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Development of a questionnaire to assess university students' intentions to use behavioral alcohol reduction strategies

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Abstract

Objective—To evaluate the psychometric properties of a new self-report questionnaire designed to assess college students' intentions to employ 31 specific alcohol-reduction strategies.

Method—Students attending a large public university were recruited to complete alcohol-reduction, drinking history, and personality questionnaires online.

Results—Based on item-total correlations and principal components analysis, we eliminated three items and calculated average intention ratings across the remaining 28 items. The resulting scale had appropriate unidimensionality and excellent internal consistency. Correlations of intention questionnaire scores with measures of drinking history, alcohol outcome expectancies, sensation seeking, and impression management provided some support for criterion and discriminant validity of the questionnaire.

Conclusion—This questionnaire could be employed as an outcome measure to evaluate prevention programs and as a clinical tool to identify clients who have little intention to employ drinking reduction strategies in heavy drinking situations.

Keywords

alcohol abuse; binge drinking; intentions; coping skills; university students

There is substantial evidence that millions of American university students engage in what is often called “binge,” “high-risk,” or “dangerous” drinking,^{1–3} and that such drinking is associated with a variety of harmful academic, social, and health consequences.⁴ To reduce the prevalence of high-risk drinking and its harmful consequences, individual and group education programs often encourage young people to employ protective behavioral strategies intended to decrease the speed of their drinking, lower the total amount of alcohol they consume per drinking occasion, and reduce the negative biomedical, legal, and psychosocial consequences that might occur during and after high-risk consumption.^{5,6} A growing body of research has shown that more frequent use of such protective behavioral strategies is associated with lower levels of alcohol consumption and fewer drinking-related consequences.^{6–9} It also appears that female students use protective behavioral strategies more often than males.^{10,11}

Despite the potential benefits of employing alcohol-reduction strategies, many students use such strategies only intermittently.⁶ Several factors may help explain the sporadic use of self-control strategies in high-risk drinking situations. For example, some students may purposefully seek the experience of intoxication that accompanies rapid consumption of large amounts of alcohol. In addition, excessive drinking may be driven by social conformity, stress relief, and celebratory motives that trump the recognized advantages of moderate consumption.^{12–14} High-risk drinking may occur, in part, because some students have little or no intention to employ specific drinking self-control strategies to restrain their consumption.

Therefore, both educators and clinicians would benefit from being able to assess university students' intentions to engage in behaviors designed to reduce their drinking. Although there are multiple instruments for those who seek to assess past use of^{6,8–10} and current self-efficacy to abstain or to employ alcohol-reduction strategies^{15–21}, there are few options for researchers and clinicians who want to assess drinkers' *intentions* to engage in such strategies. One such measure was described in a recently published study by Barry, Howell and Dennis²² that evaluated whether the intention (and confidence) of university students to engage in safer drinking actions/behaviors (e.g., self-monitoring, reducing the speed of drinking, designating a driver, taking a taxi or using a safe-ride program) was associated with driving-after-drinking. Those who had, in the previous 30 days, driven after consuming 5-or-more drinks reported being less likely to engage in each of the eight listed strategies the next time they drank. Although a promising start, there are many more strategies for restraining one's drinking that were not included in Barry et al.'s list of items.

Given the potential value of a more comprehensive measure that would assess students' intentions to engage in a wide variety of specific, behavioral, alcohol-reduction strategies, the present investigation was designed to develop and evaluate the Alcohol Reduction Strategies-Future Intention (ARS-Future Intention) questionnaire. To assess several key psychometric properties of the ARS-Future Intention, we administered the questionnaire to a large sample of university students and examined the pattern of responses to each specific item, the item-total correlations, a principal components analysis, and the unidimensionality and internal consistency reliability of the questionnaire. We also assessed the questionnaire's criterion validity with several aspects of drinking history. Because we did not anticipate that intention scores would be a proxy for one's beliefs about the effects of drinking, we also evaluated the discriminant validity of behavioral intentions with alcohol outcome expectancies.²³ In addition, because social desirability bias might lead participants to misrepresent their intention to employ the listed strategies, we also evaluated the association of ARS-Future Intention scores with measures of impression management and self-deception. On the assumption that some student drinkers are sensation seekers, which might reduce their ability or willingness to restrain their drinking, we also examined the relationship between sensation seeking and future intention to employ drinking reduction strategies. Lastly, we also wanted to evaluate whether relevant demographic characteristics (e.g., age, gender, employment status, on/off campus residence) were associated with ARS-Future Intention scores.

