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Development and Testing of a Conceptual Framework for asking about intoxication: A Mixed Methods Approach

INTRODUCTION

VicHealth, as part of a Victorian Government initiative to reduce the alcohol and drug toll in Victoria, was interested in developing a measure of acceptability of intoxication in order to track changes over time in the alcohol culture in Victoria. In order to do so, one must first determine how to ask about intoxication. Most extant survey questions on the topic use terms such as 'drunk' or 'intoxicated', thus assuming that respondents agree on what these terms mean (Department of Health 2013; Victorian Drug and Alcohol Prevention Council 2010; FARE 2013). Survey questions about drinking behaviours generally ask about alcohol consumption – usually amounts and/or frequencies, and from these responses derive a measure of intoxication (e.g. 5 standard drinks on a single occasion; more than 2 standard drinks an hour) (Stephenson et al. 2013; AIHW 2013). However, both a limited amount research and anecdotal evidence suggests that most people do not think or talk about intoxication in terms of number of drinks consumed and have varying definitions of a term such as, 'drunk' (Fry 2010).

This paper discusses the development and initial testing of a new framework around asking survey questions about acceptability of intoxication using a mixed methods approach. The methodology consisted of an innovative qualitative methodology we call 'integrated groups', followed by a telephone survey of almost 1400 Victorians.

ETHICS

The project was approved by Charles Sturt University's Human Research Ethics Committee (approval no. 2013/164).

