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Weighing the Pros and Cons of Using Protective Behavioral Strategies: A Qualitative Examination among College Students

Adrian J. Bravo, Ph.D.^{*1}, Matthew R. Pearson, Ph.D.¹, Leah E. Stevens, B.S.², and James M. Henson, Ph.D.²

¹Center on Alcoholism, Substance Abuse, & Addictions, University of New Mexico, Albuquerque, New Mexico, USA.

²Department of Psychology, Old Dominion University, Norfolk, Virginia, USA.

Abstract

Background: Alcohol protective behavioral strategies (PBS) are behaviors engaged in immediately prior to, during, after, or instead of drinking with the explicit goal of reducing alcohol use, intoxication, and/or alcohol-related harms. Despite the quantitative support for alcohol PBS as a protective factor among college student drinkers, we know of no qualitative research aimed at determining college student drinkers' perceptions regarding the advantages and disadvantages of using PBS.

Objectives: In the style of a decisional balance exercise, we asked college student drinkers (analytic $n=113$) to identify 5 reasons they would not use PBS (cons) and 5 reasons they would use PBS (pros).

Method: Participants (majority female, 77.0%) were recruited from a psychology department participant pool at a large, southeastern university in the United States. Within our analytic sample, participants on average consumed 6.38 ($SD=8.16$) drinks per typical week of drinking and reported consuming alcohol on average 7.5 days ($SD=5.83$) in the last 30 days.

Results: Using a descriptive phenomenological approach, we identified 2 themes for pros (prevention of specific negative alcohol-related consequences and general safety) and 4 themes for cons (goal conflict, ineffectiveness, difficulty of implementation, and negative peer/social repercussions). Overall, participants reported more pros than cons and this discrepancy (i.e., number of PBS pros minus number of PBS cons) was positively related to self-reported frequency of PBS use.

Conclusions/Importance: Taken together, we hope that clinicians/researchers will probe individual's reasons for choosing to use (or not use) PBS in order to tailor or improve existing PBS-based interventions.

Keywords

Protective behavioral strategies; alcohol use; college students; qualitative; decisional balance

^{*}Corresponding Author Phone: 505 925 2344, Fax: 505 925 2301, ajbravo@unm.edu.

Declaration of Interest

We do not have any conflict of interest that could inappropriately influence, or be perceived to influence, our work.

Alcohol protective behavioral strategies (PBS) can be broadly defined as behaviors engaged in immediately prior to, during, after, or instead of drinking with the explicit goal of reducing alcohol use, intoxication, and/or alcohol-related harms (Pearson, 2013). Increasing evidence suggests that PBS use is a robust protective factor associated with lower alcohol use and consequences (for reviews see Pearson, 2013; Prince, Carey, & Maisto, 2013) and has been shown to mediate the effects of known risk factors on alcohol outcomes including, age of drinking onset, drinking motives, and impulsivity-like traits (Bravo, Prince, & Pearson, 2015, 2016). In other words, using alcohol PBS appears to achieve the goal of such strategies. An increasing number of studies have found that the mobilization of increased alcohol PBS use following an intervention is associated with beneficial alcohol outcomes in the college student population (Barnett, Murphy, Colby, & Monti, 2007; LaBrie, Napper, Grimaldi, Kenney, & Lac, 2015; Larimer et al., 2007; Martens, Smith, & Murphy, 2013; Murphy et al., 2012). Although we know of several predictors of PBS use including demographic factors (e.g., gender, Benton, Benton, & Downey, 2006; Benton, Downey, Glider, & Benton, 2008), personality traits (e.g., impulsivity-like traits, Pearson, Kite, & Henson, 2012), and drinking motives (Ebersole, Noble, & Madson, 2012; LaBrie, Lac, Kenney, & Mirza, 2011), we know very little about how individuals actually decide to use (or not to use) these strategies. Such information has important implications for designing effective clinical interventions targeting the use of alcohol PBS.