Method

Participants

To be eligible for inclusion in our analyses, respondents had to report their age as between 18 and 24 years of age and to have consumed at least 5 drinks (if male) or at least 4 drinks (if female) on at least one occasion in the previous month. During the spring semester of 2010, we recruited 342 undergraduates who met these criteria from psychology classes at a large public Midwestern university (enrollment approximately 20,000 students). Because situational specificity theory proposes that behavior often varies across contexts,²⁴ we asked participants to identify the one situation in which they binged most often and to rate their intentions to use these strategies in that context. Frequency counts revealed that 180 participants binged most often at a house/fraternity/sorority party, 89 binged most often in their own dorm room or own apartment, and 68 binged most often in a bar/club/restaurant. To facilitate an analysis of intentions by type of drinking location, we excluded from further analysis those four students who selected more than one location in which they binged most often and the one student who reported bingeing in a unique setting (i.e., parent's home). Of the remaining 337 participants, 61% were female, and 79% indicated their ethnicity was White/European American, both of which are consistent with the proportions of women and Caucasian students enrolled at this university. Other demographic and drinking characteristics are reported in Tables 1 and 2.

Procedure

Upon receiving approval for the study by our institutional review board, students were recruited from introductory and upper-level psychology courses and received research credit for their participation. Potential participants were invited to click a web link in the recruitment notice that opened an informed consent page followed by the questionnaires described below. After participants selected the setting in which they most frequently consumed 5+ (if male) or 4+ (if female) drinks in a row, we administered three alcohol-reduction strategy questionnaires (assessing one's future intention to use, current confidence one could use, and one's recent past use of 31 listed strategies) presented in random orders across participants, followed by the remaining measures described below. Ratings of future intentions to employ the strategies were the focus of data analysis in this article.

Measures

Alcohol Reduction Strategies-Future Intention (ARS-Future Intention)—For the present study, we modified the Alcohol Reduction Strategies-Current Confidence²¹ questionnaire to create the ARS-Future Intention. Specifically, the ARS-Future Intention was designed to assess participants' future likelihood of using the 31 strategies; in this study, we asked participants their intention during the next 10 times they drank in their typical binge drinking location. We selected the next 10 times they drink as the time frame based on the assumptions that: (a) 10 occasions are more likely to represent a variety of drinking opportunities compared to just the next one or two times one drinks, (b) students could imagine their behavior over this set number of drinking opportunities, and (c) students might have different time periods in mind if not provided a specific number of drinking occasions.

For the ARS-Future Intention, the items from the ARS-CC²¹ were re-worded slightly to fit the revised question stem “Over the next 10 times you drink in the situation you picked, how likely is it that you **WOULD** ... [engage in each of the 31 strategies].” Response options were: *Not at all likely*, *A little likely*, *Somewhat likely*, *Very likely*, *Extremely likely* and *Does not apply in situation* (presented without numerical notation and coded 1, 2, 3, 4, 5, or Missing, respectively, for statistical analyses). See Table 3 for a complete list of strategies with means and standard deviations for each item on the ARS-Future Intention for the present sample.

Alcohol Reduction Strategies-Current Confidence (ARS-CC)—This questionnaire asked each respondent to rate his/her current confidence to employ each of 31 different drinking-reduction self-control skills while imagining drinking in their preferred binge location. Previous research has supported the internal consistency, test-retest reliability, discriminant validity, and criterion validity of this questionnaire.²¹ Cronbach’s α in the present sample was .96.