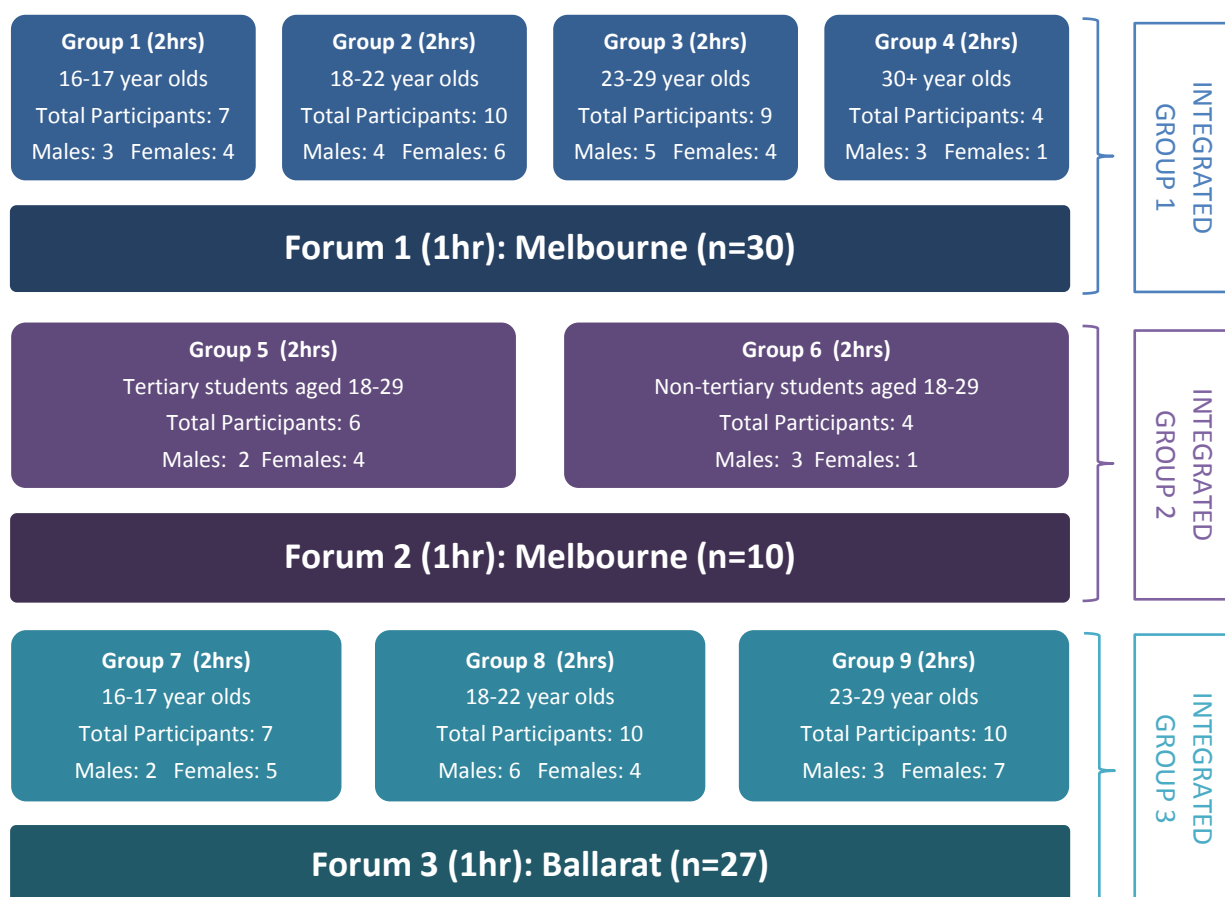
METHODS – QUALITATIVE COMPONENT

RATIONALE & BACKGROUND

The primary focus of the qualitative component of this project was to understand how young people (and to a lesser extent, older people aged 30+) in Victoria think and talk about alcohol and the alcohol culture in order to develop measures and a survey instrument for the quantitative component of this project.

This qualitative component consisted of three ‘integrated groups’, a methodology we developed that involved running two or more concurrent focus groups segmented by age or tertiary status, followed by a single forum involving a mix of all participants (refer to Figure 1). Participants were thus able to first discuss issues around alcohol culture amongst people of a similar age and/or tertiary status whom we expected to hold relatively similar attitudes and then continue this discussion amongst a broader group of people who may hold somewhat different attitudes. Such an approach allowed us to explore the differences and similarities amongst demographic groups in a way that is not possible with either focus groups or forums alone.

Figure 1: Composition of Integrated Groups



PARTICIPANTS

Most participants were contacted via cold calling of telephone numbers drawn from a commercially available electronic database of Victorian residents that includes both landline and mobile telephone numbers attached to addresses. Numbers were selected by postcode to ensure potential participants lived within close proximity to the integrated group locations. These participants were asked if they knew others who might be eligible for and interested in attending a group (snowball sampling). A small number of additional participants were contacted through our internal database of people who had previously participated in research and agreed to be contacted for future research. They were recruited for this project only if they had not participated in any forums or focus groups in the prior six months. Participants were each reimbursed \$100 for their participation in the integrated groups.

Ten participants were recruited for each focus group. The groups were segmented by age and education, based on prior research indicating that age and tertiary education are important differentiators of alcohol culture (Lindsay et al. 2009; Lindsay 2006). Prior research also suggests that gender is significant (Lindsay et al. 2009); however, budget constraints prevented us from further segmenting on this variable. During the forums, the focus group participants were mixed together. Two of the integrated groups were conducted in metropolitan Victoria (Melbourne); one was conducted in a regional centre (Ballarat). While the focus was on young people (i.e. aged 16-29), some older participants were included for comparative purposes.

PROCEDURE

During recruitment, participants aged 18 years and over were asked whether they ever drink alcohol and, if they do, whether they experience physical or psychological cravings if they do not have a drink of alcohol each day. Those who did not drink and those who experienced cravings were screened out of the research. Because the focus of this part of the study was on understanding the mainstream alcohol culture in Victoria, we did not want to include people at either extreme – those who do not drink at all and those who may have a substance use disorder.

Written consent was obtained from parents or carers of participants aged 16 or 17. The consent forms included information explaining that the respondent could withdraw from the research at any time and that they would not be identifiable in any reports or publications based on this research. The consent forms were accompanied by information sheets for participants and parents or carers.

DISCUSSION GUIDE

The discussion guide was based on the key research questions and incorporated findings from the literature review prepared for this project (Stephenson et al. 2013). The guide included broad topics for discussion and group activities designed to stimulate discussion. Participants were also shown a YouTube video consisting of a compilation of existing YouTube clips (<http://youtu.be/-vbcbhiaiGI>), which allowed us to explore participants' reactions to a variety of visual drinking behaviours.

