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Benefits and drawbacks of social non-drinking identified by British university students

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## Abstract

**Background/objectives:** Promoting the benefits of not drinking alcohol during social occasions where other peers may be drinking ('social non-drinking') may support more moderate drinking among young people. We analysed free-text responses from university students to gauge the frequency/focus of identified benefits of, and drawbacks to, social non-drinking. We also assessed whether/how identified benefits and drawbacks were associated with recent drinking behaviour and psychological correlates of harmful drinking. **Design and method:** Secondary data analyses was conducted on 511 free-text responses provided by students participating in a health intervention. Template analysis was used to identify potential benefits of social non-drinking. Links between responses relating to social non-drinking and behavioural/psychological measures were assessed. **Results:** 46.2% of female students and 42.0% of male students had engaged in social non-drinking in the previous week. Overarching benefits of social non-drinking included: improved physical and psychological health; increased self-esteem/agency; a higher quality social life; and having a more stable/productive life. Hostility/ambivalence to social non-drinking was evident in 26.6% of responses. Among women only, endorsing higher self-esteem and agency as a benefit of social non-drinking was associated with increased intention to heed government drinking recommendations ( $\beta = 0.10, P = 0.036$ ). **Discussion and conclusions:** Focus on social non-drinking may help encourage more moderate drinking among young people by articulating positives of social non-drinking while raising awareness of a changing normative context in which non-drinking is increasingly more common among young people.

*Key words:* alcohol consumption; non-drinking; template analysis; university students

University students are a high-risk group in terms of excessive drinking behaviour, partly explained by the wide-ranging opportunities to drink alcohol to excess in university settings [1]. This is important given demonstrated links between excessive alcohol intake among students and increased risks of personal injury and worse academic performance [2,3]. Exploring how non-drinking is regarded and experienced among students is of interest here as it may assist understanding of how alcohol consumption may be resisted or viewed as an option rather than a necessary ingredient of enjoyable socializing. Qualitative research has highlighted how young non-drinkers work hard to avoid stigmatic labels linked to their non-drinking (e.g., boring, deviant, [4-7]). However, this work has also highlighted how non-drinking may be instrumental in producing valued alternate leisure identities [7], in bolstering feelings of choice in life [8,9], and of promoting a stronger sense of authentic self [7,10]. Indeed, some research has suggested that moderate drinkers may in fact be viewed more negatively than non-drinkers in that drinking moderately risks presenting oneself as only partially committed to social drinking activities while non-drinking reduces “leg-room” for peer pressure to drink excessively [5,11].

This evidence base acquires fresh topical relevance given demographic changes indicating an increased proportion of young people who do not drink alcohol. This has been found among British 16-24-year-olds (40% increase over eight years, [12]), Australian 14-17-year-olds (17.3% increase in non-drinkers over ten years, [13]), and Swedish 15-16-year-olds (20% increase over 15 years, [14]). Epidemiological evidence has been used to illustrate theoretical accounts of how contextual factors underlie the decline in smoking behaviour including changes in material circumstances (e.g. income and benefit status) and changes in supportive social networks [15]. While providing a precise explanation for recent increases in the numbers of non-drinking young people would be difficult, these changes hint at a more flexible

context of drinking norms and practices. These changes also suggest that alcohol-related health promotion messages aimed at young people might usefully emphasise that non-drinking has become an increasingly ‘mainstream’ choice for young people.