Short Rutgers Alcohol Problem Index (S-RAPI)—We used the 16-item short form²⁵ of the original 23-item RAPI²⁶ to assess consequences (e.g., “neglected your responsibilities,” “relatives avoided you,” “had a bad time”) of participants’ alcohol use over the past three years. However, we shortened the phrasing of the one item that asks about efforts to control one’s drinking. Earlywine et al.²⁵ reported that the S-RAPI had good internal consistency reliability and correlated highly with the full RAPI. Cronbach’s α in the present sample was .87.

Comprehensive Effects of Alcohol (CEOA)—The 38-item CEOA²³ was used to assess participants’ positive outcome expectancies (e.g., “sociable,” “better lover,” “calm”) and negative outcome expectancies (e.g., “moody,” “clumsy,” “guilty”) of being under the influence of alcohol. Previous research supported the internal consistency, test-retest reliability, and construct validity of the CEOA and its two main subscales.^{23,27} Cronbach’s α in the present sample was .90 for the positive expectancies subscale and .88 for the negative expectancies subscale.

Alcohol Use Disorders Identification Test (AUDIT)—We used the 10-item AUDIT to assess whether participants engaged in problem drinking.^{28–30} Items on the AUDIT include: “How often do you have six or more drinks on one occasion?” and “Have you or someone else been injured as a result of your drinking?” Previous research has supported the reliability and concurrent validity of the AUDIT.^{31,32} Cronbach’s α in the present sample was .79.

Brief Sensation Seeking Scale (BSSS)—The 8-item BSSS³³ was used to assess participants’ tendencies to seek out varied and novel situations, a characteristic that has been related to excessive drinking.³⁴ Items on the BSSS include: “I like to do frightening things,” “I would like to try bungee jumping,” and “I like wild parties.” Cronbach’s α in the present sample was .82.

Balanced Inventory of Desirable Responding (BIDR)—The 40-item BIDR^{35,36} yields two subscales: Self-Deception (unintentionally portraying oneself in a favorable light) and Impression Management (intentionally portraying oneself positively in order to be perceived favorably by others). Items on the BIDR include: “I am a completely rational person” (self-deception) and “Once in a while I laugh at a dirty joke” (impression management). Paulhus³⁶ reported the subscales demonstrated good internal consistency and test-retest reliability, and several aspects of validity. Cronbach’s α in the present sample was .72 for the Self-Deception subscale and .70 for the Impression Management subscale.

Background questionnaire—This questionnaire was developed to assess basic demographic information and drinking history.

Results

Item reduction

As the initial step in our evaluation of the ARS-Future Intention, we engaged in a process of item reduction as outlined by Clark and Watson,³⁷ and by Floyd and Widaman.³⁸ Specifically, we first examined the frequency counts for each of the 31 items to identify any on which the response frequencies were “unbalanced” – i.e., a large majority of participants (> 75%) endorsed that they were either “not at all likely” or were “extremely likely” to use that strategy. Using this decision rule, we did not identify any items as unbalanced for elimination (a copy of the frequency counts by item is available from the corresponding author).

Next, we examined the corrected item-total correlations as another means to identify items for potential elimination. Specifically, as recommended by Ferketich,³⁹ any items whose item-total correlations were < .30 would be candidates for elimination. Based on this recommendation, no items met the criterion for elimination (item-total r s ranged from .36 to .72).

Next, we conducted a principal components analysis using those participants who provided responses on all 31 items of the ARS-Future Intention ($n = 224$). We had a large enough sample size to utilize this conservative listwise deletion option, which avoids having to replace missing data with assumed values. We did not rotate the solution because we had no *a priori* basis for assuming the analysis would yield multiple factors or for assuming that any such factors would be correlated or uncorrelated. This analysis yielded 6 components with eigenvalues greater than 1.0; however, the scree plot showed obvious flattening after the second component with relatively small eigenvalues and small proportions of variance accounted for by the subsequent components (see Table 3 for the component loadings, eigenvalues and proportions of variance accounted for).

