coded. Each team member double coded several papers, and the coders met to resolve any discrepancies by consensus. Data for each theme were combined into Excel spreadsheets and the team supervisor assigned themes to team members to synthesize for this report. Participant identification numbers are provided in [brackets] to illustrate the scope of student responses.

Results

Perceived Threats

In the HBM, perceived threats include susceptibility (beliefs about the likelihood that one is at risk for dangerous or destructive drinking) and severity (beliefs about the seriousness of dangerous or destructive drinking). People are more likely to change their behavior if they believe they are susceptible to a problem and that the problem can have serious consequences.

Susceptibility

e-CHUG’s personalized risk score is a key component of the intervention designed to increase awareness of one’s susceptibility to problematic drinking. Participants were asked to describe a surprising aspect of their assessment, and it was common for students to highlight their scores. Participants expressed genuine surprise at their e-CHUG results and their risk of developing dangerous drinking habits. This can be seen through a student’s paper, “One thing that came off surprising, yet worrisome to me, was my tolerance rating. I scored a 170 on the tolerance factor, which leaves high risk for any problems developing in the future” [32]. Another participant said, “My tolerance level risk score ranked high though which I was very surprised about” [17].

The surprise expressed about e-CHUG results seemed to elicit two reactions. This surprise was followed by a cue to address risk or a denial of the risk and a normalization of their behaviors. True susceptibility beliefs were evident, but so were beliefs that appeared to minimize one’s susceptibility by downplaying or normalizing risk for destructive drinking habits.

For a subset of students, seeing their true risk of dangerous drinking laid out in front of them as a concrete number was jarring, creating an opportune

moment to promote health behavior change. One participant illustrated that change was needed: “The way that I am processing this would be like saying, ‘I can stop at any time,’ but if I were to keep going at the rate that I am, I would soon become dependent” [62]. Another said, “I have realized from this module that drinking can cause a lot more problems than I really ever stopped to think about” [12]. The e-CHUG data heightened the perceived threat that could result if they do not quit drinking: “The data gathered by this checkup opened my eyes to many different qualities of alcohol tolerance and the different ways it can affect you and the reasons why it is different for everyone” [47]. Students who believed they were at risk may be more attentive when e-CHUG piggybacks on their risk scores with examples of how high scores can have severe consequences.

Other participants demonstrated utter disregard for their risk scores. They refused to believe they were in any danger, as shown by one participant, “I do not have a problem and will most likely never have a problem with alcohol. I was a little surprised that the risk of developing a future dependency was a medium because I do not see myself ever having a problem with alcohol” [58]. Participants would express surprise at their scores but in the same instant refute those claims: “it said I had a high risk of becoming dependent upon alcohol in the future which I do not agree upon” [18]. This participant, and others, expressed reservations about the validity of the e-CHUG test and results: “I barely drink each week, sometimes I don’t even drink for a whole month when I am not with my friends and with the number being so high, I don’t know if that information is accurate” [18]. Distrust of the intervention information may be related to an unwillingness to change.

The reflections suggest that showing low to medium scores, in particular, may give students a false sense of security about the consequences of their actions. Participants may be especially likely to minimize their susceptibility when they only had one alcohol-related incident: “Now, my alcohol use is very minimal and the only situation that had impacted my experience was the night at South Hall” [5]. Often these students would blame someone else for the situation they were in, why they got caught, and/or blamed their drinking on the influence of their friends or family. Another pattern of downplaying risk and severity was found among minors who were introduced to drinking by their parents: “My parents decided they would introduce me to alcohol. I was 17, and they let me know it was perfectly ok to consume

as long as it is in a safe environment and was not driving” [60]. Students who did not perceive a true risk may have been writing their essays to check boxes instead of understanding the dangers of drinking underage and how to change their behavior.

These results suggest the intervention may not be effective for all participants. Students who perceive a high risk and are personally affected by dangerous and destructive drinking may be more likely to engage in behaviors to decrease their susceptibility and risk. Students with low perceived susceptibility may deny that they are at risk. When students normalize the experience of drinking at college, they may be more likely to engage in unhealthy drinking.

Severity

Participants described both negative consequences that actually happened to them and negative consequences that could have happened or might happen in the future. Some negative consequences were prompted directly by the e-CHUG intervention. The most common examples of perceived severity were 1) negative health effects, 2) getting into negative situations, 3) negative impacts on school, and 4) feeling embarrassed by their actions. Less often described were physically hurting others, spending large amounts of money, feeling regret, or losing something due to drinking.

Many students talked about negative consequences for their mental health, blacking out, and being unable to work out as much or set time aside for working out due to drinking. For example, one participant put it this way, “As I am an athlete and I do try to keep my body in the best shape possible so the fact that alcohol has significant negative effects on the body’s ability to build muscle strength really makes me reconsider if drinking is worth that loss” [61].

Students described diverse circumstances when they discussed putting themselves in bad situations. For example, one student said, “This guy lived off campus, and I had to walk alone in the dark to get to his apartment...When I finally made it to this guy’s house, sexual events took place. I thought I had wanted that to happen in the moment, but it wasn’t until the next morning when I was sober that I had regretted putting myself in that position” [7]. Several others also described sexual situations they did not fully remember. Other risky behavior included unprotected sex, drug use, and drunk driving.

Many students shared that drinking has had a negative impact on their schoolwork, from getting bad grades

on exams to not finishing assignments. One student stated, “There definitely were moments where I chose to hang out with friends, and I forgot to do an assignment” [18]. Another mentioned long-lasting academic impacts, “I could get my scholarships taken away, not make it into the [academic] program that I have been dreaming of forever, or even possibly getting suspended from school” [59].

Students also expressed embarrassment at their actions while drinking. As one student said, “I remember at my graduation party I drank too much and ended up getting really drunk. As a result, I became sloppy and clumsy. I made an embarrassment of myself in front of my friends and family” [56]. These incidents were not isolated events, as one student stated, “There are multiple times I can describe that I have done dumb and embarrassing things because I was under the influence” [61].