Research discussed above has suggested that not drinking alcohol during social occasions where other peers may be drinking alcohol may hold personal rewards but may also be a difficult, complex behaviour to enact. Several quantitative studies of U.S. college students’ ‘reasons for non-drinking’ have revealed complex and sometimes reciprocal relationships between motivations/reasons for non-drinking during social occasions and subsequent drinking behaviour [16-18]. Usefully, these studies understand non-drinking as an occasion-specific behaviour rather than as, for example, a longer-term lifestyle decision. To formally describe personal non-consumption of alcohol during social occasions where friends/peers may be drinking, we propose the conceptual term ‘social non-drinking’ (used hereafter). Limitations of these quantitative studies include their tendency to gauge motivations/reasons for non-drinking via forced category response measures, and to conflate varied drinking styles (e.g., non-drinkers, light drinkers, problem drinkers) within the same sample. Relatedly, links between the presence/absence of identified reasons for non-drinking and known correlates of harmful student drinking behaviour has been absent from research to date on motivations/reasons for non-drinking. Key psychological predictors of student drinking behaviour include behavioural intention/plans [19]; beliefs about the frequency/acceptability of heavy drinking among peers (i.e. perceived descriptive/injunctive norms [20]); and beliefs about one’s ability to refuse alcohol in different situations (i.e. drink refusal self-efficacy, DRSE [21]).

The current study was intended to make use of free-text responses from 18-25-year-old university students concerning benefits of social non-drinking to address the limitations

described above and to cultivate the growing literature in this field. Measuring identified ‘benefits of non-drinking’ (rather than ‘reasons for non-drinking’) may be valuable from a health promotion perspective, for example, as relevant content for use in personalized or generic ‘gain-framed’ health messages, theorized and demonstrated as successful in encouraging health-adherent behaviour [22,23]. We aimed to gauge the frequency/focus of identified benefits of social non-drinking; and of identified drawbacks of social non-drinking. We also aimed to assess whether/how identified benefits and drawbacks were associated with recent drinking behaviour and psychological correlates of harmful drinking discussed above.

## **Methods**

### *The intervention study*

The present article reports a secondary data analysis of free-text responses from a mental imagery intervention designed to promote more moderate alcohol consumption (ethically approved by University of Sussex in October 2013 and described elsewhere [24]). Intervention study participants were 211 students aged 18-25 years, recruited via an online survey completed by a sample of students from 80 academic departments. Only students who had consumed at least one alcoholic drink in the previous week were eligible. After completing baseline behavioural and psychological measures, participants read a vignette describing a student who experiences benefits of occasional social non-drinking ranging from the material (saved money), to the social (resisting peer influence), to the personal (increased willpower, being able to experience social occasions ‘as they are’), as a foundation for participants to identify their own benefits. Students were then asked to ‘mentally image’ personally relevant benefits of social non-drinking and report these in a first free-text response box, before writing about how engaging in social non-drinking would make them feel in a second free-text response box. Including the

vignette was contentious, given that it primed participant responses. However, the vignette also provided clarity about what participants were being asked to visualise and write about, while the two free-text response boxes permitted scope for articulating a nuanced response about how non-drinking would feel to them personally. Post-intervention, measures of drinking behaviour were taken at two- and four-week follow-up time points. Evidence from the intervention study suggested that mental imagery concerning benefits of social non-drinking were predictive of lower levels of weekly alcohol intake at four-week follow-up relative to students who had kept a drinks diary recording their daily alcohol unit intake [24].

### *Secondary data analysis*

Any intervention study participant who met all eligibility criteria, had provided a full free-text response to the mental imagery intervention, and had completed all baseline measures was eligible for the current study. In total, 511 such responses were available for analysis. A systematic approach to coding the data was discussed and agreed between both authors and is described below. Template analysis was adopted as a flexible analytic framework suited to defining distinctive categories and hierarchical structures within large datasets [25]. Coding schemes were created to capture the breadth of material in the free-text responses including identified benefits of social non-drinking and identified drawbacks of social non-drinking. A tabulated version of the completed template analysis (see Table 1) was devised, to demonstrate frequencies of, and sex differences in, overarching benefits and drawbacks of social non-drinking. Within the coding process, more elaborate responses were flagged for potential illustration of a theme. This decision was taken both to ensure focus on the strongest qualitative material in the dataset and to decrease the burden of an otherwise very large (511 responses) dataset. More elaborate responses were flagged as a potential qualitative illustration of themes