As examination of Table 3 reveals, all of the items – except item 4 – loaded above .40 on the first component. Although some of the remaining 30 items cross-loaded on other components, only four items (items 3, 4, 15, 24) also loaded on the second component. Furthermore, only two of those four items (items 3 and 4) had higher loadings on that second component than they did on the first component. In addition, item 26 loaded higher

on the third component than on the first component. Therefore, we decided to eliminate items 3, 4 and 26, and retain the remaining 28 items as a single scale.

Unidimensionality and reliability analyses

Next, we assessed the mean inter-item correlations to evaluate the “unidimensionality” of the 28-item scale. The mean inter-item correlation was .38 (range = .13 to .78), which we interpret as supporting unidimensionality.³⁷ In addition, internal reliability was notably high across the 28 items (Cronbach’s $\alpha = .94$), although this was not unexpected given the large number of items.

Criterion validity

We conducted Pearson product-moment correlations to examine the relationships between participants’ scores on the 28-item ARS-Future Intention scale and relevant drinking history variables. Scores on the ARS-Future Intention scale were significantly negatively correlated with the number of binges in the past two weeks [$r(df=335) = -.39, p < .01$], typical number of drinking days per week [$r(df=336) = -.30, p < .01$], the number of drinks consumed during a drinking session [$r(df = 336) = -.41, p < .01$], AUDIT scores [$r(df = 336) = -.35, p < .01$], and S-RAPI scores [$r(df = 336) = -.24, p < .01$]. In addition, there was a significant positive correlation between students’ future intention to employ these 28 strategies and their current self-efficacy to employ the full set of 31 ARS-Current Confidence strategies [$r(df = 336) = .54, p < .01$].

We also conducted a one-way ANOVA to evaluate whether intention scores were associated with perceived ease or difficulty of abstaining during the next month, the time period during which at least some of the next 10 drinking episodes were likely to occur. The test statistic was significant [$F(3, 333) = 13.47, p < .001$], with those who said it would be very easy to abstain reporting the highest intention to employ these reduction strategies ($M = 3.0, SD = 0.8$), followed by those who said it would be somewhat easy to abstain ($M = 2.8, SD = 0.6$), those who said it would be somewhat difficult to abstain ($M = 2.5, SD = 0.7$), and those who said it would be very difficult to abstain ($M = 2.2, SD = 0.6$). Bonferroni post-hoc analyses revealed that the mean intention score of those who said it would be very easy to abstain was significantly higher than means of both those who said it would be somewhat difficult and very difficult ($ps < .01$); furthermore, the mean intention score of those who said it would be somewhat easy to abstain was significantly higher than those who said it would be very difficult to abstain ($p < .01$). This collection of statistically significant findings lends criterion validity to the ARS-Future Intention.

Discriminant validity

To assess discriminant validity, we evaluated the associations between ARS-Future Intention scores and positive and negative alcohol outcome expectancies, sensation seeking, impression management and self-deception. ARS-Future Intention scores were significantly but weakly associated with positive expectancies on the CEOA [$r(df = 336) = -.15, p < .01$], negative expectancies on the CEOA [$r(df = 336) = -.12, p < .05$], sensation seeking [$r(df = 336) = -.13, p < .05$], impression management [$r(df = 335) = .16, p < .01$], and self-deception scores [$r(df = 336) = .11, p < .05$]. Although all of these correlation coefficients

were statistically significant, we interpret the small absolute sizes of these coefficients (r s ranged from $-.15$ to $.16$) as indicating that these students' intentions to employ alcohol-reduction strategies were not meaningfully associated with these other constructs.

