

National Drug Research Institute

**Social Media Alcohol Marketing and Its Impact on Young People's
Alcohol Use: A Comparison between India and Australia**

Himanshu Gupta

**This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University**

August 2018

Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

This thesis contains five published papers. The statements of contribution of co-authors for each paper are presented in Appendix 1. I warrant that I have obtained, where necessary, permission from the copyright owners to use any of my own published work (i.e., journal articles) in which the copyright is held by another party (i.e., publisher). The permission statements are presented in Appendix 2. For chapters containing published papers, section and subsection numbers have been added to the papers' headings and subheadings. In-text references to figures and tables include the thesis chapter number, where necessary. All references and spellings are standardised to the style output of the relevant Journal.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research studies received human research ethics approval from the Curtin University Human Research Ethics Committee (RDHS-239-15).



Himanshu Gupta

Date: 07/08/2018

Abstract

Background: Alcohol marketing on social networking sites (SNS) is associated with alcohol use among young people. However, little is known about how social media alcohol marketing is utilised for alcohol promotion in diverse national contexts and across different SNS. There does not appear to be any academic work on online exposure to alcohol marketing via social media in India, and most of the limited research in Australia has focused on Facebook. Moreover, cross-national comparisons on this topic between countries with significantly dissimilar alcohol use patterns and socio-cultural norms associated with alcohol use have not been conducted.

Objectives: The aims of this study were to investigate and compare the types of marketing strategies used by leading Indian and Australian alcohol brands on their official Facebook, YouTube, and Twitter accounts, and the extent to which users engage with these strategies. This study also examined and compared the association between self-reported exposure to alcohol marketing on these SNS and alcohol use among young Indians and Australians.

Methods: The 20 leading Indian and Australian alcohol brands on Facebook, Twitter, and YouTube (the top 10 brands per country per SNS) were identified based on the number of likes, followers, and subscriptions, respectively. Metrics such as the number of likes, subscriptions, frequency of brand and fan comments, and the type of content were collected for each identified brand either directly or from data analytic sources. In addition, cross-sectional, self-report data were obtained from a convenience sample of 631 respondents (330 in India; 301 in Australia) aged 13–25 years via online surveys. Respondents answered questions on their drinking behaviours and involvement with alcohol marketing on SNS.

Results: When the data were collected (Facebook: December 2015-January 2016; Twitter: January 2016-February 2016; YouTube: February 2016-March 2016), the identified brands had accrued cumulative totals (from the inception of the brands' SNS pages through to the data collection period) of about 76 million likes on Facebook (Indian brands: $n = 3,209,754$;

Australian brands: $n = 73,169,929$), had 150,000 followers on Twitter (Indian brands: $n = 110,032$; Australian brands: $n = 40,354$), and had gathered nearly 100,000 subscriptions (Indian brands: $n = 13,868$; Australian brands: $n = 85,013$) on YouTube.

Marketers utilised both generic strategies and those that differed by country. The strategies were largely consistent across SNS. The generic approaches included alcohol sponsorship of sporting, music, and fashion events; demonstration of cocktail and food-drink recipes; brand-related competitions and promotional giveaways; and the use of memes. Examples of strategies that varied largely by country included inspirational talks, livelihood skills, sexually suggestive content (India), and posts related to the brand's tradition or heritage (Australia). These strategies included those that are relatively more popular amongst younger people (e.g., brand-sponsored events, consumption suggestions, competitions, and giveaways). User engagement was demonstrated through users' posts responding to brand-generated content (e.g., messages, images, and videos) and users posting new content on brands' SNS pages.

Respondents from both countries reported interacting with alcohol-related content posted on SNS, predominantly on Facebook, followed by YouTube, and then Twitter. These interactions were primarily in the forms of posting/liking/sharing/commenting on items posted on alcohol companies' social media accounts, viewing an event page, attending an event advertised by an alcohol company via social media, and/or accessing an alcohol website. Multivariate analyses demonstrated significant associations between respondents' interaction with alcohol content and self-reported alcohol consumption, with effects differing by media type, demographic group, and country. For example, having friends who shared alcohol-related content was associated with usual alcohol consumption for Indian respondents ($p < .001$), whereas posting alcohol-related information themselves was significant for Australians ($p < .001$).