where, for example, material hinted at *why* an identified benefit was attractive or *how* social non-drinking was perceived as undesirable. This more elaborate material was identified in 75 responses (14.7% overall dataset). Each theme identified in the template analysis was coded dichotomously as either present ('1') or absent ('0') for each participant response. A stepwise regression analyses was planned, involving drinking intention as the outcome variable, chosen as a theoretically 'forward looking' proxy for behaviour [19]. Drinking intention was regressed onto groups of variables ranging from the more concrete/substantiated to the more speculative/novel including: demographic/drinking history variables (step 1), psychological predictors of harmful drinking (step 2), and onto theme-level identified benefits or drawbacks of social non-drinking, whether present or absent (step 3).

### *Participants*

The sample included 361 female participants (*M.* age = 20.0 years old, *M.* alcohol consumption in previous week = 14.6 units) and 150 male participants (*M.* age = 20.3 years old, *M.* alcohol consumption in previous week = 24.9 units).

### *Measures*

Quantitative data were taken at baseline and prior to participation in the mental imagery intervention. This decision was taken deliberately so that associations between social non-drinking responses with behavioural/psychological measures could be explored using a simple cross-sectional cohort in which follow-up effects of the mental imagery intervention were not considered.

Self-reported alcohol consumption for the previous week was measured in UK units (10mL/8g pure ethyl alcohol) with the assistance of a visual guide. Participants provided details



about drinking behaviour (present vs. absent) both for themselves and peer attendees at the main social occasion for each day in the previous week (i.e., I did not socialise; I drank, others did NOT; I did NOT drink, others did; We ALL drank; NO-ONE drank). This measure was intended to provide a crude gauge of the frequency of recent social non-drinking.

All other responses were made on five point Likert-type scales. Drinking intention was measured with two items (e.g., “In the next month I intend to drink within government recommended alcohol consumption levels”, Strongly disagree – Strongly agree, daily intake maxima defined for participants as 3-4 and 2-3 units for men and women respectively) [26]. These strongly correlated items ( $r = .93$ ,  $P < 0.001$ ) were combined as a composite measure of drinking intention. Higher scores indicated being more motivated to drink alcohol within government recommended limits as they stood during the data collection period (October-November 2013).

Single measure items were used for descriptive norms (“What proportion of your friends regularly drink alcohol?”, None of them – All of them) and injunctive norms (“What proportion of your friends consider heavy drinking to be acceptable behaviour?”, None of them – All of them). Higher scores for descriptive norms or injunctive norms reflected beliefs that a larger proportion of friends regularly drank alcohol or considered heavy drinking to be an acceptable behavior, respectively.

Drink refusal self-efficacy (DRSE) – i.e. belief about one’s ability to refuse alcohol in different situations – was measured using twelve items [21]. Responses were made to the stem “Indicate how easy it would be for you to refuse alcohol...” in three contexts: when under social pressure (e.g., “when my friends are drinking”,  $\alpha = .85$ ); for emotional relief (e.g., “when I am

upset”,  $\alpha = .89$ ); and when opportunities arise (e.g., “when I first arrive home”,  $\alpha = .81$ ). Higher scores indicated greater DRSE.

## **Results**

### *Recent social non-drinking*

Descriptive statistics concerning recent drinking behaviour indicated that engaging in social non-drinking on at least one day in the previous week occurred in a high proportion of both female participants ( $n = 167$ , 46.2%) and male participants ( $n = 63$ , 42.0%).

### *Characteristics of free-text responses*

A minority of free-text responses explicitly challenged the intervention exercise premise, for example indicating that social non-drinking held no personal benefits ( $n = 44$ , 8.6% overall sample). The frequency of all identified benefits of social non-drinking or evidence of hostility/ambivalence to social non-drinking, is presented in Table 1. At least one benefit of social non-drinking was identified among most participants ( $n = 473$ , 92.6% overall sample). Within a data collection process where participants could be understood to have been ‘primed’ (by the vignette) to identify benefits of social non-drinking, it is notable that many participant responses contained hostility/ambivalence to social non-drinking ( $n = 136$ , 26.6% overall sample). Most responses identified at least one benefit of social non-drinking without also communicating hostility/ambivalence or challenging the intervention exercise premise ( $n = 311$ , 60.9% overall sample). Sex differences are discussed in the quantitative analysis section below.