Although there have been some qualitative studies on alcohol PBS, these studies have mainly focused on what strategies people have used and how they can enhance those strategies (Barry & Goodson, 2012; Barry, Goodson, & Goodson, 2012; Howard et al., 2007). For example, Barry and Goodson (2012) conducted interviews among 13 college students regarding engaging in responsible drinking to identify both barriers to engaging in safe drinking and motivations for drinking responsibly. Using these qualitative data, they created a quantitative measure of the motivations for drinking responsibly, which included wanting to meet personal responsibilities (“Because I need to study for a test or complete my school work”, “Because I have to get up early in the morning for class”), feeling responsible for someone else (“Because I have to look out for one of my friends,” “Because I am the designated driver”), fear of developing a drinking problem (Because I do not want to develop a drinking problem,” “Because a friend and/or family member has a drinking problem”), and avoiding a series of specific consequences (“Because I do not want to do anything out of my character I may later regret,” “Because I do not want to get nauseous or vomit”).

Barry and Goodson (2012) also developed a measure of barriers to drinking responsibly that resembles the construct of self-efficacy, such that it assesses the confidence one has they could drink responsibly under a variety of contexts (“I was having a bad day,” “I was celebrating my 21st birthday,” “I felt pressured by friends to drink”). As expected, having higher motivations for drinking responsibly was associated with a lower likelihood of being a binge drinker, and having lower self-efficacy was associated with a higher likelihood of being a binge drinker. Although this information provides important information for the motivation and implementation of alcohol PBS, we know of no qualitative research aimed at determining college students’ perceptions regarding the pros and cons of using PBS.

Purpose of Present Study

Despite the growing literature that supports PBS use as a way for high-risk drinkers to reduce or ameliorate the negative consequences of excessive alcohol use (Pearson, 2013; Prince et al., 2013), research still has yet to examine the factors that might cause one to choose to use, or not to use, PBS in any given drinking situation. The purpose of this research was to poll a high-risk drinking population (i.e., college students) to determine the most common reasons for adopting PBS or for refusing to use them. This research was conducted to better understand the factors that interventionists should prioritize in interventions while ascertaining the most common reasons college students choose to avoid PBS use while drinking. Structured as a decisional balance assessment, college student drinkers reported up to five pros and five cons of using PBS while drinking.

Method

Design and Recruitment

The present study implemented a descriptive phenomenological approach (Husserl, 1970) that aims to describe the universal structures of a phenomenon and to develop understanding of the phenomenon to promote future interventions or action (Tymieniecka, 2003; Wojnar & Swanson, 2007). We found the descriptive phenomenological approach best suited to this study because of the lack of qualitative research examining college students' perceptions regarding the pros and cons of using PBS. This gap in the literature raises the need to investigate the experiences and perceptions of college student drinkers in using these strategies, which quantitative data collection alone cannot capture.

Participants were undergraduate students who were recruited from a Psychology Department participant pool at a large, southeastern university in the United States to participate in an online survey. At the participating institution, participants completed an online survey regarding rate of use of PBS use, pros and cons of using PBS, and alcohol use behaviors in the Spring of 2016. To be eligible, participants must have been currently enrolled in any psychology course and been at least 18 years old. The study was approved by the institutional review board at the participating institution.

Participants and Data Collection

Although 237 students were recruited, 92 non-drinkers were excluded from analyses (i.e., defined as drinking 0 drinks per typical week in the previous month). Further, 32 college student drinkers were also excluded due to missing data ($n = 27$) or not following directions ($n = 5$), leaving an analytic sample of 113 college student drinkers. Within our analytic sample, the majority of participants identified as being either White, non-Hispanic ($n = 65$; 57.5%), or African-American ($n = 33$; 29.2%), were female ($n = 87$; 77.0%), and reported a mean age of 23.89 ($SD = 8.39$) years. Moreover, participants on average consumed 6.38 ($SD = 8.16$) drinks per typical week of drinking and reported consuming alcohol on average 7.5 days ($SD = 5.83$) in the last 30 days.

Within the online survey, students first reported on their frequency of PBS use in the last 30 days. Specifically, past month PBS use was assessed with the 20-item Protective Behavioral

Strategies Survey (PBSS-20; Martens et al., 2005; Treloar, Martens, & McCarthy, 2015) and 21 additional items about PBS (e.g., “participate in activities that did not include alcohol” and “refuse a drink from a stranger”) pulled from the literature (Novik & Boekeloo, 2011; Werch, 1990) measured on a 6-point response scale (*Never, Rarely, Occasionally, Sometimes, Usually, and Always*). We selected these additional items from other published measures to obtain a more complete representation of the distinct, diverse types of PBS.