Not only did students pull from personal experiences of drinking, but they also described hypothetical experiences they want to avoid. Some talked about the possibilities of going to the hospital, drinking and driving, getting into more trouble at UNC, or future dependency on alcohol. This was summed up by one student: “It is a serious hazard with a possibility of some brutal after affects [*sic*]. Drinking is no joke and is a very serious matter. It can cause a lot of harm, to you and to those around you. It can make someone into a complete fool, or even worse. Alcohol can be overused and ruin lives” [30].

These results indicated that many students were reflecting on how severe drinking can be, and how they can make changes to avoid negative consequences in the future. However, there were several students who said things like: “Alcohol consumption has not affected my experience at the University of Northern Colorado at all” [2]. Of concern, the conduct process may be inadvertently teaching students that drinking underage can get you into bad situations on campus but is “ok” off campus. Students mentioned that “if they really want to drink that bad at least keep it off the campus” [39]. Of course, drinking underage off campus could lead to more severe consequences like a ticket, driving under the influence, minor-in-possession citations, and getting other students of drinking age in trouble with the law. Both perceived susceptibility and perceived severity must be acknowledged for someone to perceive a threat,^{7,8} and although many students held these beliefs, it was not universal.

Perceived Barriers & Benefits

Perceived barriers are the obstacles that prevent students from avoiding underage drinking or breaking UNC policy. Perceived benefits represent the positive reasons, or advantages, to reducing alcohol consumption. According to the HBM, barriers are the most and benefits are the second most powerful predictors of behavior.^{7,8,9} The combination of perceived barriers and benefits determines the behavioral actions of students as they weigh the pros and cons of underage alcohol consumption.

Barriers

Students at UNC were drinking underage because 1) they want to socialize/make friends, 2) of peer pressure, 3) it is a way to cope with social anxiety, build confidence, and have fun, and 4) it is the “normal” thing to do. These reasons were salient to many students and may represent significant barriers to addressing destructive or dangerous drinking.

A common topic was drinking to “meet new people and make new friends” [18]. Students thought that building community was difficult without alcohol, as stated by one participant: “I have no current alcohol use so therefore it has become difficult to make friends” [51]. Parties were the setting in which students were “able to make friends with and talk to people that we might not have had the courage to otherwise...alcohol typically helped me to feel more comfortable and social” [38]. Another student said, “people tend to be more confident and outgoing when alcohol is involved, and it is much easier to make friends at a party rather than in a classroom” [21].

This trend of being able to socialize and make friends tied in closely with the peer pressure some students felt to drink. As one student reflected: “Although most people do not peer pressure others, most have an unspoken pressure to drink when others around you are drinking” [28]. The peer pressures referenced in the papers appeared to be more internalized than active. For some, this was the first time away from home and the community in which they were raised, and they were learning new social norms. This concept of “one of the biggest ways to be accepted by your peers is to engage in any social pressures that come your way” [21], connects to the desire to make friends, the lack of coping skills for social anxiety and stress, and the perceived normality of drinking. For example, one student stated: “I felt that partying with alcohol multiple days of the week was the only way to make connections and meet new people” [7]. Another said, “I felt like I needed a drink. It was like

a safety blanket at parties, so I didn't look like a guy who didn't want to party without a drink" [1].

Alcohol was used to socialize and make friends, which creates a significant barrier to quitting, due to the lack of coping skills and self-confidence to make friends without the use of alcohol. Indeed, coping with social anxiety, stress, and using alcohol to increase self-confidence were additional barriers to stopping underage drinking. As one student expressed, "I do find that drinking makes me become more social and more comfortable opening up to people. In social situations drinking can help relieve anxiety or help to become more open" [56]. With the social anxiety associated with meeting new people, the stressors of school, and the need to relax, some students turn to alcohol as "an escape from problems or as something to cope with an event that has happened during the day" [5]. Another noted, "It makes you feel more confident in a sense or worry free to better describe it. Alcohol changes my personality because normally I am a lot more introverted" [68]. Students described drinking alcohol as an aid to ease social anxiety and relax; views in favor of underage drinking.

Alcohol also made social environments more fun, which created an additional barrier to adopting healthy habits. As one student said, "If I am being honest, it has made parties a little bit more fun to have a little alcohol in my system" [59]. Another participant described "only drinking on weekends ever [*sic*] so often, when I go to parties, and sometimes just to have fun with some friends" [34]. If students view drinking positively, even after getting caught violating campus policy, convincing them to stop may be difficult.

The last major barrier was the perceived normality of underage drinking at UNC. One participant said: "I think that a lot of students drink in college and that sometimes it can just seem to become a normal thing" [32]. This perceived normality sets unrealistic expectations of what the "normal" UNC experience should be and creates a barrier to adopting healthier behaviors. Normalization gives students a reason to act against sound knowledge and to adopt risky behavior because it downplays the consequences and reinforces underage drinking as a tool for socializing, making friends, coping with social anxiety and stress, and increasing self-confidence.

The e-CHUG intervention is designed to address the barrier of normalization. The intervention prompts

students to examine "the personal choices and the social norms surrounding and influencing behavior,"¹⁰ which provides a counterpoint to the perceived drinking norms at UNC. For example, using her risk score, one student was able to recognize the difference in her drinking compared to others: "My guess was 50% because I believe most other female students go out drinking almost every week, if not more. In reality, only 2% of the female US college students drink more than me" [4]. Another student reflected: "It's a weird concept to grasp because living on a college campus that's all you see on the weekends, so it's strange to learn the real-world statistics" [13]. Beyond challenging social norms, it will be essential for harm reduction efforts at UNC to tackle the other barriers students described.

Benefits

e-CHUG helped students recognize the positive aspects of discontinuing alcohol use. Behavior change is much more likely to occur if a person sees the benefits of taking action. Students reflected on several types of benefits of changing their alcohol use: 1) enhanced performance (academically, in sports), 2) physical and mental health, 3) finances, 4) maintaining social relationships, and 5) avoiding legal repercussions and university sanctions.