The following broad topics were included in the discussion guide: Introduction and icebreaker; alcohol and drinking expectations and importance; the effects of alcohol; general attitudes towards drinking alcohol; acceptable drinking age; non-drinkers; determining drinking identities; level of drinking; influences on level of drinking; excessive drinking; drinking stages; attitudes towards intoxication; gender roles and drinking; and consequences of drinking.

GROUP FACILITATION

Each focus group was facilitated by an experienced moderator. The lead moderator on a given night facilitated the forum discussion. In each group, and at each table during the forums, a note-taker was present. All moderators and note-takers for any groups at which 16-17 year olds were present held current Victorian Working with Children checks. Given the sensitive nature of the topic, an Information and Support document was provided at the end of the evening to all participants containing information and contact details for alcohol and other relevant support services. The duration of each focus group was approximately two hours; the forums ran for just over one hour. There was a break between the groups and the forum during which snacks and beverages were provided. After completion of the integrated groups, the moderators met to debrief and discuss findings.

ANALYSIS

Audio-tapes were transcribed and entered directly into NVivo for analysis. Data was analysed thematically with the aim of developing themes that reflected the cultural norms for alcohol use. The approach taken to analysis was iterative rather than linear, involving four different although highly interconnected steps: (1) familiarisation, (2) identification and coding of themes, including comparisons within case and cross case, (3) categorisation and (4) interpretation and understanding (Grønkjær et al. 2011). Findings from the qualitative component were used to inform the quantitative component of the study.

METHODS – QUANTITATIVE

RATIONALE & BACKGROUND

The focus of the quantitative component of this project was first to develop and administer a survey of alcohol culture, and second to propose indicators that could be used to measure change in alcohol culture over time. The content of the questionnaire was based on findings from the literature review and qualitative component of this project as well as key research questions. An important part of this quantitative component was the inclusion of questions about acceptability of intoxication.

PARTICIPANTS

The target population for the survey was residents of Victoria aged 16 years and over, with oversampling of young people aged 16 to 29 years. Random digit dialling (RDD) was used for both landline and mobile numbers in order to include mobile-only households and people who mostly use mobile telephones. This study utilised a dual-frame RDD design; this means that someone who lives in a household with a landline telephone and also owns a mobile phone (or more than one) is included in the sampling frame more than once. This multiple inclusion of some respondents is adjusted for in the chance of selection weighting (Pennay 2010). Telephone numbers were obtained from Sampleworx, a commercial provider of telephone numbers for telephone surveys. Sampleworx randomly generates telephone numbers and then validates each one before adding it to its database. It includes new exchange areas and VOIP numbers and attaches each to a 'best guess' postcode.

PROCEDURE

Interview quotas were set at 50% landline and 50% mobile, which is the current best practice dual-frame design recommendation in order to most closely represent the Australian population (Lavrakas & Pennay 2013). A total of 1392 interviews were conducted, 652 with respondents aged 16 to 29 and 740 with respondents aged 30 and older. Verbal consent was provided by a parent or carer of any respondent aged 16 or 17 years. Soft quotas within each broad age category were set in order to ensure a reasonable spread of ages throughout the sample. The response rate (RR1) was 19.1% (The American Association for Public Opinion Research 2011, p.44).

QUESTIONNAIRE DEVELOPMENT AND TESTING

The questionnaire was developed based in part on results from the qualitative component. Previously tested and validated questions were used where appropriate. The survey instrument was pre-tested in two phases: a cognitive testing phase followed by a pilot testing phase. The cognitive testing was conducted with a total of 10 participants, eight of whom were aged 16 to 29 and two of whom were aged 30 and older. The pilot test consisted of 50 participants, 25 of whom were aged 16 to 29 and 25 of whom were aged 30 and older.

The final questionnaire contained approximately 37 questions not including the introduction and screening questions or close. It consisted of the following modules: Alcohol attitudes and beliefs (3 questions); alcohol at events (2 questions); non-drinking (4 questions); own consumption (4 questions); definition of intoxication (1 question); attitudes towards intoxication (10 questions); perception of others' alcohol consumption and behaviours (3 questions); demographics (10 questions). Average interview length was 23.1 minutes.