### **Phase 1 – Template analysis**

Four themes related to benefits of social non-drinking (improved physical and psychological health; increased self-esteem and agency; having a higher quality social life; enabling a more

stable and productive life) were identified. A final theme involved hostility/ambivalence to social non-drinking. Illustrative quotations include identifiers denoting participant sex and dataset number.

### *Improved physical and psychological health*

Identifying positive health benefits of social non-drinking in the shorter or longer term was a common feature of responses, including, for example, being spared the miserable psychological effects of a hangover (“avoid 'after session depression': the feeling like you have ruined your life, F9). Other content referred to benefits of social non-drinking as a route to moderate alcohol consumption in more explicit terms:

(By) breaking the habit of drinking at every social event I attend I would be encouraged to try to continue limiting my intake of alcohol (M10)

In this account, we can see how improved health through more moderate alcohol consumption might be achieved in two distinctive ways via social non-drinking. By not drinking at some social occasions, M10 identifies the potentially powerful symbolic value of social non-drinking as a tool for “breaking” an inevitable equation between socializing and alcohol consumption, alongside evidence that not drinking during some social occasions might act as a spring board for more moderate future consumption.

### *Increased self-esteem and agency*

In addition to health benefits, many responses, including the two below, indicated ways in which social non-drinking may help bolster self-esteem and feelings of control over life:

In general not drinking would make me feel more confident in myself, in the ability to enjoy life and social situations without the need for a 'middle man' (in this case the alcohol) (M3)

I would feel a sense of personal pride and achievement [...] as though I have increased control over my own life, as alcohol often makes me feel as though I have very little control over my behaviour (F34)

In his account, M3 suggests how social non-drinking may act as a valued opportunity for promoting self-esteem by means of learning how to socially engage with other people without feeling that alcohol has been relied on as an intermediary for social interaction. Clear personal benefits of social non-drinking are also apparent in F34's response where eschewing alcohol use might side-step the deleterious impact of alcohol use over feelings of personal control within specific situations, while helping to cultivate longer-term feelings of personal agency more broadly in life.

#### *Having a higher quality social life*

Social non-drinking was identified as a way of strengthening existing supportive social bonds both by having opportunities to develop closer connections ("get to know people better, hence have stronger friendships", M16) and by having more time to invest in friendships ("feel a stronger sense of social support as would be dedicating more time to friendships", F2). A clear illustration of how social non-drinking might help produce stronger social ties was illustrated in the following response:

Having in-depth, sober, conversations with a lot of uni friends who I only ever tend to see now when going for a night out, being sober may be better in these types of situations to make the most of the time that I do see them (F19)

The circumstances here of meeting with rarely seen friends are specific, but it is notable how social non-drinking was clearly identified as a potentially important factor relevant to securing a more inclusive and fulfilling social network. As with participant material from across this theme, F19's response conveyed a sense that alcohol use could be viewed as a potential risk to developing stronger friendships and social ties, by somehow exhausting time resources and attentional resources at the expense of committing these within existing or newer friendships.