Participants related the benefits of not drinking directly to improving their academic performance. Many expressed that they were, above all else, students attending a university and should focus on school. As one student stated, "I will be putting more time into my studies, because I am here to receive a degree and work hard for it, not party all the time" [32]. This student explained that time spent drinking could be reallocated into studies. Students also mentioned things like: "My education is more important than going out with my friends and drinking" [42]. Partying and academic success were described as mutually exclusive, requiring a decision to reduce alcohol consumption for a better educational experience.

About 16% of the students in this sample were athletes. These student-athletes emphasized how severely they noticed alcohol hindered their ability to perform at practice and, as a result, affected their game day performance. As one student-athlete reflected: "If I had never attended the gathering early in the morning right before a [ball] game I would have got better sleep, not waste time going all the way across campus from the recreational center making myself late to the game, and also suffering the

consequences of the effects of alcohol diminishing my playing ability” [19]. Athletes often mentioned that they would like to continue to improve their skills or performance, and that using alcohol was not in their best interest. It was evident that some students connected reducing their consumption to better athletic prowess.

Even for non-athletes, there was frequent mention of alcohol’s impact on physical and mental health. The e-CHUG intervention highlighted health risks, and many students shared information they had learned through the program. Students discussed the unnecessary calories in alcohol, unwanted weight gain, physical discomfort, and mental fog. One student said: “If I were to maintain a steady, healthy diet then my metabolism would be altered for the better. A steady, healthy diet ‘is important in maintaining a healthy weight, positive mood, and high energy levels’” [53]. Another stated: “Along the lines of health and fitness, I want to focus more on exercising and being active, getting a better night’s sleep, and regularly start my day earlier in the morning. By making these changes, I will be less likely to include alcohol in my life, and I will overall improve my health” [35]. This quote encompasses many of the responses, highlighting the positive domino effect of behavior change. One student who had already made some changes reflected: “I’m the happiest I have been in a while and have a lot less stress. Becoming a genuinely happier person by quitting drinking so much allowed me to no longer have to rely on alcohol to get me out of my shell [22].” Another said: “having to continue to deal with situations as stressful and scary as that one was is not something I want to sign up for” [38]. Overall, the evidence suggests the program was quite effective in teaching about the health risks of using alcohol.

Many students discussed the financial benefits of not consuming alcohol. Respondents were able to use the real-life examples e-CHUG provided to understand the magnitude of how much money they were spending on drinking, and how much they could save if they quit. The fact that the students reiterated this benefit suggests spending less money is something very appealing to them. One wrote, “I am new to college and don’t have lots of money to be throwing around and this opened my eyes to how much I spend on average on alcohol [28].” Another said, “I have learned that my alcohol use costs me way more than I thought it would in a year ... money can be saved or spent in other areas of my life” [67]. As many college students do not usually have extra cash, highlighting

that “this is just throwing it away” [32] could help students stop drinking. e-CHUG seemed to be effectively emphasizing this benefit, and this should be continued or even increased.

Many students discussed concerns about how peers or family members view their alcohol consumption. One student explained this well when they said: “my friends like being around me more now knowing I won’t go so crazy” [31]. Students want to be viewed in a positive light by the people they care about, and this can serve as a strong benefit to sobriety. Many peers and family members would prefer students not to drink. This seemed to be a benefit that students were aware of before the program, as they discussed previous conversations. Participants seemed to care very much about what their friends think, do, and believe and this could be leveraged as a *Cue to Action*.

Getting in trouble and having consequences imposed seemed to teach some students that sobriety would help them avoid university sanctions and to stay in good favor with UNC. Students discussed how much they did not enjoy getting in trouble and their desire to avoid the situation in the future. Some students specifically acknowledged that attending university is a privilege, and one that is not worth losing due to alcohol. Drinking and conduct violations could jeopardize a student’s place at UNC: “I enjoy the privilege of going to college and would not want to miss my chances” [1]. Repercussions (legal and otherwise) were identified as a reason not to drink. As one student said: “From this experience I have learned not to drink underage because I can get in trouble with the legal system and the university. I do not want to risk my education and my future because I decided to drink alcohol” [50]. These reflections suggest that sanctioning students may be highlighting the benefit of not getting in trouble.

This e-CHUG intervention encouraged students to provide arguments in favor of quitting, which is an important step in recognizing their own motivations and abilities to quit or reduce their alcohol use. The fact that students understand these benefits and could relate them to their own life shows how benefits have the potential to lead to change. Without the help of this intervention, it might be more difficult for students to identify the benefits of not using alcohol.

Cues to Action

Cues to action are factors that trigger a behavior or experiences that contribute to a decision to change behavior. Students mentioned cues related to 1) e-

CHUG and the reflection papers, 2) family histories of alcohol abuse, 3) negative personal experiences with alcohol, and 4) resources and support.

The assessment itself was an external cue to action that provided an opportunity to learn more about alcohol use and a space for students to reflect on their behavior. The knowledge gained through e-CHUG coupled with the reflection essay was a salient cue. For example, one individual said, "Completing the eCHECKUP was eye opening in the fact that it taught me my own personalized statistics...I am now knowledgeable on myself and how I can responsibly handle alcohol" [12]. Another student agreed: "Taking this online assessment gave me some eye openers and advice on how to build healthier habits" [4]. In addition, one reported that participating in the assessment, "cleared up a common misperception of how the body's ability to build up a tolerance to alcohol" [19]. The experience helped participants realize why they may have misused alcohol: "this experience has been a wakeup call for how I deal with my grief because this obviously won't be my last year being alone for the anniversary" [3]. Language such as "cleared up," "eye opening," and "wake up call" suggests students value awareness regarding their alcohol use and that this was an external cue to action.

Students' essays mentioned a family history of relatives interacting adversely with alcohol, which had a lasting impact on their own alcohol consumption. Several made references to the negative way alcoholism has impacted their families and the desire to not repeat the same mistakes. For example, they said, "I do not want to end up like the rest of my family" [22] and "I saw my father's substance abuse as a huge negative" [57]. It was clear that these experiences were cues to action, as seen from this reflection: "From seeing my family members go down the wrong path and having to deal with the stress and hardship of taking care of them, I do not want to end up like them" [42]. Students feared becoming alcohol dependent: "seeing how it destroyed my family for a few years and massively impacted my childhood, I use my mother's alcoholism as motivation to not let alcohol become too big of a part of my life...I'm always scared in the back of my mind that I'll end up like my mom did. ...that just serves as another reason to watch my behaviors surrounding alcohol since it can become addictive and greatly impair my actions" [38]. External cues to action referencing relatives were important triggers to pursue healthier behavior.