Following their report of PBS use frequency, participants were presented with informational text and graphs detailing the descriptive norms of PBS use of a typical college student at their university (the current study does not examine this personalized normative feedback data). Then, the participants completed a decisional balance exercise about their perceptions of PBS use. Specifically, students were instructed: “Now that you know more about alcohol protective strategies, please provide 5 reasons why you would NOT engage in using these strategies (cons) and 5 reasons for why you would engage in using these strategies (pros)”. Participants received research credit for completing the study that could be applied as extra credit for courses at the participating university.

Data Analysis

According to Wojnar and Swanson (2012), rigorous data analysis is a key component of descriptive phenomenological investigations. As such, the researchers followed Colaizzi’s (1978) methodological approach to analyze narrative text, specifically: a) read and reread participants’ responses to acquire a feeling for the experience, b) used line by line coding to extract significant statements that pertain to the phenomenon (i.e., horizontalization), c) formulated meanings from these statements, d) categorized the meanings into clusters of themes that were common among participants, and e) integrated the findings into a description of the phenomenon. Moreover, in using constant comparison (Schwandt, 2001; Hays & Singh, 2012), categories were merged or broken apart as needed as the analysis progressed. Specific to this study, two of the co-authors independently coded and categorized the meanings into clusters of themes that were common among participants. Next, the lead author and the co-authors met and discussed the different themes derived from each independent coder and together categorized clusters of themes based on agreement and integrated the findings into a description of the phenomenon (described in the findings section).

To help ensure trustworthiness and reliability in the analyses, we applied multiple investigator techniques (Hays & Singh, 2012) throughout the process of data collection and analysis. Specifically, the researchers: 1) kept reflective field notes when coding, 2) used multiple researchers to collect and analyze the data, and 3) implemented data triangulation techniques (i.e., quantitative and qualitative). Further, the researchers kept an audit trail of all the coding techniques implemented and to reduce biases in the interpretation of the data, the participants’ own words (from the survey) are used in the presentation of the findings to maintain credibility of the themes and method of data analysis.

Findings

Although all participants were instructed to provide 5 pros and 5 cons of PBS use, participants reported significantly more PBS pros ($M = 4.47$, $SD = 1.10$) than PBS cons ($M = 3.72$, $SD = 1.92$), M difference = 0.75, $t(112) = 4.41$, $p < .001$, $d = .47$ (a medium effect size). Further, reporting more pros than cons (i.e., number of PBS pros minus number of PBS cons) was associated with more PBS used in the past 30 days ($r = .26$, $p = .006$). See Table 1 for rates of endorsement (both never and usually/always combined) of all 41 PBS items by specific strategy. Based on responses to the open-ended question about pros and cons of PBS use, two themes were identified for pros and four themes were identified for cons using descriptive phenomenology. The two pro themes are prevention of specific negative alcohol-related consequences and general safety. The four con themes are goal conflict, ineffectiveness, difficulty of implementation, and negative peer/social repercussions. For a summary of these themes and example quotes see Table 2.

Themes from Pros of using PBS

Prevention of specific negative alcohol-related consequences.—Of the 108 participants who reported at least one pro comment, 85.2% ($n = 92$) of students mentioned that using PBS reduces specific negative alcohol-related consequences, such as negative health outcomes, unwanted sexual experiences, work/school conflicts, and legal consequences (i.e., drinking and driving). As an example of preventing negative health outcomes, one student stated: “Following these strategies will lessen the times I get sick from drinking”. Other students had similar responses, some examples include: “Limiting can help reduce hangover effects”, and “I do not throw up or have a hangover”.

Students also reported that by using these strategies they can prevent unwanted sexual experiences. Some examples include: “Less risk of rape or sexual assault if I watch my drink”, “Avoid unwanted sexual situations”, and “By never leaving your drink unattended, you can be sure it has not been tampered with”. Further, many students mentioned that using PBS would reduce the amount of “embarrassing moments caused by alcohol use”. Students also reported that using PBS prevented negative work/school outcomes. Some examples include: “It would prevent me from missing class”, “Be productive the next day”, and “To keep out of trouble at school”.