Conclusion: This appears to be the first study to 1) perform a cross-national comparison of SNS-based alcohol marketing practices and across different social media platforms; and 2) examine the relationship between SNS-based alcohol marketing and alcohol use among young people in different national contexts and across varying social media. Therefore, this study provides a substantial, original, and significant contribution to the existing knowledge in this area. This cross-national comparison illustrates that alcohol marketing on SNS is user-focused and flexible, works with specific national contexts, and capitalises on the cultural meanings users invoke in their interactions with these sites. Those exposed to alcohol marketing on these sites are likely to include those under the legal alcohol purchase age. Consistent with previous research, the results of this study suggest an association between alcohol-related content posted on SNS and young people's alcohol use. Further, this study extends previous research by demonstrating this association across varying SNS and national contexts. The results highlight the need to formulate and implement strategies to effectively regulate alcohol marketing via SNS, especially among younger SNS users.

Acknowledgements

“I blame all of you. Completing this project has been an exercise in sustained suffering (and occasional glee). The casual reader may, perhaps, exempt themselves from excessive guilt, but for those of you who have played the larger role in prolonging my agonies with your encouragement and support, well...you know who you are (God included), and I owe you.”

(adapted and modified)

I would like to thank my family for supporting me from afar throughout my PhD journey and my life in general. I would like to express my sincere gratitude to my supervisor, Dr Robert J Tait, for the continuous support of my PhD study and related research, for his patience, motivation, and knowledge. His guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better supervisor and mentor for my PhD study. Robert, you are an amazing human being too.

I would like to thank my co-supervisors, Prof Simone Pettigrew and Dr Tina Lam, for their insightful comments and encouragement, but also for the hard questions which incited me to widen my research from various perspectives. Simone, yours words “*onwards and upwards ☺*” and “*having an eye for detail is both a blessing and a curse*” were always encouraging. Tina, thank you for taking the time and discussing the possible avenues I could explore post-PhD. I am also thankful to the Chair of my thesis committee, Dr Nyanda McBride, for her support and encouragement. I am grateful to NDRI’s administrative and communication people who were always cheerful and ready to help. I gratefully acknowledge the funding sources that made my PhD work possible.

My time at Curtin and Perth was made enjoyable in large part due to the many people, Mahnaz, Ninh, Samantha, Alice, Amy, Yi-Huey, Bristi, Jian, Anu, Ananta, and Shailesh, that became lifetime friends. I am grateful for the time spent with housemates and friends – extended lunches, chats over coffees, occasional dinners, birthday celebrations, and our

memorable trips to the mountains and fishing. Halima, Timothy, Shaheen, and Divya – my friends from afar who consistently supported me through thick and thin, I am grateful to you.

List of publications included as part of the thesis

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2016). A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and Alcoholism*, 51(6), 763-771. <https://doi.org/10.1093/alcalc/agw050>.

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2018). How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective. *Critical Public Health*, 28(4), 402-411. <http://dx.doi.org/10.1080/09581596.2017.1318203>

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2017). A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia. *Drugs: Education, Prevention and Policy*, 1-9. <https://doi.org/10.1080/09687637.2017.1411886>

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018). Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts. *BMC Public Health*, 18:141, 1-10. doi:10.1186/s12889-018-5035-3

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018). The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia. *BMC Public Health*, 18:726, 1-11. doi: <https://doi.org/10.1186/s12889-018-5645-9>

Abbreviations

ABAC	Alcohol Beverages Advertising Code
AOR	Adjusted Odds Ratio
ASCI	Advertising Standard Council of India
AUDIT	Alcohol Use Disorders Identification Test
HED	Heavy Episodic Drinking
IMFL	Indian Made Foreign Liquor
I/PD	Intoxication/Problem Drinking
IQR	Inter Quartile Range
MANOVA	Multivariate Analysis of Variance
SD	Standard Deviation
SNS	Social Networking Sites
TESD	Time-and Event-Specific Drinking
WHO	World Health Organisation

Glossary

Country liquor: The term used for locally made alcoholic beverages of Indian origin. The beverages vary between different parts of the country, depending on the availability of raw materials in the region, such as sugarcane and wheat in the north; cashew and coconut in the west; and rice, coconut, and palm sap in the south. Some of the popular beverages are: Tharra (north), Feni (west), and Arrack and Toddy (south).