Students also reported personal past experiences that were a catalyst to stop or reduce their alcohol use. Peoples' beliefs about the severity of alcohol use can often serve as a cue to action. Students indicated a desire to change their behavior to avoid harming their personal relationships and their future potential. As one reflected: "If I didn't go out and stay out that late, I would have probably studied more for my exam the night before...gotten a lot more sleep...made it to the class on time and gotten the full amount of the class to work on my exam" [13]. Another student illustrated a situation they experienced while attending a concert: "my other bad decision was that I didn't stop when I should have. The night that was supposed to be a memorable night to share with my friends but was ruined by my choice to drink. I ended up throwing up and stumbling around, I was so embarrassed" [37]. This participant expressed an internal cue to action of regret when they consumed alcohol in excess as there were physical ramifications to their choices. They also recognized if they made the decision not to drink alcohol, then their time with friends would have been more enjoyable. This potential impact on social networks and friends was mentioned by several students. For instance, one student expressed: "I hate getting in trouble and I hate to see my friends get in trouble as well" [68].

Participants identified support systems available to them and it became clear that their access to resources could be a cue to action. These resources included relatives, friends, and on-campus services. As one student reported: "Some resources that I have available to me to help me make these changes is an amazing support system. I have many friends who enjoy going out and doing fun things sober, which will encourage me to do more things that do not involve alcohol" [13]. This individual felt a strong connection to their friends as an external cue to action and appears to trust that they will engage in activities that do not involve alcohol. Another student also spoke to the power of their social connections by expressing, "I can ask my friends to help keep me accountable when I am out on the weekends so I do not accept more drinks than my allotted amount for the night if I am offered more" [11]. This statement demonstrates that desired behavior changes are more likely to be successful with a social network to support the individual. On-campus resources were important: "I could go to the recreation center, counseling center, academic support and advising or go to career services, [which] will support me and help me reach my goals" [64]. Another student said,

“The first place I would probably reach out to is the UNCO counseling center just because it is in close proximity and it’s free to all UNC students” [17]. Accessible resources can reinforce cues to action and lead to lasting behavior change.

Self-Efficacy

Self-efficacy is the certainty that an individual possesses regarding their own ability to implement behavior change. Several aspects of self-efficacy stood out, including 1) previous successful experiences of behavior change, 2) an increase of confidence and self-awareness, 3) statements of personal commitments, 4) plans of action, 5) creating alternative settings to avoid repeating behaviors, 6) and seeking roles of responsibility for self and others.

Previous experiences of successful behavior change, whether big or small, can increase self-confidence and the likelihood of further change. Participants anticipated further behavior changes as a result of positive outcomes from decreased alcohol consumption. For example, one said, “asking my friends to watch me so that if I decide to be irresponsible, they can call me out and help me. I feel genuinely proud of myself...I am still in the process of fixing my problem, but I feel good and I feel proud. I think I am making a lot of changes to my habits for the better” [31]. Another reflected: “After taking this assessment and really reflecting on my actions, I am really motivated to change my behaviors and actions, not just in regards to drinking, but in life” [60].

Honesty about one’s progress creates the foundation for change by increasing self-awareness. An increased sense of self-awareness of one’s needs and limitations provides confidence in one’s ability to forsake a previous behavior. Participants expressed a realization that alcohol was not necessary to cope with feelings of social anxiety, pain, or depression. As one stated, “This makes me realize that I don’t need alcohol to meet new people and feel comfortable with myself. Since then I have gone to parties and stuff like that sober and had just as much confidence in myself” [20]. Through finding confidence in their ability to communicate with their peers, they were able to separate themselves from two powerful barriers to change: peer pressure and coping with social anxiety. Confidence was also seen in ‘I can’ statements: “I can be better about the decisions I make in social settings when alcohol is around” [8].

Goal setting is also an important aspect of self-efficacy. Creating and voicing a commitment to

change empowers individuals by setting a standard for which they can strive to achieve and maintain. The papers showed varying levels of commitment ranging from language like “maybe” and “probably” to a powerful statement like “I’d like to make a pledge to stop drinking or being around alcohol as much” [10]. Using strong language like “I pledge” creates an expectation within oneself and for anyone with whom it is shared and creates a motivation to change. Several students mentioned asking other individuals around them to keep them accountable to not partake in underage drinking. Students also showed self-efficacy when they shifted their focus onto the future: “If I were to encounter a similar situation in the future I would make many different choices in order to ensure a positive outcome” [8].

A commitment to change, however, is only as powerful as the actions that follow. A variety of potential behavior changes were posited by participants, ranging from complete alcohol avoidance to methods of moderation. One student provided examples of some of the more common action plans: “Some of the behavioral changes that I’ve considered making are to avoid drinking games, space my drinks over time, and to keep track of the amount and serving sizes of the drinks I have” [17]. Another said: “I am still working on being better but since that night, I have cut down significantly on the amount of times I will drink in a week. I try to be much more responsible now” [33]. Other plans of action included bringing their own beverages, seeking support systems through family and counseling, and creating a friend group that either does not partake in the behavior or has safe practices like determining a designated driver. One even said: “For future situations, I think I would rather be the designated driver” [4]. Although several students seemed unwilling to completely stop drinking underage, many were willing to lessen their risk behavior. This can be seen in the reflection, “I will be honest I still drink, but I make sure it never affects my time for studying, of homework...I think I am making a lot of changes to my habits for the better” [31].