*Enabling a more stable and productive life*

Participant responses could be seen to identify greater stability and a more productive life as intertwined benefits associated with social non-drinking. At a pragmatic level related to a specific social occasion, social non-drinking meant cutting out higher-risk behavior linked to heavy drinking:

If I drank less or not at all I would not have to worry about the results of my actions the next day. I have woken up with many bruises and not known why (F4)

Securing greater stability in life as a benefit of social non-drinking was often talked about in conjunction with adjacent benefits such as creating opportunities to lead a more productive life, where financial, time and intellectual energies were liberated. This is illustrated in the response below:

You feel better the next day so you can actively do school work, which will contribute to a better academic performance (F36)

While no panacea, social non-drinking was identified by many participants as one way of facilitating a less jagged, more fruitful life in which life goals felt more obtainable regardless of whether these were short-term leisure time aspirations (e.g. participation in regular sports activities), medium-term academic aspirations (e.g. getting a degree) or longer-term plans (e.g. securing employment).

#### *Hostility/ambivalence to social non-drinking*

Most responses expressing hostility/ambivalence to social non-drinking reflected apprehensions about ‘missing out’ on the shared experience of socializing. This is apparent below:

I would feel healthier (but) I may feel like I've missed out on bonding with people.

Sometimes when you're sober and others are drunk, nothing is as funny as you expect it to be and you can end up lagging behind in the conversations/excitement rather than getting caught up in the fun of it all when drunk. (F8)

Clearly illustrated here was the sense that social non-drinking would result in a social experience lacking the spontaneity and pace when under alcohol's influence. Similar hostility to social non-drinking was present in responses which voiced fears of feeling like an outside looking in during a social occasion (e.g., “I would just feel a bit weird seeing other people having a glass in hand and feeling like a black sheep”, M27). Beyond the way in which social non-drinking could be viewed (or had been experienced) as an undesirable subjective experience, several extracts communicated scepticism about social non-drinking as a means of successfully drinking alcohol in moderation, this is illustrated below:

I would prefer to cut down overall, perhaps drinking moderately and regularly (rather than having 4 or 5 one time and none the next time. This would be more enjoyable for both events (M25)

Far from promoting more moderate drinking behaviour, M25 identifies important potential backfire effects of social non-drinking, as something which would potentially lead to excessive alcohol consumption at other social occasions. Material here characterised social non-drinking as an unfavourable behavioural option. However, material also seemed to frame the overarching challenge involved in the aspirational ‘moderate drinker’ mindset where, within a social setting, drinking some alcohol would be preferable to drinking no alcohol, despite the risk that drinking some alcohol may lead to consuming larger amounts.

## **Phase 2 – Quantitative analysis**

Endorsing benefits of social non-drinking was significantly associated with being a female participant ( $\chi^2(1) = \geq 3.94, P \leq 0.05$ , see Table 1) for improved physical and psychological health (76% female vs. 60.7% male); increased self-esteem and agency (60.7% female vs. 43.3% male); and having a higher quality social life (35.7% female vs. 26.7% male). Stepwise multiple regression analyses (Table 2) revealed that a small but significant increase in the proportion of variance (+1%) explained in drinking intention was obtained by adding the presence (or absence) of identified benefits and drawbacks of social non-drinking among female participants only. Inspection of the beta coefficients revealed that more health-adherent drinking intention was predicted by endorsing higher self-esteem and agency as a benefit of social non-drinking ( $\beta = 0.10, t = 2.11, P = 0.036$ ), when other predictor variables were controlled for.

## **Discussion**

Benefits of not drinking socially when friends/peers may be drinking ('social non-drinking') were explored in an analysis of free-text responses from 18-25-year-old university students. This analysis was intended to gauge the frequency/focus of identified benefits of social non-drinking; identified drawbacks of social non-drinking; and finally to assess whether/how identified benefits and drawbacks were associated with recent drinking behaviour and psychological correlates of harmful drinking discussed above.