Heavy Episodic Drinking (HED): The World Health Organization defines HED as consuming at least 60g of pure alcohol in a single session at least once a month (World Health Organization, 2014). However, the definition of HED varies between countries. According to the National Health and Medical Research Council's (NHMRC) 2009 Australian Guidelines to Reduce Health Risks from Drinking Alcohol, no level of drinking alcohol can be considered completely safe or conferring 'no risk'. The guidelines do not explicitly define what is considered 'risky', or 'heavy episodic' drinking. Instead, the guidelines talk about what is considered a 'low-risk'. The guidelines recommend that children and younger people should not drink alcohol at all and older adolescents (15-17 years old) should consider at least delaying the initiation of drinking as long as possible. For healthy adult men and women with no other risk factors (e.g., pregnancy, family history of alcohol problems, and operating machinery), NHMRC recommends consuming no more than four drinks on an occasion to reduce the risk of alcohol-related injury (National Health and Medical Research Council, 2009). The equivalent Indian guidelines consider consuming five or more drinks on a single occasion (adult men and women) could increase the risk of alcohol-related injury arising from that occasion (International Institute for Population Sciences and World Health Organization, 2006). Hence, for this study, consuming at least 50g of pure alcohol (or five standard drinks; one standard drink equals 10g of pure alcohol in both countries) in a single session at least once a month, was considered as heavy episodic drinking.

Indian made foreign liquor: This comprises western-style hard liquor manufactured in India. Examples include brown spirits such as whisky, rum, and brandy; and white spirits such as gin, vodka, and white rum.

Unrecorded alcohol: This typically refers to home-brewed and illegally produced or sold alcohol. The consumption of this type of alcohol is difficult to estimate and thus remains unrecorded.

Youth and young people: The United Nations (1985) define 'youth' as aged 15-24 years and the term 'young people' refers to 10-24 years age group (World Health Organization, 1999).

Contents

Declaration	2
Abstract	3
Acknowledgements	6
List of publications included as part of the thesis	8
Abbreviations	9
Glossary	10
Chapter 1: Introduction	19
1.1 Background	19
1.2 Overview of countries	20
1.3 Alcohol use and alcohol advertising regulations	21
1.3.1 Drinking prevalence and patterns	21
1.3.2 Reasons for differences in consumption between countries	24
1.3.3 Alcohol policy	24
1.3.4 Alcohol advertising regulations	25
1.4 Internet access and SNS use	27
1.5 The role of SNS in drinking	27
1.6 Purpose of the study	29
1.7 Objectives	31
1.8 Methods	31
Chapter 2: Literature review	34
2.1 A systematic review of the impact of exposure to Internet-based alcohol-related content on young people’s alcohol use behaviours	34

2.1.1 Abstract	34
2.1.2 Introduction	35
2.1.3 Methods	36
Figure 2.1.1: Results of the articles search	39
2.1.4 Results	40
2.1.5 Discussion.....	46
2.1.6 Conclusion	49
2.1.7 References.....	49
2.1.8 Tables	54
Table 2.1.8.1 Characteristics of included studies, subdivided into passive exposure and active exposure studies	54
2.1.9 Appendices	58
Appendix 2.1.9.1: Search strategy using the PICO concept	58
Appendix 2.1.9.2: Eligibility criteria.....	59
Appendix 2.1.9.3: Search strategy	60
2.2 Overview of the updated review.....	61
2.2.1 Study characteristics and quality assessment	61
Table 2.2.1 Characteristics of included studies, subdivided into passive exposure and direct exposure studies	63
2.2.2 Individual study description	66
2.2.3 Summary of study results	70
Chapter 3: How alcohol marketing engages users with alcohol brand content on Facebook: An Indian and Australian perspective.....	72
3.1 Abstract	72

3.2 Introduction.....	73
3.3 Methods.....	76
3.3.1 Data sourcing.....	76
3.3.2 Coding process and analysis	77
3.4 Results.....	78
3.4.1 User engagement	78
3.4.2 Content of alcohol marketing.....	78
3.4 Discussion	82
3.6 References	86
3.7 Tables.....	91
Table 3.7.1: Search strategy to select the 10 most ‘liked’ brands in both India and Australia on Facebook	91
Table 3.7.2: User engagement with Facebook (December 2015-January 2016)	92
Table 3.7.3: Alcohol marketing content on the 10 most popular alcohol brands with an Indian Facebook presence	94
Table 3.7.4: Alcohol marketing content on the 10 most popular alcohol brands having Australian Facebook presence	97
Chapter 4: A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia	100
4.1 Abstract	100
4.2 Introduction.....	101
4.2.1 Drinking prevalence and patterns.....	102
4.2.2 Regulations applying to alcohol advertising	104
4.2.3 Research significance	104