In addition, several students mention that using PBS would allow them to avoid legal problems (e.g., “To keep out of legal trouble”, “Avoiding jail”, and “Lower the risk of me being in legal trouble”). Finally, many students acknowledged that using PBS led them to make better decisions involving drinking and driving. For example, one student stated, “When I can’t stop someone from drinking and driving, I am at least sure not to join them”. Other students felt similarly about avoiding drinking and driving: “Reduces chances of drunk driving”, “These strategies prevent drunken driving by having predetermined measures”, and “Avoiding drinking while driving”. Overall, the data compiled from participants’ statements show that a primary belief regarding PBS use is the prevention of specific negative alcohol-related consequences.

General safety.—Another theme that emerged was that students felt safer and made safer decisions when using PBS. Eighty-two (75.9%) students described how using PBS provides a safer drinking context. Specifically, they mention that using PBS makes drinking safer for themselves as well as their peers. Example statements include: “To keep myself safe”, “Can get home safely after a party or event”, “Make sure everyone you’re with is safe”, and “Improves personal safety (reduces chances of interpersonal violence)”. In summary, college students perceive that using PBS is beneficial in preventing specific negative alcohol-related consequences and makes them feel both safer and more responsible during drinking events/episodes.

Themes from Cons of using PBS

Goal conflict.—Of the 96 participants who reported at least one con comment, 60.4% ($n = 58$) of students identified that using PBS would be counterintuitive to their goal of “getting drunk”. One student specifically stated, “I will not get the best drunk feeling if I refrain from taking shots”. Other students stated, “I’m literally trying to get too drunk”, “I won’t get as drunk as I’d like”, and “I won’t get drunk as fast”.

Further, many students described that using PBS would limit the fun they would have while drinking. For example, students mentioned that: “Certain strategies limit the fun element”, “Drink for enjoyment and these strategies seem detractive”, “Worried about drinking less and not enjoying the moment”, and “It wouldn’t be as fun to alternate drinks with water”. Moreover, many students acknowledge that using these strategies would take away from the drinking experience. For example, one student stated, that an individual would “not gain the proper experience with alcohol” if they use these strategies. Other students concurred with this line of thinking with statements such as “Won’t get the same feeling”, “It could limit the experience”, and “Takes away from the party experience”. Taken together, students acknowledge that a major con of using PBS is that it would limit their feeling of being drunk and the fun they may have while drinking.

Ineffectiveness.—On a conceptual level, 49.0% ($n = 47$) of students perceived specific strategies to be ineffective. Specifically, students reported that they do not need to use PBS (or a specific type of PBS) because they can control their drinking, they don’t have a need for them, or they have someone else looking out for their safety. For example, one student stated, “I avoid some of these strategies because they do not apply to me”. Other examples include, “If other people are using safe drinking strategies they can look out for me”, “If most people use protective strategies then they will not be trying to hurt me”, “I can control myself”, and “I am able to consume a lot of alcohol at a safe level”.

Further, many students felt that PBS use is not applicable in all situations. For example, one student mentioned, “Many of the items pertain to specifically college bar or house party situations with strangers”. Other students brought up a similar concern: “I’ve done my “party” drinking in the past and typically drink with a small group at home”, and “I do not really go to college parties”. Overall, the data compiled from participants’ statements show that a major disadvantage for using PBS is that they believe that PBS is not as effective in certain situations or not necessary if you are already a “responsible” drinker.

Difficulty of implementation.—On a more practical level, 44.8% ($n = 43$) of students identified the difficulties of implementing these strategies across drinking contexts. One student specifically stated, “It is hard to set a pre-determined time to stop drinking because it usually depends on the mood of the group and the vibe of the environment”. Further, a different student mentioned, “Alternating alcohol and non-alcohol will just make me need to urinate more often, which is annoying when you have to stand in long lines for the bathroom”. Other students drew similar concerns: “Can’t always count how many drinks you have”, “I would find it hard to not mix types of alcohol in an evening, as I enjoy a glass of wine with dinner and a nightcap later in the evening”.

Moreover, many students acknowledge the time commitment and monetary cost of implementing these strategies as barriers. Example statements include: “Avoiding pre-gaming often means you spend more money”, “Would cost money for public transportation”, “It may take too much time”, “Too much to think about just for going out”, and “I would most likely forget after a while”. Taken together, students highlighted that a key reason for not using PBS is the difficulty and commitment to implementing these strategies.