Unexpectedly, many participants had recently engaged in social non-drinking including a high proportion of both female (46.2%) and male participants (42.0%). Template analysis suggested wide-ranging benefits of social non-drinking including improved physical and psychological health (71.1% total sample), increased self-esteem and agency (55.5% total sample), having a higher quality social life (33.0% total sample), and enabling a more stable and productive life (79.3% total sample). Current study findings chime with findings of previous motivations/reasons of non-drinking research studies. For example, the current study 'enabling a more stable/productive life' theme closely matches the stability-orientated character of factors identified in previous psychometric work including evading interference to life responsibilities (e.g. studying) or to leisure activities as a reason for non-drinking [16,17]). There was also overlap between the socially relevant motivations for social non-drinking found in the current study and in Huang et al's (2011) research, in which avoiding disapproval from peers who do not themselves drink and recognizing alcohol as non-essential for social interaction were identified as important reasons for not drinking during a social occasion. However, free-text responses also suggested relational benefits of social non-drinking manifest in more subtle ways, including higher quality social interactions and being able to explore new friendships and social pastimes as identified benefits of social non-drinking. Current study data pointed to how having greater



choice in life (e.g. to explore new friendships) would be a benefit of social non-drinking. Choice-related findings resonated with several qualitative studies which have articulated links between non-drinking and the importance of choice including non-drinking as a positive claim to identity [9] and non-drinking as a valued leisure activity [7]. The anticipated fears in hostile/ambivalent responses to social non-drinking of ‘missing out’ and of perceived/actual negative peer appraisal are interesting given evidence being a non-drinker may involve social exclusion [4,6].

Quantitative data analysis provided evidence that endorsing a benefit of social non-drinking was significantly associated with being a female student (see Table 1) and of a link between endorsing increased self-esteem and agency as benefits of social non-drinking and stronger health-adherent intention, among female participants (see Table 2). These findings reflect previous evidence of enhanced protective skills relating to alcohol use among female students, including higher levels of DRSE and lower levels of self-identification with alcohol use relative to male participants [27]. Findings may imply that health messages designed to promote moderate drinking by appealing to the benefits (or challenging perceived drawbacks) of social non-drinking may be met with greater success among female than male students. This pattern chimes with previous research which has suggested that social non-drinking may be viewed in more stigmatic terms for men than for women [28]. Addressing whether and how endorsing benefits of social non-drinking is linked with lower levels of subsequent alcohol consumption among students of either sex should be explored in future longitudinal research.

### **Applications and public health context**

Boosting young peoples’ willingness to engage in social non-drinking has received little health promotion attention. This is surprising given previous UK government health recommendations advocating the importance of taking two ‘dry days’ (i.e., days where no alcohol at all is

consumed) each week [29]. Current recommendations also emphasise the importance of taking regular alcohol-free days as part of a more moderate approach to alcohol consumption [30]. Current study findings might be drawn on in campaign messages designed to focus on social non-drinking to promote more moderate overall drinking. For example, messages could counter the ‘alcohol equals social’ narrative by presenting social non-drinking as something linked to higher quality friendships, or might present the case that not drinking during some social occasions might increase the novelty and enjoyableness of alcohol when consumed socially. Presentational factors may boost the efficacy of health messages focused on social non-drinking, including striking a careful balance between acknowledging positive features of alcohol use while highlighting advantages of alcohol-free socializing, and reference to increases in the number of young non-drinkers documented in several countries [12-14]. These presentational factors may help inoculate against potential hostility or ambivalence to social non-drinking as a behavioural option to encourage moderate drinking.

Current study findings could inform theoretically informed interventions to promote more moderate student drinking. One option would be to test the efficacy of health messages framed to emphasise personalized or generic ‘gains’ of social non-drinking; an approach demonstrated as effective across several behavioural domains [22,23]. Indeed, gain-framed health messages focusing on social non-drinking, as a clearly defined behavioural stance, holds advantages over gain-framed health messages focusing on the more nebulous ‘moderate drinking’ where personal benefits might be more difficult to anticipate or imagine. However, risks of potential backfire effects from promoting social non-drinking should also be acknowledged. For example, promoting the benefits of social non-drinking might be viewed as legitimating or encouraging heavy drinking on occasions where young people do drink, evoking empirical work concerning

‘the abstinence violation effect’ (AVE) - i.e. the risk of excessive behavioural indulgence following a period of complete abstinence [31]. Learning how backfire effects in the context of social non-drinking might present (and be dealt with) requires future research attention.