A specific facet of an avoidance plan is the creation of alternative activities. The three alternatives most mentioned by participants were the pursuit of employment, working on fitness goals, and increasing academic study. As one student stated, “One more behavioral change that I would like to make is get a job and then ask to be scheduled on some weekend nights that way there is a more beneficial and positive way to spend my night” [13]. Another said: “I am also

joining a group that is run by [program], and that will help me be around people that only want to get high on the holy spirit” [66]. By seeking alternative activities, students completely remove themselves from a situation where they might engage in undesirable behavior. This strategy also has the potential to strengthen the individual’s self-control so when they are in a situation that has the potential to lead to unsafe drinking practices, they will be more likely to engage in positive drinking practices.

The final indicator of self-efficacy was when a participant felt confident enough to alter their own behavior, and then also used what was learned to encourage behavior change in others around them. A participant demonstrated this transition in their comment, “I have learned that alcohol and its effects are different for each individual. My goal is to educate my friends on this issue, and help limit their drinking by limiting mine” [49]. Another said: “With this class I can make smarter decisions when I am out with my friends and hopefully encourage them to make smarter decisions as well” [68]. An individual, confident in their own ability to enact change becomes a capable leader for others, instilling them with confidence, and starting the whole process of gaining and applying self-efficacy all over again.

Most of the participants showed some desire to modify their behavior and had some level of belief that they will be able to do so. This suggests the program was effective and that participants will be able to make some changes and implement new habits that make them less likely to engage in problematic behavior. Based on the information collected through these reflection essays it can be concluded that students are likely to “not drink as much as [they] used to” [12]. The stronger the belief that someone has about their own ability to accomplish a specific goal, the more effort that person will be willing to exert into learning a new behavior to help reach this goal. Those students who showed more evidence of self-efficacy-related content are more likely to establish healthy habits successfully and for longer.

Recommendations

Several recommendations emerged from the data. Below they are split into prevention programming suggestions for all UNC students and intervention and harm reduction suggestions for those found responsible for violating alcohol policies.

Prevention Programming

CPE should continue to focus on redefining and broadening students’ understanding of the “normal” college experience. CPE’s preventive measures for underage students new to UNC and college life are crucial. Stepping in before harmful alcohol use can begin or progress is beneficial, so students do not get to the point of facing disciplinary action.

Address student mental health & coping skills

Programming must be mental health focused and build student’s self-confidence, interpersonal skills, and coping mechanisms to empower and equip them with a healthy mindset as they transition into the uncertainties of adulthood. Many students referred to alcohol as a social lubricant that helps a person come out of their shell and be more likable, and as a distraction from stress and anxiety. Although CPE collaborates with the UNC counseling center during orientation to raise awareness of campus resources, it is evident that some students are using alcohol to self-medicate, rather than seeking mental health treatment. At orientation they may be overwhelmed with the quantity of new information. Ensuring that students are consistently reminded of free counseling is essential, and additional efforts to destigmatize its use may be needed. During times of personal stress, it can often be difficult to ask for help or to recall safe and accessible places to do so; it is not enough to passively offer services. Questions about mental health could be added to the e-CHUG intervention to increase the likelihood of early intervention.

Students need help managing anxiety and stress and coping with emotions stemming from living away from family for the first time, making new friends, dealing with peer pressure, and managing school obligations. Group counseling, anxiety reduction workshops, mindfulness training, and other approaches should be introduced. Social anxiety related to building community and making friends should be a special focus. Across all modalities it will be important to explicitly address alternatives to numbing pain and emotions with alcohol and drugs.

Offer e-CHUG (or similar) to all students

The results of this study reinforce the Biennial Review’s recommendation that UNC should “Increase education and prevention programming (such as Alcohol 101) for students in the First Year Experience.”¹¹ Student reflections suggested that more prevention education could be done versus consequence and sanction for violations. Currently,

new student orientation includes the Bystander Engagement, Awareness, and Responsibility (B.E.A.R.) program, but alcohol is only one covered topic among many, and it is not personalized to each student. All UNC students should take the e-CHUG assessment, or something similar, regardless of whether they were caught drinking.

The results of the current study provide evidence of just how much students learned from an online assessment that was personalized to their specific circumstances. Based on participants' statements, it appeared that they were not completely cognizant of their alcohol habits or the data that showed their risk ranking in society. Many did not realize how harmful alcohol can be to their bodies and health. From what students said, this assessment helped guide them in their drinking habits and knowing when to stop. The intervention itself was a cue to action toward healthier behavior. Although CPE already offers Alcohol Awareness Events and Outreach Presentations,¹¹ none of them appear to cover as many elements of the HBM as e-CHUG.

Thus, CPE should offer a personalized training so all students can receive their own risk score before they get into trouble with the university. Studies of e-CHUG demonstrate it is not only effective in decreasing alcohol use, but that this change is aligned with retention rate improvement and better Grade Point Averages.^{10,13} If cost is prohibitive, a similar program could be created in-house or existing programming could be supplemented. With assessment research using a control group, CPE could determine the best intervention for the UNC context.

Create custom training for student-athletes

CPE should create custom training for student-athletes to help this specific population recognize the benefits of abstaining or reducing alcohol use for their education and sports performance. The training could incorporate testimonials from alumni and current athletes on how alcohol use was problematic for their academic and athletic goals. Feeling better every day and being able to perform well physically and academically is a relevant benefit of not drinking, specifically for student-athletes.

Create an awareness campaign using student voices & the HBM

This study highlights student perspectives and experiences related to the HBM. CPE could select quotations and stories from reflection essays to create on-campus awareness campaigns that are directly

relevant to UNC students. For example, CPE could hold a week-long campaign about the dangers of drinking. They could create flyers about negative consequences, which would have a greater impact if they came from UNC students themselves. During the campaign, CPE could hold a panel at which students could talk about the severity of drinking, drawing from personal experience. Many students identified similar consequences across the essays in this study, which can provide examples for training and education. Students face many barriers to changing their drinking behavior, and awareness campaigns could be one way to provide suggestions, tips, and tools to overcome obstacles like making friends, peer pressure, anxiety, and perceived norms. Further, sources of social support and on-campus resources could be advertised, as these were importance cues to action in the current study.