ANALYSIS











Data were weighted based on chance of selection and percentage in the Victorian population (age x sex x geographic location (metro vs. non-metro)) based on ABS 2011 census statistics. All analyses were conducted using IBM SPSS Statistics 20.

FINDINGS

The qualitative component of this research resulted in three key findings that informed the development of survey questions about acceptability of intoxication for the quantitative component:

1. Group participants discussed intoxication in terms of behaviours rather than consumption. Moreover, when asked about consumption as a measure of intoxication, many of the participants argued that consumption is a less accurate indicator of an individual's level of intoxication than behaviours because amounts of alcohol affect people differently. Finally, most participants did not consider five or more drinks in an evening, the current NHMRC guideline for reducing the risk of injury on a single occasion, to constitute intoxication or "binge drinking" (NHMRC 2009).
2. The various labels often used to describe different levels of intoxication did not accurately describe behaviours, with the same label being used to describe quite different levels of intoxication and behaviours. Moreover, choice of label appeared to be somewhat dependent on age and drinking attitudes. For example, older participants or those who held less favourable attitudes towards drinking tended to use the term, 'drunk', to describe the earlier stages of intoxication while those who were younger or who had a more positive attitude towards drinking often used this term to describe later stages of intoxication.
3. General agreement existed, however, regarding the different levels of intoxicated behaviour. We found five general stages of intoxication (refer to Figure 2).

Figure 2: Stages of Intoxication

<p>Stage 1</p> 	<p>Early stages of intoxication: happy, relaxed</p> <p>Start to feel warm or flushed</p> <p>Most still able to drive</p> <p><i>Language: Tipsy - Happy</i></p>	
<p>Stage 2</p> 	<p>Some signs of intoxication but still largely in control of actions</p> <p>Have more energy/confidence</p> <p>More chatty/excitable/loud</p> <p><i>Language: Excited - Drunk</i></p>	
<p>Stage 3</p> 	<p>Level of intoxication more obvious/ not able to hide it</p> <p>May slur words, stumble or spill drinks</p> <p>Limited inhibitions/ more likely to take risks</p> <p><i>Language: Drunk - Pissed</i></p>	
<p>Stage 4</p> 	<p>Lacking control/no inhibitions</p> <p>More prone to aggressive/emotional behaviour</p> <p>Actions may lead to regret/embarrassment</p> <p><i>Language: Pissed - Smashed - Trashed - Shitfaced</i></p>	
<p>Stage 5</p> 	<p>Unconscious/passed out</p> <p>Unable to stand/speak</p> <p>Vomiting (more than just a one-off)</p> <p><i>Language: Blind - Wasted - Passed Out</i></p>	

Note: The pictures were drawn by group participants to depict drinking behaviours.

Based on these findings, we trialled the following new approach to asking survey questions about acceptability of intoxication. First, respondents were asked to rate several behaviours associated with intoxication on a scale from 0 to 10 with 0 being 'sober' and 10 being 'passed out'. These behaviours were chosen based on common behaviours reported in the qualitative component as being associated with various levels of intoxication. Later analysis confirmed that most respondents were in general agreement regarding the level of intoxication associated with each behaviour, with standard deviations for each rating ranging from 1.5 to 1.9. Moreover, most respondents also agreed on the order of behaviours along the scale, from 'starting to feel relaxed' at the lower end of the scale through to 'vomiting' at the higher end.

Below is the question asking respondents to rate behaviours on the scale:

- Q.1. On a scale from 0 to 10 where 0 means SOBER and 10 means PASSED OUT, how would you rate a person who's... (READ OUT)
- a. Starting to feel relaxed
 - b. Losing their inhibitions
 - c. Getting excited and noisy
 - d. Starting to slur their speech
 - e. Losing their balance
 - f. Head is spinning
 - g. Vomiting

Respondents were then asked to choose a term for the level of intoxication they associated with the behaviour, 'losing their balance'. Mean rating for this level of intoxication was 8.1.

The following is the question from the survey:

- Q.2. You gave "losing balance" a rating of (INSERT NUMBER FROM SCALE) on that scale where 0 means SOBER and 10 means PASSED OUT. What **word** would you use to describe this level of intoxication? In other words, if someone has drunk enough alcohol to be losing their balance, would you refer to them as 'drunk', 'smashed', 'tipsy', 'pissed', 'wasted', 'inebriated', 'hammered'...or what word would you use?