Associations of ARS-Future Intention Scores with Background Characteristics

Finally, we wanted to evaluate whether future intention scores were associated with several key background characteristics (gender, living situation, employment status, GPA, age). An independent samples t -test [$t(335) = 3.89, p < .001$] revealed that females ($M = 2.9, SD = 0.8$) reported being more likely to employ these strategies than did males ($M = 2.6, SD = 0.7$). However, there was no difference in the means between those who lived on campus and those who lived off campus, between those who were not employed and those who held a part-time job, or between those with a GPA greater than 3.0 and those with a GPA between 2.0 and 3.0. In addition, a one way ANOVA evaluating whether mean ARS-Future Intention scores varied as a function of preferred binge drinking location ($M_{\text{bar/club/restaurant}} = 2.63, SD = 0.8$; $M_{\text{house party}} = 2.84, SD = 0.7$; $M_{\text{own/friend's dorm/apartment}} = 2.91, SD = 0.8$) almost achieved the conventional level of significance [$F(2,334) = 2.84, p = .06$]. Finally, ARS-Future Intention scores were not significantly correlated with age [$r(df = 336) = .01, ns$].

Comment

Based on an examination of item response frequency counts, item-total correlations, and principal components analysis, we elected to average ratings across 28 of the 31 items to calculate a single scale score for the ARS-Future Intention. The resulting scale appears to be both unidimensional and internally consistent. ARS-Future Intention scores were significantly, though not strongly, correlated with several aspects of drinking history, and weakly (though sometimes significantly) correlated with measures of alcohol outcome expectancies, sensation seeking, and impression management. These findings provide support for criterion and discriminant validity of the ARS-Future Intention. In addition, although women reported higher intentions to use these strategies in the future than did men, no other demographic characteristics were associated with intention scores.

As noted above, the ARS-Future Intention questionnaire contains a larger number of drinking-reduction strategies compared to both Barry et al.'s 8-item Behavioral Intention Scale²² and several measures designed to assess *past use* of alcohol-reduction and other protective behavioral strategies.^{6,8,9} Although it will take respondents less time and effort to rate fewer strategies, the larger number listed on the ARS-Future Intention should increase its content validity – an important property whether the questionnaire is used in clinical or research settings. Nonetheless, because students may intend to employ other, unlisted strategies to reduce their drinking, assessors also might consider adding an open-ended question asking individuals to list personally unique alcohol reduction strategies they intend to use and to rate how likely they are to use them.

Limitations

Although our sample is demographically representative of the campus population from which it was drawn, we recruited participants from only one campus and students' intentions to employ specific strategies may vary depending on the geographic location of the institution one attends, past exposure to campus-specific alcohol awareness programs, and the perceived acceptability of strategies in different drinking contexts. We also recognize that any self-report questionnaire of this type depends on respondents' willingness and ability to be insightful and disclosive about their intended behavior. Because we had participants complete a variety of instruments, respondent boredom or fatigue could have led to careless responding over the course of participation. However, we administered the ARS questionnaires in random orders at the beginning of the procedure, and thus survey fatigue should not have significantly impacted responses on those measures.

Our instruction to rate the likelihood of using the 31 strategies during the next 10 times one drinks in their preferred binge location may improve the predictive validity of the ARS-Future Intention score compared to asking about one's intentions without specifying where and when one will employ these strategies. However, intentions may be different when one consumes less alcohol, when one drinks in other less frequently occurring situations (e.g., fraternity initiation, birthday celebrations), or when one drinks alone or with different combinations of other people. Furthermore, depending on the frequency with which university students drink in their most common binge situation, it may take two or three months before they experience 10 binge episodes. We also recognize that some students may have difficulty anticipating their intentions beyond the next few times they drink, and clinicians and researchers could alter the time period or number of drinking occasions over which intentions are rated depending on the specific purpose for which the ARS-Future is being employed.

Applications

Despite the above limitations, and given the promising psychometric qualities of this questionnaire, we believe the ARS-Future Intention has several possible applications. Firstly, a self-administered, web-based questionnaire is inexpensive and easy to employ in both clinical and research settings. Therefore, counselors could have clients complete this instrument prior to an intake interview, and during or between counseling sessions. It could also be used as a stimulus for counseling regarding the value of and obstacles to using such strategies. These applications could facilitate treatment planning and ongoing assessment of changes in intention to employ certain strategies. As a research application, program evaluators could use the ARS-Future Intention as an outcome measure to assess the degree to which educational interventions impact reported likelihood to employ specific drinking-reduction strategies in various high-risk drinking situations.