Because there was frequent mention of folks living in dorms, it is safe to assume this population on campus is especially at risk. When tempted by older peers to partake in drinking activities, knowing the benefits to refusing these activities might make it much easier to say no. A campaign could highlight the common benefits of reducing alcohol consumption, like physical and mental health improvements and academic performance. An infographic could be created to provide a visual about the drastic amount of money that can be saved if someone stops or limits their alcohol use. Reiterating how college is an opportunity and how it can have a profound effect on one's future might also help deter students from drinking. Creating a forum to have students actually say out loud why they came to UNC might make them focus on their goals and motivations and further realize the benefits of making a lifestyle change that does not include alcohol. All of these campaigns could also help steer more first-year students living in the dorms in the right direction.

Offer & promote more alternative activities

It is essential that UNC provides and widely advertises social opportunities for students that do not include the use of alcohol. Currently, CPE partners with the University Program Council to provide Alternative Events like movie nights, stand-up comedy, open mic nights, a Bear Sync competition, and entertainment at a Friends and Family Weekend.¹¹ There are also many existing clubs and organizations at UNC, but some students may lack an awareness of their options. Based on our findings,

existing alternative activities could use better advertising and marketing.

e-CHUG includes information about campus resources and essentially advertises a few existing alternatives to drinking. One participant stated, “Overall this experience was a good one to have because it showed me what other alternatives I have that I didn’t already know about” [44], and another said, “I learned that many people do a lot of other fun things on the weekends rather than going out and partying and I would like to get more involved and try some of those things out” [13]. After the intervention students were able to identify clear alternatives: “I have always enjoyed hiking, so I plan on going on small day trips over the weekend” [45], and “We can have age appropriate fun which is usually photoshoots because who doesn’t love to feel confident about themselves” [3]. It would be better to promote this awareness before an alcohol violation.

CPE should partner with campus organizations to offer more extra-curricular activities. It would be useful to re-evaluate the current events and activities and to consult and collaborate with the campus community to gain insight into desired topics, formats, and timing of activities (e.g., through a student survey). It likely will be important to expand offerings for students who do not live in the dorms and to hold events over the entire semester not just at the beginning. Some additional clubs or groups may need to be created to aid in the transition to college for first-year students. These alcohol-free activities would be most effective if they involved things that a person can do alone, with a group, at different times of the day (especially late in the evening when alcohol use is most prevalent), and most importantly they should emphasize social aspects.

UNC enrolls many low-income students. As such, it will be essential to develop free events and to suggest activities that can be enjoyed on a small budget. CPE should also consider offering scholarships for weekend adventures or event tickets because some students may disregard safer alternatives due to financial constraints.

Activities should be well-advertised to show the various ways to have fun without drinking and the opportunities to socialize beyond parties. This would be beneficial for students’ self-efficacy because it takes the burden off the students to figure out how to have fun without alcohol. Therefore, they would be more likely to implement this new behavior because

they know how to do it. If a student is unable to come up with tangible forms of alcohol-free fun they are more likely to revert to their original behavior of relying on alcohol for entertainment because they may not know of a new behavior to implement instead. If students feel that they can find friends and have a support system with peers that does not include drinking, there will be fewer barriers to reducing dangerous or destructive drinking habits.

Prohibit alcohol-focused advertising on campus

Several participants mentioned that UNC allows (or tolerates) posted advertisements of alcohol-related events and local bars. In order to change the normative culture around alcohol consumption, it is recommended that UNC prohibit and/or remove such advertisements moving forward. If a policy to ban these is not feasible, they could aim for a more equal balance of advertisements. That way, students would understand that UNC takes alcohol use and the health and well-being of its students seriously.

Alcohol Intervention & Harm Reduction

UNC’s conduct process and CPE’s harm reduction programming are an essential resource that provides a chance for students to acknowledge poor choices, remark on the experience, and feel empowered to make healthier alcohol consumption decisions. With guidance from the HBM and the results from student reflections, CPE could further improve their efforts towards decreasing or eliminating harmful drinking.

Use the Transtheoretical Model to personalize interventions

One possible step forward is for CPE to integrate the Transtheoretical Model of Change into its intervention planning.^{14,15} This model argues that certain interventions will only be effective when a person reaches a particular “stage of change.” For example, students in the precontemplation stage may not be open to learning about problematic drinking because they have no intention of changing. If CPE assessed and recorded the stage of change for e-CHUG participants, they might be able to personalize interventions and help prevent and manage relapse. Personalized intervention management based on the stages of change could help increase self-efficacy because the threat associated with drinking would be clearly explained based on the individual’s experience and not on general data.

For e-CHUG to have long-lasting effects, CPE will need to do more to address denial and normalizing of

problematic drinking. Individuals who continue to harbor misconceptions about their alcohol use may refuse support offered through the program. CPE should consider modifying e-CHUG or requiring an additional component for students that believe they are at low risk of dangerous and destructive drinking. The Transtheoretical Model could inform concrete strategies for moving individuals into a stage in which e-CHUG may be more effective.

CPE could use the Transtheoretical Model to support students as they move through the stages of change by strengthening their self-efficacy and shifting the decisional balance when weighing benefits versus barriers. Weighing the pros and cons of changing their behavior will help students make an informed decision. Highlighting the benefits of not underage drinking and building self-efficacy through confidence building, teaching coping mechanisms, and cultivating an environment for students to make friends outside of the classroom is needed. Having a two-step process of understanding personalized barriers and then instituting targeted messaging, will help decrease underage drinking and ultimately help students in the classroom and beyond.

Add UNC student testimonials to e-CHUG

CPE could incorporate an additional aspect of support through short testimonials or interviews of past e-CHUG participants sharing the obstacles they overcame and successful behavior changes with positive outcomes. Hearing others' stories of success can increase self-efficacy by showing that change is possible and providing options that the individual may not have thought of previously. It can also change an individual's perspective of societal norms regarding drinking to hear about others' experiences. Hearing accurate evaluations of the risks and severity of harmful behaviors surrounding alcohol consumption and seeing evidence of the benefits of change from peers or others considered reliable could greatly influence participants.