4.3 Methods	106
4.3.1 Data collection	106
4.3.2 Coding process and analysis	107
4.4 Results	107
4.4.1 User engagement	107
4.4.2 Content of alcohol marketing	108
4.5 Discussion and Conclusion	112
4.6 References	117
4.7 Tables	125
Table 4.7.1: The coding process in inductive analysis (adapted from Creswell, 2002, Figure 9.4, p266)	125
Table 4.7.2: User engagement with Twitter at the time of data collection	126
Table 4.7.3: Tweet themes identified on the 10 most popular alcohol brands with Indian and Australian Twitter presence	127
Table 4.7.4: Categorization of tweet subjects for Indian and Australian brands during the study period (January 1, 2016 to February 29, 2016)	129
4.8 Figures	130
Figure 4.8.1: A meme posted on Carlton Draught's Twitter page	130
Figure 4.8.2: An example of sexually suggestive content posted on Kingfisher's Twitter page	130
Chapter 5: Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts	131
5.1 Abstract	131
5.2 Background	132

5.2.1 Drinking prevalence and patterns.....	134
5.2.2 Regulatory environment	135
5.2.3 Research significance	136
5.3 Methods.....	137
5.3.1 Sampling and data collection	137
5.3.2 Coding process and analysis	138
5.4 Results.....	139
5.4.1 User engagement	139
5.4.2 Strategies utilized for alcohol marketing	140
5.5 Discussion	144
5.6 Conclusions	150
5.7 References	150
5.8 Tables	156
Table 5.8.1: Search strategy to select the top 20 alcohol brands with the greatest YouTube presence, 10 each for India and Australia.....	156
Table 5.8.2: The coding process in inductive analysis (adapted from Creswell, 2002, Figure 9.4, p266).....	157
Table 5.8.3: User engagement with YouTube (February 2016 – March 2016).....	158
Table 5.8.4: Strategies identified for the top 10 Indian and Australian alcohol brands on YouTube.....	159
Table 5.8.5: References to the content posted on brands' YouTube pages	161
Chapter 6: The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia	162
6.1 Abstract	162

6.2 Background	163
6.2.1 Purpose of the study	164
6.2.2 Socio-cultural norms and drinking prevalence and patterns.....	166
6.2.3 SNS use and regulatory environment	167
6.3 Methods.....	168
6.3.1 Respondents.....	168
6.3.2 Measures and statistical analyses.....	169
6.4 Results.....	171
6.4.1 Demographics and alcohol consumption	171
6.4.2 Exposure to and interaction with alcohol marketing on SNS.....	172
6.4.3 Associations between usual alcohol consumption and alcohol-related interactions on SNS.....	173
6.5 Discussion	175
6.6 Conclusions	177
6.7 References	178
6.8 Tables.....	184
Table 6.8.1: Respondent demographics	184
Table 6.8.2: Descriptive data on variables included in the multivariate analyses	186
Table 6.8.3: Multivariate associations between select characteristics and usual consumption levels (number of drinks consumed on a typical day) for Indian participants a	188
Table 6.8.4: Multivariate association between select characteristics and usual consumption levels (number of drinks consumed on a typical day) for Australian participants a	189

Chapter 7: Discussion	190
7.1 Main findings	190
7.1.1 SNS strategies used	190
7.1.2 User engagement with SNS strategies	192
7.1.3 Relationship between exposure to SNS alcohol marketing and alcohol use	196
7.2 Strengths & limitations of the study	197
7.3 Recommendations	200
7.4 Future study suggestions	201
References	204
Appendices	221
Appendix 1: The statement of primary contribution of the first author	221
Appendix 2: Permission to reproduce the material	222
2.1 Systematic review paper (Chapter 1)	222
2.2 Facebook Paper (Chapter 3)	225
2.3 Twitter Paper (Chapter 4)	226
2.4 YouTube Paper (Chapter 5)	227
2.5 Survey Paper (Chapter 6)	228
Appendix 3: Ethics approval letter and amendments	229
Appendix 4: Participation Information Sheet and Survey	232
4.1 Survey for those based in Australia	232
4.2 Survey for those based in India	247
Appendix 5: Conference/Seminar presentations made as part of this study	267
Appendix 6: Survey advertisements	268

Chapter 1: Introduction

1.1 Background

In 2010, the global annual per capita consumption of pure alcohol was estimated at 6.2L among those aged 15 years or older (World Health Organization, 2014). About 25% of this consumption was unrecorded alcohol and about half of the total recorded alcohol was consumed in the form of spirits and 35% in the form of beer. Globally, about 62% of those aged 15+ years reported having not drunk any alcohol in the past 12 months, in 2010. Further, of those who reported having drunk alcohol (aged 15+ years), an estimated 16% reported having engaged in heavy episodic drinking (World Health Organization, 2014).