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Table 1

Demographic characteristics of full sample.

Characteristics	Mean (SD) or Percentage
<u>Age (years)</u>	20.3 (1.3)
<u>Sensation seeking</u>	3.3 (0.8)
<u>BIDR subscales</u>	
Self-deception	5.3 (3.4)
Impression management	4.8 (3.0)
<u>Gender</u>	
Male	39%
Female	61
<u>Ethnicity</u>	
White/European	79
Black/African-American	13
Other/Unreported	8
<u>Years at university</u>	
First year	25
Second year	24
Third year	23
Fourth year	24
Fifth year and up	3
<u>Residence</u>	
On Campus	48
Off Campus	53
<u>Employed</u>	
No	48
Yes, Part-Time	50
Yes, Full-Time	2
<u>College Major</u>	
Arts & Sciences	49
Health	26
Education	16
Other/undeclared/missing	10
<u>GPA (on a 4.0 scale)</u>	
Less than 2.0	4
2.0 to 3.0	47
Greater than 3.0	49

Note. Some totals do not sum to 100% due to rounding and/or missing data.

Table 2

Drinking history of full sample.

Alcohol Use Characteristics	Mean (SD) or Percentage
<u>Age first consumed alcohol</u>	15.5 (2.5)
<u>Typical number of standard drinks/drinking day</u>	6.8 (4.0)
<u>AUDIT total</u>	11.0 (5.8)
<u>RAPI total^a</u>	11.2 (9.1)
<u>Alcohol Expectancies^b</u>	
Positive	2.9 (0.5)
Negative	2.5 (0.5)
<u>Ever been "drunk"</u>	
Yes	98%
No	1
<u>Age of first intoxication</u>	
12–13	4
14–17	57
18	25
19 and over	12
<u>Typical number drinking days per week</u>	
Less than one day	4
1 day	36
2 days	38
3 days	17
4 or more days	5
<u>Typical alcoholic beverage</u>	
Only beer	22
Only wine	2
Only hard liquor	20
Combination of above alcohol	56
<u>Most frequent binge drinking setting</u>	
At a bar/club/restaurant	20
At a house/fraternity/sorority party	53
In one's own/friend's dorm room/apartment	26
<u>Number of binges in past two weeks</u>	
None	21
1–2 times	36
3–4 times	23
5–6 times	15
7 or more times	5
<u>Ease of abstinence in next month</u>	
Very easy	57
Somewhat easy	23

Alcohol Use Characteristics	Mean (SD) or Percentage
Somewhat difficult	13
Very difficult	7
<u>Feel drinking is under control</u>	
Completely under control	67
Somewhat under control	29
Somewhat out of control	4
Completely out of control	<1
<u>Percentage of friends who drink</u>	
None	<1
About 25%	4
About 50%	8
About 75%	40
100% or almost all	47

Note. Some totals do not sum to 100% due to rounding and/or missing data.

^aScores range from 0 to 64

^bAs measured with Comprehensive Effects of Alcohol questionnaire; scores range from 1 ("strongly disagree") to 4 ("strongly agree")