Another possibility is that a UNC student who has been in trouble previously could be one of the program's representatives. This representative could do campus outreach to share their personal story about drinking and then getting in trouble, pulling from the severity of consequences in this study that resonated with most students. They could inform UNC students that it is not worth it to drink, especially underage. This representative could talk about their experience with negative consequences, overcoming barriers, and the benefits of change.

Connect e-CHUG participants with alternative activities

Part of the e-CHUG intervention could include requiring participants to sign up for alternative activities. Having the participants who get caught underage drinking help around the community or take part in a club could be beneficial to altering their drinking habits. UNC could work with a local animal shelter, homeless shelter, senior citizen center, school, etc. Participants could be required to volunteer with one of those organizations or join a club or sports team at UNC. This would introduce them to new people and widen their view of what the "normal" college experience entails. This type of programming could benefit UNC's relationship with the community as well. This option may be especially beneficial to participants who recognized their true risk. They would be more ready to make changes, whether it was mandated or not, so a list of opportunities should be provided by CPE.

Utilize students' social support systems

Many students expressed how important their family and friends were in their decision-making processes. CPE could use these results to integrate social supports into their prevention and/or harm reduction programming. Family members could be involved in the process to help reduce stress and fear about how the student's family might view their drinking. Family history was a factor in alcohol-related incidents and involving the parents early could provide another level of support for the students. Harm reduction resources could also be distributed to close friends and family who seem to play a crucial role in participants' perception of drinking risk. These strong personal relationships should be an important area of focus for CPE's programming.

Students who completed e-CHUG could also complete a different type of reflection, such as a focus group, so they could connect with other students who had similar experiences with alcohol. CPE and the UNC counseling center could start a support group for those students who may still be struggling to say no to drinking or may be struggling with a negative experience due to drinking. These students can get support from one another and know that they are not alone in their struggles. If they have support from their peers, it could prevent many students from relapsing. Such a group should be led by a facilitator that has lived experience. This accountability system may prove useful for long-term behavior change.

CPE will need to do more programming or intervention to mitigate the effects of peer pressure. Peer pressure was an oft-mentioned barrier to healthier drinking habits and must be examined seriously. Social support systems will likely be essential to overcoming perceived barriers like peer pressure. Some current CPE programming, like “Creating an Educated Culture of Friends” and “This Bear is Aware,” focuses on bystander intervention, building self-efficacy, and changing norms. However, more could be done to help students challenge social norms and peer pressure as well as create an environment on campus in which people feel safe asking for help.

Update e-CHUG reflection questions

CPE should revisit the e-CHUG reflection questions regularly. One basic improvement that could be made would be to drop the first part of this statement: “Describe your current risk scores and your reaction to this information.” Many participants regurgitated their results and did not provide much additional insight. Efforts should also be made to ensure that each question is asking for a unique reflection. There was some overlap in the questions that seemed to cause some students to write contradicting answers. Data analysis can be difficult if a student did not write a clear answer or the researcher thought the participant did not fully understand the question. CPE could utilize this first round of papers as an opportunity to consider other ways to prompt meaningful self-analysis. For instance, participants’ surprise at their scores could be an advantageous feeling and a cue to action on which CPE may be able to build.

Continue offering Motivational Interviews & add an evaluation

The CPE Prevention Coordinator holds motivational interviews with students who are second-time offenders. These may reduce anxiety about behavior change and provide a human connection with verbal reinforcement of the changes. The decision to reduce harm in alcohol use at UNC, rather than solely promoting abstinence, can promote a safe space to discuss harmful behaviors involving drinking. Allowing more conversation around harmful drinking can further serve as a prevention campaign by raising awareness on campus. Best practice suggests that CPE should evaluate whether e-CHUG alone or e-CHUG with a motivational interview is the most effective intervention given limited resources.

Follow-up with sanctioned students

This study reinforces the Biennial Review recommendation to “Improve assessment follow-up to gauge student content knowledge gained post-intervention.”¹¹ It would be helpful to add a six-month or one-year follow-up assessment to identify whether knowledge, attitude, and behavior change are sustained. This would better inform CPE of the effectiveness of the intervention and provide an opportunity to recruit formerly sanctioned students for awareness campaigns and prevention efforts.

Study Limitations

This study’s results should be considered in light of several limitations. To begin, the process of collecting reflection papers could be better documented. This was an analysis of the first papers CPE collected and some were not submitted properly. Perhaps participants should be required to return reflections to only CPE to better guarantee they will be received and analyzed. This would ensure a larger sample and a greater understanding of the scope of responses. As it is, we do not know how the returned papers may differ from those that were missing. There was also no demographic information attached to the essays. Thus, it was impossible to compare students on characteristics like gender or athlete status, or tailor programming for priority populations. It is possible that the intervention is more effective with certain groups of students, but it was not possible to assess those differences in this study.

In future research collaborations, all research partners should familiarize themselves with e-CHUG by going through the program themselves. This would allow researchers to differentiate participants’ original thoughts from the results of leading questions or data prompted from specific aspects of the program. This could help researchers better understand participants’ sincerity and the likelihood of change. This is related to the limitation that some students may have written what they thought CPE/CSCR wanted to hear. It seemed like some were simply writing their papers to complete the requirements and to demonstrate that they had “learned a lesson” rather than be truthful. Exposure to e-CHUG content may help researchers better understand the nuances in student reflections.

Finally, the COVID-19 pandemic appeared to decrease alcohol violations in late spring and early fall 2020. It is unknown how this outside factor may have changed the types of alcohol violations and/or student reactions to those violations.

Conclusion

Challenging the culture of drinking at UNC is not an easy feat but can be done through the process of e-CHUG, reflection papers, and targeted educational and behavior change programming. This study took e-CHUG as the starting point to understand the issues UNC students are experiencing related to underage drinking. By asking participants to write a reflection paper about their results, CPE's program may align participant's views of their own drinking with the true reality of the risks. It provides space for participants to process and evaluate the severity of their alcohol use, the perceived benefits of stopping drinking, and the barriers that may provoke challenges during their efforts toward change. By allowing participants this space to reflect, CPE provides an opportunity for students to identify cues to action that can encourage behavior change which ultimately supports their self-efficacy. It is reasonable to conclude, based on the findings, that participants are now less likely to engage in dangerous alcohol-related behavior.