## **Limitations**

Study limitations are acknowledged. First, it should be reiterated that the vignette primed participants to identify benefits which were acquired within the specific context of an intervention study. We note here that priming effects may have been attenuated by the open-ended free-text response format, which was instrumental in recording many responses (26.6% overall sample) reflecting hostility/ambivalence to social non-drinking. Second, the boundaries within which free-text accounts of social non-drinking could be given were defined relatively loosely, referring to both backward-looking historic experiences of not drinking during social occasions and forward-looking visualization of social non-drinking on future occasions. Importantly, we note that this approach meant that participants were unconstrained to consider all experienced/possible benefits of social non-drinking. Future research should inform an understanding of whether similar/different benefits and drawbacks occur in different demographic samples (e.g., among non-student young adults). Third, although most free-text responses contained unequivocal stated benefits of social non-drinking (e.g., ‘money’, ‘no hangover’), the absence of independent verification of our coding scheme means that identified benefits and drawbacks should be interpreted as provisional rather than definitive. Fourth, template analysis gave insights into the focus and incidence of free-text responses, but responses were sometimes complex and nuanced. In-depth interviews concerning experiences of social non-drinking using an analytic framework such as interpretative phenomenological analysis [32] would be an appropriate focus of future research.

## Conclusions

Recent social non-drinking occurred commonly among both female (46.2%) and male participants (42.0%), and wide-ranging benefits of social non-drinking were identified among participants, in the current study. Future health promotion campaigns might focus more explicitly on social non-drinking as a targeted means of promoting more moderate drinking behaviour among young people.

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**Table 1.** *Identified benefits of, and drawbacks to, social non-drinking*

Identified benefits of social non-drinking	Total		Female		Male		Sex differences
	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	
Improved physical and psychological health	364	71.1	273	75.6	91	60.7	$\chi^2(1) = 11.57, P = 0.001$
Would experience improved physical health in daily life	212	41.4	158	43.8	54	36.0	$\chi^2(1) = 2.63, P = 0.105$
Would avoid negative effects of hangovers	188	36.7	149	41.3	39	26.0	$\chi^2(1) = 10.63, P = 0.001$
Would gain a better quality of life (e.g. good night's sleep)	57	11.1	46	12.7	11	7.3	$\chi^2(1) = 3.13, P = 0.077$
Would protect self from long-term health risks	49	9.6	37	10.2	12	8.0	$\chi^2(1) = 0.62, P = 0.432$
Would feel more positive and happier	39	7.6	32	8.9	7	4.7	$\chi^2(1) = 2.65, P = 0.104$
Would feel motivated to drink more moderately	27	5.3	19	5.3	8	5.3	$\chi^2(1) = 0.00, P = 0.974$
Would have more positive in-occasion social experience	16	3.1	13	3.6	3	2.0	$\chi^2(1) = 0.90, P = 0.344$
Increased self-esteem and agency	284	55.5	219	60.7	65	43.3	$\chi^2(1) = 12.89, P < 0.001$
More positive estimation of self	203	39.6	158	43.8	45	30.0	$\chi^2(1) = 8.39, P = 0.004$
Would boost feelings of control in-occasion or broader life	153	29.9	119	33.0	34	22.7	$\chi^2(1) = 5.36, P = 0.021$
Would lessen dependence on alcohol for socializing	87	17.0	68	18.8	19	12.7	$\chi^2(1) = 2.86, P = 0.091$
Having a higher quality social life	169	33.0	129	35.7	40	26.7	$\chi^2(1) = 3.94, P = 0.047$
Would be thought of more favourably by other people	84	16.4	69	19.1	15	10.0	$\chi^2(1) = 6.41, P = 0.001$
Would have a clearer experience during the social occasion	50	9.8	38	10.5	12	8.0	$\chi^2(1) = 0.77, P = 0.381$
Would have higher quality interactions at social occasions	27	5.3	19	5.3	8	5.3	$\chi^2(1) = 0.00, P = 0.974$
Would gain new perspective on alcohol use in social life	25	4.9	15	4.2	10	6.7	$\chi^2(1) = 1.44, P = 0.231$
Would be able to explore new friendships/ social pastimes	23	4.5	16	4.4	7	4.7	$\chi^2(1) = 0.01, P = 0.907$
Enabling a more stable and productive life	406	79.3	293	81.2	113	75.3	$\chi^2(1) = 2.21, P = 0.137$
Would save more money	302	59.0	213	59.0	89	59.3	$\chi^2(1) = 0.01, P = 0.945$
Would gain more time and be more productive	184	35.9	144	39.9	40	26.7	$\chi^2(1) = 8.04, P = 0.005$
Would have a clearer memory of social occasion	70	13.7	55	15.2	15	10.0	$\chi^2(1) = 2.46, P = 0.117$
Would reduce vulnerability to accident/crime	65	12.7	48	13.3	17	11.3	$\chi^2(1) = 0.37, P = 0.554$
Would avoid making regrettable decisions	41	8.0	31	8.6	10	6.7	$\chi^2(1) = 0.53, P = 0.467$
Would be able to pursue academic and other life goals	34	6.6	26	7.2	8	5.3	$\chi^2(1) = 0.60, P = 0.440$
Would feel more like an adult	22	4.3	18	5.0	4	2.7	$\chi^2(1) = 1.38, P = 0.239$
Hostility/ambivalence to social non-drinking	136	26.6	90	24.9	46	30.7	$\chi^2(1) = 1.79, P = 0.182$
Evidence of hostility	132	25.8	87	24.1	45	30.0	$\chi^2(1) = 1.93, P = 0.165$
Evidence of ambivalence	24	4.7	15	4.2	9	6.0	$\chi^2(1) = 0.81, P = 0.369$