Negative peer/social repercussions.—The final con theme that emerged was that students ($n = 45$; 46.9%) felt that using PBS would draw negative appraisals from peers and friends. For example, many students felt that using these strategies would make them seem inferior by their peers. For example, one student mentioned, “If I do not drink a lot, I will look like a wimp”. Other students had similar view points: “People may think badly about you”, “Certain strategies might cause peers to judge me unfavorably”, and “I would look like a failure”. Other students mentioned that using PBS might exclude them from social gatherings and experiences. One student specifically stated, “It’s fun to play drinking games with friends, and in order to feel social, it would be hard to say no”.

Finally, many students felt that their friends would judge them negatively. Examples of this include: “My friends will judge me if I do not want to have fun”, “My friends may think it is weird”, and “friends wouldn’t do the same”. In conclusion, although PBS is aimed at reducing harm, there may be some negative stigma not typically quantified in quantitative studies that PBS users may experience from their peers or friends.

Discussion

Consistent with the goal of PBS use (Martens et al., 2005), the two primary perceived advantages of PBS use from our participants were prevention of specific alcohol-related consequences and maintaining one’s overall safety. The biggest difference between these two kinds of comments was level of specificity, with the former addressing a specific negative consequence and the latter referring to more general issues of safety. Interestingly, participants identified a range of specific consequences that quantitative research has confirmed is predicted by PBS use, including reducing or eliminating unwanted sexual experiences (Lewis, Rees, Logan, Kaysen, & Kilmer, 2010; Palmer, McMahon, Rounsaville, & Ball, 2010), side effects of alcohol use during and after intoxication (Martens et al., 2004), and reducing issues related to alcohol use at work and/or school (Martin et al., 2012). In

addition, students' perceived that utilizing PBS would create a safer drinking experience and helps avoid dangerous situations for not only themselves, but others around them.

The four main perceived disadvantages of PBS use were ineffectiveness, difficulty in implementation, goal conflict, and negative peer/social repercussions. Some participants doubted the usefulness of PBS in specific situations and/or saw no benefit to using PBS. Despite inconsistent evidence (Pearson, Prince, & Bravo, 2017), it is possible that PBS use is less effective or necessary for specific types of individuals (e.g., high in self-regulation, D'Lima, Pearson, & Kelley, 2012) or specific types of drinking episodes (e.g., drinking at home).

Effort to continually be aware of one's drinking (e.g., counting drinks) or financial concerns were listed as obstacles for using PBS. Although an interventionist may warn against dangers of "pregaming" (Moser, Pearson, Hustad, & Borsari, 2014), drinking cheap drinks at home prior to going out to a venue with expensive drinks may be economically advantageous. Additionally, participants reported that PBS use was counterintuitive when the goal of their alcohol consumption was to get drunk or experience the effects of alcohol intoxication. Finally, negative peer or social repercussions such as social isolation, fear of judgement, or unfavorable peer impressions were expressed as major disadvantages of PBS use.

Although there were more themes associated with perceived disadvantages of PBS use, participants reported more pros than cons regarding the use of PBS, and there was an association between reporting more pros than cons and higher PBS use in the past 30 days. This finding is consistent with studies showing that perceived effectiveness of PBS is positively correlated with PBS use (Ray et al., 2009; Werch, 1990).

Clinical Implications

The identification of these themes for what college students perceive to be the main reasons for and against using PBS has important clinical implications. Given the limited support for interventions designed to solely target PBS use (LaBrie et al., 2015; Martens et al., 2013; Sugarman & Carey, 2009), it may be important for PBS-based interventions to directly address the reasons individuals may choose not to use specific PBS. We consider three distinct, non-mutually exclusive strategies that could be taken using this kind of information.

One intervention strategy would be to use brief motivational techniques to help one realize that the pros of using PBS outweigh the cons of using PBS (i.e., a decisional balance exercise). Another intervention strategy could involve discussing how to select specific PBS that are perceived to be consistent with one's goals in a particular drinking context. For example, although pacing one's drinking may seem counterintuitive if one's goal is to become highly intoxicated, drinking with responsible friends and ensuring safe transportation home would still be effective ways to minimize risks of serious harm (i.e., drunk driving, sexual assault, death). Another strategy may include providing data regarding the associations between using specific PBS and outcomes valued by college students, which may not be the absence of negative consequences but the presence of positive consequences from drinking. For example, ecological momentary assessment data could be used to

examine the within-subject associations between specific PBS and outcomes (Pearson, D’Lima, & Kelley, 2013). In a non-confrontational manner, these data could be used to inform how the use of specific PBS has been found to be helpful among college students.