Substantial differences in consumption patterns were reported across WHO regions. However, in general, alcohol consumption was related to the economic wealth of a country. The greater the economic wealth, the greater the alcohol consumption, the fewer the number of abstainers, and the higher the prevalence of heavy episodic drinking among drinkers (World Health Organization, 2014). Alcohol consumption contributed to 6% (3 million) of all deaths (male 8% versus female 4%) and 5% (139 million disability adjusted life years) of the burden of disease and injury in 2012 (World Health Organization, 2014).

Alcohol consumption by youth, especially those under 20 years of age, can lead to structural changes in their brains (Bava & Tapert, 2010). Such changes increase the likelihood of a range of adverse outcomes including personality disorders, learning difficulties, decreased concentration, lower school grades, depression, and accidents from acute intoxication (Babor, Robaina, Noel, & Ritson, 2017; Gururaj, Murthy, Girish, & Vivek, 2011). Longitudinal data suggest that earlier initiation of alcohol use may accelerate the likelihood of risky drinking for some and potentially make them susceptible to developing alcohol dependence at a later stage in life (Grant & Dawson, 1997; Grant, Stinson, & Harford, 2001).

Rapid developments are occurring in the availability and use of communication technologies. In particular, accessing social networking sites (SNS) and interacting with friends on SNS have become favourite pastimes for youth, with SNS becoming an important platform for building and maintaining peer networks (Atkinson, Ross-Houle, Begley, & Sumnall, 2017). However, the growth and uptake of these forms of SNS by youth have brought concerns (Fogarty & Chapman, 2013). Of specific relevance to the present research, the amount of time spent by young people on SNS has seen a shift from traditional forms of marketing to SNS alcohol marketing and alcohol companies investing considerably in these novel forms of marketing (Nicholls, 2012).

Young people engage more with SNS compared with other age groups and hence are more susceptible to harms arising from SNS-based alcohol marketing (Dobson, 2012). Exposure to alcohol marketing on SNS increases the likelihood of having young people develop positive attitudes towards alcohol (Alhabash, McAlister, Quilliam, Richards, & Lou, 2015). These attitudes further increase the likelihood of regular (Jones, Robinson, Barrie, Francis, & Lee, 2016) and risky drinking (Barnes et al., 2016), and subsequent alcohol-related problems (Hoffman, Pinkleton, Weintraub Austin, & Reyes-Velázquez, 2014).

1.2 Overview of countries

The Republic of India is a country in South Asia and has an estimated population of about 1.2 billion (about 33% of whom are in the 10-25 age group), making India second only to China, in terms of population (Office of the Registrar General & Census Commissioner Government of India, 2011b). India is neighbours with Bangladesh and Myanmar in the east; shares land borders with China, Nepal, and Bhutan in the north-east; and with Pakistan in the west. On the rim of the Indian Ocean, India is near Sri Lanka and the Maldives, and also shares naval borders with Thailand and Indonesia. India is a federation comprising 29 states and seven union territories. Because there are 780 spoken languages, India does not have a national language, but Hindi and English are designated as the official languages.

The Commonwealth of Australia is a country in Oceania with a population of about 24 million (of which about 13% belong to the 10-25 age group) (Australian Bureau of Statistics, 2016, 2017). In the north, Australia is neighbours with Papua New Guinea, Indonesia, and East Timor; with the Solomon Islands and Vanuatu in the north-east; and with New Zealand in the south-east. Australia is a federation consisting of six states, three internal, and seven external federal territories. The official language of Australia is English.

1.3 Alcohol use and alcohol advertising regulations

1.3.1 Drinking prevalence and patterns

India and Australia have significantly diverse histories, socio-cultural contexts, and contrasting drinking cultures. Alcohol use and alcohol proscription have been documented from ancient to contemporary India, with social caste, class, and religion greatly influencing alcohol consumption throughout this time (Murthy, 2015; Sharma, Tripathi, & Pelto, 2010; Singh & Lal, 1979). The arrival of the British East India Company in the 18th century and the excise policies of the government resulted in increased alcohol availability in India. The 'prohibition movement' led by Mahatma Gandhi was started in the early 20th century; however, it was rejected by the government because of the revenues generated from alcohol sales (Murthy, 2015) and no longer exists.