Table 3

Means (SDs) and Component Loadings .40 for each item on the ARS-Future Intention

Strategie	M (SD)	Component Loadings					
		1 ^a	2 ^b	3 ^c	4 ^d	5 ^e	6 ^f
1. Leave at least 15 minutes in between each drink	2.43 (1.2)	.635	–	–	–	–	–
2. Keep track in your head of each drink you have	3.35 (1.3)	.552	–	–	–	–	–
3. Keep track of each drink on your cell phone or a piece of paper	1.55 (1.1)	.460	–.533	–	–	–	–
4. Eat a meal before starting to drink	4.02 (1.1)	–	.435	–	–	–	.442
5. Avoid salty foods while drinking	2.62 (1.2)	.493	–	–	–	.465	–
6. Stay away from the refrigerator, keg, or bartender where alcohol is easily available	2.23 (1.2)	.678	–	–	–	–	–
7. Have a non-alcoholic drink in between each alcoholic drink	2.04 (1.1)	.656	–	–	–	–	–
8. Start off with a at least 1 non-alcoholic drink before you start drinking alcohol	2.91 (1.4)	.557	–	–	–	.497	–
9. Set a limit on the total number of drinks you'll have before you start drinking	2.68 (1.3)	.760	–	–	–	–	–
10. Set a predetermined time to stop drinking	2.59 (1.3)	.726	–	–	–	–	–
11. Sip your drink, rather than gulp or chug	3.28 (1.1)	.638	–	–	–	–	–
12. Avoid finishing a beer or other drink you don't want	3.32 (1.3)	.690	–	–	–	–	–
13. Wait at least 20 minutes past the time you'd normally start drinking	2.44 (1.1)	.690	–	–	–	–	–
14. Avoid adding more alcohol to a drink you have not finished	3.33 (1.2)	.676	–	–	–	–	–
15. Avoid starting a new drink until you've finished the one you have	3.70 (1.2)	.634	.538	–	–	–	–
16. Avoid drinking out of oversize containers (e.g., fishbowls, boots, giant cups)	3.51 (1.3)	.590	–	–	–	–	–
17. Set down your drink in between each sip	2.70 (1.3)	.537	–	–	–	–	–
18. Avoid drinking in rounds (e.g., taking turns buying drinks for a group)	2.98 (1.3)	.567	–	–	–	–	–.434
19. Avoid "catching up" if you start drinking after others	2.99 (1.2)	.734	–	–	–	–	–
20. Say "no" to offers of drinks you don't want	3.43 (1.3)	.677	–	–	–	–	–
21. Accept a drink offer, then set it aside without drinking it	2.42 (1.2)	.640	–	–	–	–	–
22. Leave the place where you are drinking at a predetermined time	2.86 (1.2)	.660	–	–	–	–	–
23. Avoid drinking with friends who drink excessively	2.26 (1.2)	.577	–	–	–	–	–
24. Order a non-alcoholic drink that can pass as an alcoholic drink	1.98 (1.3)	.609	–.428	–	–	–	–
25. Bring a limited amount of spending money with you when you go out to drink	3.79 (1.2)	.468	–	–	–	–	–
26. Use a single shot glass to measure how much hard liquor goes in each drink	2.66 (1.3)	.520	–	.626	–	–	–
27. Limit the amount of alcohol someone else puts in any drink they make for you	2.78 (1.3)	.693	–	.495	–	–	–

Strategie	M (SD)	Component Loadings					
		1 ^a	2 ^b	3 ^c	4 ^d	5 ^e	6 ^f
28. Ask the person making your drinks to make them weak	2.24 (1.2)	.678	–	–	–	–	–
29. Put extra ice in your drink	2.43 (1.3)	.671	–	–	–	–	–
30. Put extra non-alcoholic mixer in your drink	2.67 (1.3)	.625	–	–	–.434	–	–
31. Avoid drinking straight shots of hard liquor	2.79 (1.4)	.570	–	–	–	–	–

Note. Means and SDs for full sample; ns for items range from 305 to 336 depending on missing data for each specific item. Component loadings calculated for subset of sample who had no missing data on any items (n=224).

^aComponent eigenvalue = 11.93; Percent of variance = 38.5

^bComponent eigenvalue = 2.25; Percent of variance = 7.3

^cComponent eigenvalue = 1.46; Percent of variance = 4.7

^dComponent eigenvalue = 1.31; Percent of variance = 4.2

^eComponent eigenvalue = 1.24; Percent of variance = 4.0

^fComponent eigenvalue = 1.11; Percent of variance = 3.6