Limitations and Credibility

It is important to interpret our results in light of the limitations of this study. First, it is important to take these findings as preliminary and come from students (largely female) at one university. Due to the subjective nature of qualitative research, there may be concerns with generalizability. Although the present research did have an appropriate sampling technique based on the research question and research tradition, it is important to enhance other credibility criteria (e.g., dependability) to determine the substantive validation of the findings. To increase credibility (Lincoln & Guba, 1985) of the present research study, it would be important to determine: transferability of the findings via replicating this study at another university, dependability of the findings via replicating this study longitudinally, and confirmability of the findings via collecting data from a more diverse group of college student drinkers (including a heavy drinking sample) or non-college drinkers.

In addition, this study examined using PBS as a whole, and did not evaluate the pros and cons of specific PBS. Therefore, it is possible that not all strategies have these pro and con components. Further research is needed to determine if there are specific PBS that have a higher pro-to-con ratio and may be more attractive to college drinkers. Finally, although this study addressed questions about the perceptions of the pros and cons of using PBS, it did not investigate the possible reasoning, thought processes, contexts, or meanings associated with these perceptions. Therefore, this study can only demonstrate the perceptions of PBS and not the reason for these perceptions.

Conclusion

Quantitatively, alcohol PBS has been shown to be a robust protective factor associated with lower alcohol-related consequences; however, college student drinkers’ perceptions regarding the advantages and disadvantages of using PBS has been overlooked. Using a descriptive phenomenological approach, we identified 2 themes for pros (prevention of specific negative alcohol-related consequences and general safety) and 4 themes for cons (goal conflict, ineffectiveness, difficulty of implementation, and negative peer/social repercussions). These themes are in line with previous qualitative research (Barry & Goodson, 2012) identifying distinct motivations for drinking responsibly (i.e., being responsible and avoiding specific consequences). Furthermore, participants reported more pros than cons, which was positively related to self-reported frequency of PBS use. Taken together, we hope that clinicians/researchers will probe individual’s reasons for choosing to use (or not use) PBS in order to tailor or improve existing PBS-based interventions.

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Table 1

Endorsement rates of specific protective behavioral strategies

| PBS ITEM | % endorse usually or always | % endorse never |
|--|-----------------------------|-----------------|
| 1. Pace your drinks to 1 or fewer per hour | 29.2% (n = 33) | 21.2% (n = 24) |
| 2. Limit money spent on alcohol | 60.2% (n = 69) | 12.4% (n = 14) |
| 3. Only drink in safe environments | 80.5% (n = 91) | 1.8% (n = 2) |
| 4. Make your own drinks | 58.4% (n = 66) | 8.0% (n = 9) |
| 5. Avoid hard liquor or spirits | 26.5% (n = 30) | 16.8% (n = 19) |
| 6. Refuse a drink from a stranger | 74.3% (n = 84) | 3.5% (n = 4) |
| 7. Never leave your drink unattended | 81.4% (n = 92) | 6.2% (n = 7) |
| 8. Choose not to drink alcohol | 15.9% (n = 18) | 6.2% (n = 7) |
| 9. Drink an alcohol look-alike (non-alcoholic beer, etc) | 4.4% (n = 5) | 46.0% (n = 52) |
| 10. Hang out with trusted friends | 89.4% (n = 101) | 0.9% (n = 1) |
| 11. Participate in activities that did not include alcohol | 51.3% (n = 58) | 0.9% (n = 1) |
| 12. Carry around a cup but not drink any alcohol | 13.3% (n = 15) | 47.8% (n = 54) |
| 13. Use public transportation services | 28.3% (n = 32) | 25.7% (n = 29) |
| 14. Avoid situations where there was alcohol | 10.6% (n = 12) | 22.1% (n = 25) |
| 15. Reward myself for limiting | 15.0% (n = 17) | 26.5% (n = 30) |
| 16. Punish myself for not limiting | 11.5% (n = 13) | 46.0% (n = 52) |
| 17. Drink less when driving | 83.2% (n = 94) | 7.1% (n = 8) |
| 18. Confine drinking to certain times | 53.1% (n = 60) | 7.1% (n = 8) |
| 19. Use body sensations to slow down | 46.0% (n = 52) | 12.4% (n = 14) |
| 20. Avoid “pregaming” (i.e., drinking before going out) | 28.3% (n = 32) | 20.4% (n = 23) |
| 21. Determine not to exceed a set number of drinks | 41.6% (n = 47) | 8.8% (n = 10) |
| 22. Alternate alcoholic and nonalcoholic drinks | 30.1% (n = 34) | 9.7% (n = 11) |
| 23. Have a friend let you know when you've had enough | 38.9% (n = 44) | 21.2% (n = 24) |
| 24. Leave the bar/party at a predetermined time | 39.8% (n = 45) | 10.6% (n = 12) |
| 25. Stop drinking at a predetermined time | 37.2% (n = 42) | 13.3% (n = 15) |
| 26. Drink water while drinking alcohol | 39.8% (n = 45) | 8.8% (n = 10) |
| 27. Put extra ice in your drink | 26.5% (n = 30) | 18.6% (n = 21) |
| 28. Avoid drinking games | 24.8% (n = 28) | 8.8% (n = 10) |