The annual per capita consumption of alcohol in India increased from 3.6L to 4.3L between 2003 and 2010 (World Health Organization, 2014). This was a result of liberalisation of overseas trade rules, rapid economic transition, changing social norms, unprecedented exposure to alcohol marketing, increased alcohol accessibility and availability, weak enforcement of existing alcohol regulations, and a lack of a national alcohol policy (Arora et al., 2013). Hence, both tradition and social transition influence alcohol use in India. However, social acceptance of drinking is still much lower in India compared with other countries (Arora et al., 2013; Benegal, 2005; Murthy, 2015; Sharma et al., 2010).

Like many Western societies, alcohol is an important part of the Australian socio-cultural milieu, with most Australians consuming some level of alcohol (The Royal Australasian College of Physicians and The Royal Australian and New Zealand College of Psychiatrists, 2016). The annual per capita consumption of pure alcohol is estimated at 9.7L (Australian Bureau of Statistics, 2014). Alcohol use is generally socially accepted and its use often revolves around cultural symbolic meanings of drinking such as 'shouts' (taking turns to buy alcohol in a group), historical traditions of 'work and bush' (prolonged drinking following hard work in the bush), and the contemporary colloquial 'work hard and play hard' (drink hard following a day of hard work) (Roche et al., 2009). Nevertheless, alcohol use sits in a legal framework including restrictions on the minimum age at which it can be purchased, when and where it can be sold, and where it can be consumed.

In recent years, drinking patterns have changed in Australia. For example, the age at which a full serve of alcohol is consumed has risen from 14.8 years in 1995 to 16.1 years in 2016 (Australian Institute of Health and Welfare, 2017). Further, the prevalence of single occasion risky drinking has declined among adolescents aged 12-17 years in recent years (Australian Institute of Health and Welfare, 2017). Nevertheless, adolescents who drink at riskier levels are more likely to experience alcohol-related harms such as alcohol-related injuries and emergency department admissions (Lam et al., 2017; Ogeil, Gao, Rehm, Gmel, & Lloyd, 2016). Substantial differences in lifetime abstention rates have also been observed between individuals from English-speaking households (8% in 2001 versus 10% in 2013) and non-English-speaking households (32% in 2001 versus 41% in 2013) (Australian Institute of Health and Welfare, 2014). This larger increase in abstention rates among those with non-English-speaking backgrounds may reflect the changing profile of the home countries of migrants to Australia.

The annual per capita consumption of pure alcohol is estimated at 4.3L in India (World Health Organization, 2014) compared to 9.7L in Australia (Australian Bureau of Statistics, 2014). There is gender disparity in alcohol consumption in both countries, but the disparity is

much larger in India. Among lifetime drinkers aged 15 years or older, about 8L and 0.5L of pure alcohol are consumed annually by Indian men and women, respectively, whereas it is estimated at 17L for Australian men and 7L for Australian women (World Health Organization, 2014). Further, In India, about 75% of adults report lifetime abstinence (World Health Organization, 2014) compared with 15% in Australia (Australian Institute of Health and Welfare, 2017; World Health Organization, 2014).

In India, among those who drink, men have a far greater prevalence of heavy episodic drinking than women (13% versus 1%) in the 15+ years age group (World Health Organization, 2014). Although there is a disparity in heavy episodic drinking in both countries, this is smaller in Australia (19% of men versus 6% of women) in the same age group (World Health Organization, 2014). In addition to gender, alcohol use varies in both countries by other factors including wealth, education, and location. Substantial differences are also reported in the context of youth alcohol consumption between countries. These data have been reported in a published paper included in the thesis as chapter 3 (see section 3.2).

Spirits account for 93% of consumption of taxed alcohol in India. It is estimated that about 50% of the alcohol consumed in India is in the form of traditional home-made alcohol and hence remains unrecorded (Gururaj et al., 2011; World Health Organization, 2014). The consumption of home-brewed alcohol is more common in select communities, specifically in lower socio-economic status and rural communities, especially in north-eastern and some southern states of India (Gururaj et al., 2011). This means that this type of alcohol is likely not advertised on SNS and thus consumers of this type of alcohol may not engage with SNS alcohol marketing. However, this does not necessarily mean that this group of alcohol users is not targeted by alcohol marketers and that they do not engage with SNS alcohol marketing, especially given the large number of Internet users in India (about 432 million, 31% of the population). Hence, it is difficult to determine who is being specifically targeted on SNS in India and this is a gap in our present knowledge of alcohol marketing in India.