RECORD TERM USED FOR LOSING BALANCE

Finally, respondents were asked a series of questions about acceptability of intoxication using this chosen term. Many of these questions were modifications of previously administered survey questions. One example is provided below:

- Q.3. Getting [INSERT TERM USED FOR LOSING BALANCE] every now and then is not a problem. Do you... (READ OUT)

Strongly agree	1
Agree	2
(Neither agree nor disagree).....	3
Disagree	4
Strongly disagree	5
(Don't know)	6
(Refused).....	7

The cognitive testing indicated that respondents understood and felt comfortable with this approach to asking about intoxication, and also believed that it was a more accurate

approach than asking about either consumption or using blanket terms such as, 'drunk' or 'intoxicated'. Our pilot testing indicated that respondents had little difficulties answering these questions.

DISCUSSION

VicHealth is attempting to shift the alcohol culture in Victoria from one in which intoxication and heavy episodic drinking (binge drinking) are common and accepted, particularly among young people, to one in which moderate drinking is the norm. In order to gauge whether their efforts are successful, they need simple measures of acceptability of intoxication that can be administered repeatedly over time. Currently available measures, however, appear to be inadequate. Drinking behaviour is mostly measured by consumption (see, for example, Donato et al. 2012; Li & Dingle 2012; Utpala-Kumar & Deane 2012); questions about alcohol culture are mostly concerned with cultural attitudes, influences or drinking expectations (see, for example, Li & Dingle 2012; Stahlbrandt et al. 2008; Fisher et al. 2007); and the few questions more specifically focused on acceptability of intoxication assume a common understanding of terminology (see, for example, Department of Health 2013; Victorian Drug and Alcohol Prevention Council 2010; FARE 2013). An example of the latter is the following question, which asks respondents the extent to which they agree with the following statement: "It's ok to get drunk" (Department of Health 2013, p.34). But as we know from our qualitative research, 'drunk' means quite different levels of intoxication to different people.

The purpose of this study was to first understand how Victorians, and particularly young Victorians, think and talk about intoxication, and then use this information to develop survey questions that measure acceptability of intoxication. The result was a three stage process whereby survey respondents were first asked to rate various behaviours related to intoxication on an 11-point scale, then provide a term associated with the behaviour, 'losing your balance', and finally answer several questions about acceptability of intoxication using this term. This new framework anchors personal perceptions of intoxication to an objectively identifiable behaviour consistently associated with a particular (high) level of intoxication, thus allowing greater insight into the link between alcohol attitudes and

behaviour overall. We contend the result is a superior approach to measuring acceptability of intoxication.

LIMITATIONS

Given that the qualitative research was conducted with only 67 participants in two locations in Victoria, it is possible that the findings from the Integrated Groups do not generalise across Victoria or beyond Victoria. In particular, only four participants (in Melbourne) were aged 30 or older, and thus any conclusions regarding “older people” should be considered preliminary only. The research, however, was focused specifically on younger people in Victoria. Nevertheless, additional qualitative research with a broader spectrum of ages and location could confirm these initial findings.

This survey is the first to ask about acceptability of intoxication using this new framework. Additional research might compare the results of these measures against more traditional measures to test our belief that this approach produces more valid and reliable measures of acceptability of intoxication.

CONCLUSION

‘Alcohol culture’ is a difficult and complex concept that one might measure in a variety of ways. VicHealth has determined that at least one important aspect of alcohol culture in Victoria is the extent to which people, and particularly young people, accept intoxication as a normal and relatively positive component of many social occasions. A focus for their agenda is to shift this culture towards one in which moderation is the norm.

In order to track any changes in the level of acceptability of intoxication within a population one must have appropriate measures. We believe that current ways of measuring this concept are inadequate and not based on how people actually think and talk about intoxication. We propose an alternative approach that uses people’s own terminology for a specific behaviour generally associated with a high level of intoxication to ask questions about acceptability of intoxication. It is hoped that this approach will be further tested and that it might improve the way that researchers measure alcohol culture.

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