**Table 2.**

*Hierarchical regression of drinking intention onto hypothesised predictors of drinking behaviour*

Step	Variables entered	Female students			Male students		
		$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
1	Age (years)	0.02	0.01	0.01	-0.11	-0.12	-0.11
	Alcohol units consumed (previous week)	-0.40***	-0.30***	-0.29***	-0.38***	-0.34***	-0.33***
2	Descriptive norms		0.02	0.02		-0.17	-0.18
	Injunctive norms		-0.31***	-0.31***		-0.05	-0.02
	Drink refusal self-efficacy (social pressure)		0.02	0.02		0.00	-0.01
	Drink refusal self-efficacy (emotional)		0.06	0.06		-0.11	-0.10
	Drink refusal self-efficacy (opportunistic)		-0.07	-0.08		-0.06	-0.08
	Health benefits <sup>a</sup>			0.01			-0.02
3	Self-esteem/agency benefits <sup>a</sup>			0.10*			0.02
	Higher quality social life benefits <sup>a</sup>			0.02			0.12
	Stability and productivity benefits <sup>a</sup>			-0.04			0.02
	Hostility/ambivalence evident <sup>b</sup>			-0.06			-0.02
<i>Adj. R</i> <sup>2</sup>		0.16	0.24	0.26	0.14	0.17	0.16
$\Delta R^2$		0.17	0.09***	0.01*	0.15	0.06	0.02
Model <i>F</i>		35.43***	16.86***	15.46***	12.97***	5.28***	3.26***

*Note.* Standardized beta ( $\beta$ ) coefficients reported. <sup>a</sup>Binary variable in which participant free-text responses, for a domain of benefit of social non-drinking, were coded as either endorsing a benefit ('1') or as not endorsing a benefit ('0'). <sup>b</sup>Binary variable in which participant free-text responses about social non-drinking were coded as either containing hostility/ambivalence ('1') or as not containing hostility/ambivalence ('0').

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$