CPE can improve their prevention and intervention programming with the guidance of the HBM and UNC-specific student data. CPE is taking structured and organized steps to support participants in achieving their best personal outcomes. It will be important to address all aspects of the HBM described here, in order to help students to change their behaviors for the better. By highlighting student voices and perspectives related to the HBM, CPE will be able to make progress toward decreasing underage and harmful alcohol use at UNC.

Acknowledging personal susceptibility to dangerous drinking habits can lead an individual to change their behavior, if they think there will also be negative consequences for their life. The severity with which the user drinks may be determined by the barriers that the participant faces in the first place (e.g., if a person is using alcohol to cope with the stress from school, then the more stressed they become, the more severe the drinking may become). When someone

understands risks and consequences, they still must weigh the benefits of changing against the barriers.

If students see the benefits of changing, and these benefits outweigh the barriers, they have the potential to make a change. When weighed against the barriers, perceived benefits help students recognize their own self-efficacy to overcome future obstacles that may arise. Being able to analyze the impact of reducing alcohol use to positively impact their future is a key factor in making change. Visualizing a future and recognizing that discontinuing alcohol use could enhance that future will be a powerful tool in times of temptation. It seems that many participants believe they can perform the steps necessary to achieve a desired health behavior outcome and understand how to do accomplish those steps. Such self-efficacy could lead to giving greater weight to perceived benefits and a greater awareness of cues to action. Conversely, low self-efficacy may lead to feelings of inevitability and avoidance of honest assessments of risk and severity. It could also lead to magnifying the weight of perceived barriers over benefits.

Harm reduction programs like e-CHUG are vital for helping to reduce underage drinking early in life, without stigmatizing or isolating students. This point was made by one participant who stated, "I feel supported, rather than shamed for what I have done and I truly believe that is the best way to change behavior" [40]. Statements like these reinforce CPE's programming, which should be combined with other on-campus efforts to provide a cohesive support system for students. Aligned priorities and messaging across CPE, the Counseling Center, campus leadership, and other offices could help to create a culture that supports students and encourages positive behavior change. This type of culture would ideally reduce the need for conduct violations and create upstream changes for a safer and more positive campus environment.

Appendix A: Final Codebook

Theme	Code name	Definition	When to use	When not to use
Perceived threats: Susceptibility	Susceptibility (Risk: True)	Beliefs about the likelihood that they are susceptible or at risk for dangerous or destructive drinking.	Respondent describes personal risk factors for problematic drinking; Describes level of risk in a way that sounds like they truly believe it. Describing their risk scores.	Respondent describes <u>other</u> people's risk (which could be a cue to action)
	Susceptibility (Risk: Minimized)	Minimizing, downplaying, denying, normalizing how susceptible or at risk they are for dangerous or destructive drinking. Talking about risk, but not personalizing it or taking responsibility.	Respondent describes personal risk, but in a way that makes it sound like they don't really believe it, aren't taking it seriously, or might just be saying what UNC wants them to say. If they are being sarcastic.	Respondent describes a true belief, a real risk (risk: true)
Perceived threats: Severity	Severity (Sev)	Beliefs about the seriousness of dangerous or destructive drinking, including physical and social consequences.	Respondent describes any negative consequence/outcome of drinking actions; Says drinking is dangerous.	Respondent describes positive aspects of drinking: likely a barrier to quitting (barr).
Perceived benefits	Benefits (Bene)	Beliefs about positive features or advantages of reducing or stopping dangerous or destructive drinking. May be tangible (e.g., financial) or social (e.g., satisfaction of following advice, pleasing another person).	Respondent describes the pros/benefits of quitting or slowing down; Describes benefits of eliminating negative consequences (Sev); Describes benefits of lowering risk (risk: true).	Respondent describes quitting/slowing down without any benefit included; Describes triggers/cues for slowing down, but now how they would be a benefit (cues).
Perceived barriers	Barriers (Barr)	Perceived obstacles (costs) or negative consequences to taking action to reduce/stop drinking. Could be inconvenience, cost, or fear. May be tangible (e.g., ridicule) or psychological (e.g., increased anxiety).	Respondent describes obstacle, costs, challenge to stopping; Describes stopping as hard/difficult	Respondent describes quitting/slowing down without any cost/or negative consequence included; Respondent specifically describes the other three categories: peer pressure, coping, fun.
	Barriers (Barr: Peer)	Perceived obstacle/cost to reducing/stopping drinking is norms, social/"Peer pressure," and wanting to "fit-in."	Respondent describes peer pressure, wanting to fit in, social norms, that drinking is what you're "supposed to do" in college, etc.	Respondent describes negative consequences to quitting/slowing down other than peer norms.
	Barriers (Barr: Coping)	Perceived obstacle/cost to reducing/stopping drinking is lack of other skills for coping or handling difficult situations and/or emotions.	Respondent describes using drinking for coping, handling difficult situations, numbing negative emotions, dealing with social anxiety, or because of lack of communication skills.	Respondent describes negative consequences to quitting/slowing down other than using it as a substitute for other skills.
	Barriers (Barr: Fun)	Perceived obstacle/cost to reducing/stopping drinking is that drinking is FUN.	Respondent describes the fun/joys of drinking.	Respondent describes negative consequences to quitting/slowing down other than that it is FUN.
Cues to action	Cues to action (Cue)	Cues that can trigger actions/behaviors to reduce susceptibility and/or severity; Cues that trigger decision-making toward changing their drinking; can be internal (e.g., feeling a symptom) or external (e.g., media, alcohol conduct violation).	Respondent describes motivators/signals/signs that promote action towards quitting; Describes something prompting their decision to quit.	Respondent describes decisions about drinking without any prompt/cue;
Self-Efficacy	Self-efficacy (Eff)	Beliefs that one can successfully reduce/stop problematic drinking. Confidence.	Respondent describes personal abilities, confidence, etc. that they can make change.	Respondent describes outside factors (not the self) for promoting change;

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