| PBS ITEM | % endorse usually or always | % endorse never |
|--|-----------------------------|-----------------|
| 29. Avoid drinking shots of liquor | 31.9% (n = 36) | 12.4% (n = 14) |
| 30. Avoid mixing different types of alcohol | 34.5% (n = 39) | 9.7% (n = 11) |
| 31. Drink slowly, rather than gulp or chug | 53.1% (n = 60) | 5.3% (n = 6) |
| 32. Avoid trying to "keep up" or out-drink others | 57.5% (n = 65) | 3.5% (n = 4) |
| 33. Use a designated driver | 78.8% (n = 89) | 4.4% (n = 5) |
| 34. Make sure that you go home with a friend | 77.9% (n = 88) | 3.5% (n = 4) |
| 35. Know where your drink has been at all times | 84.1% (n = 95) | 1.8% (n = 2) |
| 36. Refuse to ride in a car with someone who has been drinking | 72.6% (n = 82) | 4.4% (n = 5) |
| 37. Only go out with people you know and trust | 82.3% (n = 93) | 2.7% (n = 3) |
| 38. Avoid combining alcohol with marijuana | 61.1% (n = 59) | 8.8% (n = 10) |
| 39. Make sure you drink with people who can take care of you if you drink too much | 85.8% (n = 97) | 2.7% (n = 3) |
| 40. Eat before or during drinking | 77.9% (n = 88) | 0.9% (n = 1) |
| 41. Keep track of how many drinks you were having | 62.8% (n = 71) | 4.4% (n = 5) |

Note. Items 1-14 are from the Protective Behavioral Strategies Measure (PBSM; Novik & Boekeleer, 2005). Items 15-19 are from the Behavioral Self-Control Strategies (BSCS; Werch, 1990). Items 20-41 are from the Protective Behavioral Strategies Scale (PBSS; Martens et al., 2005; Treloar et al. 2015).

Summary of final themes based on student’s responses about the pros and cons of PBS use

Table 2

| Themes | Summary | Example Quote |
|---|---|--|
| <i>Pros</i> | | |
| 1. Prevention of Specific Negative Alcohol-related Consequences | Students report that utilizing PBS prevents specific negative alcohol-related consequences, such as negative health outcomes, unwanted sexual experiences, work/school conflicts, and legal consequences. | “I don’t want to black out and do something crazy” |
| 2. General Safety | Students perceive that utilizing PBS would create a safer drinking experience and helps avoid dangerous situations for not only themselves, but others around them. | “They would keep you safe” |
| 1. Goal Conflict | Students believe that using PBS would limit their feeling of being drunk and the fun they may have while drinking. | “Less exciting college experience” |
| 2. Difficulty in Implementation | Students view the time commitment and monetary cost of implementing these strategies as barriers. | “It can be difficult to alternate with non-alcoholic drinks when at a crowded busy club/bar” |
| <i>Cons</i> | | |
| 3. Ineffectiveness | Students believe that PBS is not as effective in certain situations or if you are already a responsible drinker. | “When I do drink, I am usually not at a bar or huge party” |
| 4. Negative peer/social repercussions | Students feel that utilizing PBS would draw negative appraisals from peers and friends. | “Setting limits can make you look like a lightweight” |