Indian made foreign liquor and beer are preferred over other types of alcoholic beverages in urban areas and among younger age groups, while country made liquor is popular in rural India and among older age groups (Gururaj et al., 2011). In comparison, beer (44%) and wine (37%) constitute the leading alcoholic beverages in Australia (World Health Organization, 2014). Among younger Australians (12-17 years old), pre-mixed spirits are the preferred types of alcoholic drinks (Australian Institute of Health and Welfare, 2017).

1.3.2 Reasons for differences in consumption between countries

As noted above, alcohol is historically and traditionally a part of (post-colonial) Australian culture. In contrast, India has traditionally had low levels of alcohol consumption, with a variety of socio-cultural norms that inhibit or prohibit alcohol use (Murthy, 2015; Rathod, Nadkarni, Bhana, & Shidhaye, 2015). These norms include lower social acceptance of alcohol (Murthy, 2015), religious prohibitions (e.g., lower prevalence of alcohol consumption among the Muslim population of India, which constitutes about 14% of the population) (Murthy, 2015; Office of the Registrar General & Census Commissioner Government of India, 2011a), and the legal drinking age in India ranging from 18–25 years, with sales banned in certain states (Arora et al., 2013).

Although not largely socially accepted, there is even lower social acceptance of drinking for women compared with men, in India (Kermode, Sono, Songput, & Devine, 2013). However, with increasing urbanisation and industrialisation, media influences, increased availability, and relaxation of overseas trade rules, alcohol use is increasing in India among both men and women (Arora et al., 2013; Arora et al., 2017). This increase, along with a similar trend in China, has been identified as a major component of the global increase in alcohol use (World Health Organization, 2014).

1.3.3 Alcohol policy

Alcohol is regulated at the state level in India, generating revenues from alcohol sales being the aim of most state alcohol policies (Gururaj et al., 2011). Alcohol legislation is fully

controlled by each state and territory, covering the production, distribution, and sale of alcohol. Further, the minimum legal age for alcohol purchase and consumption differs by state (Arora et al., 2013).

Alcohol is regulated at both the national and state or territory level in Australia. The minimum legal age for alcohol purchase is 18 years throughout Australia (Howard, Gordon, & Jones, 2014), and advertising is also regulated at the state and the national level. For instance, Western Australia has recently banned alcohol advertising on public transport (Government of Western Australia, 2018). Individual states and territories can regulate on various alcohol-related issues including availability and pricing. For example, the Western Australian government regulates the availability of alcohol through licensing and limiting the outlet density, and is considering introducing a minimum price per standard drink, following the recent introduction of minimum unit pricing of alcohol in the Northern Territory (Perpitch, 2017; The Foundation for Alcohol Research and Education, 2017).

1.3.4 Alcohol advertising regulations

The Advertising Standards Council of India (ASCI) regulates alcohol advertising in India via the ASCI Code (The Advertising Standards Council of India, 2013). The Code imposes a complete ban on alcohol advertising (both direct and indirect references to alcohol) in traditional media such as television and radio. Hence, alcohol marketers have resorted to alternative ways of alcohol promotion such as surrogate advertising, colloquially referred to as 'below-the-belt' marketing. This includes applying brand extensions to non-alcohol beverage products such as logos on merchandise and using brand-associated colours and/or layouts in non-alcohol advertisements. Other examples include event-based alcohol promotion such as alcohol company sponsored music, fashion, and sports events, which also often involve celebrities providing brand endorsements.

In India, the Cable Television Network (Regulation) Amendment Act (2009), the advertising code for the government-controlled channel Doordarshan and All India Radio, and the norms

for journalists' conduct issued by the Press Council of India all impose a complete ban on alcohol and tobacco advertisements on television and radio (Press Council of India, 2002; The Ministry of Information and Broadcasting Government of India, 2009). Doordarshan does not broadcast such advertisements; however, satellite channels still promote alcohol brands through surrogate advertising. There is currently no provision for prohibiting online alcohol advertising, hence SNS-based alcohol advertising remains unfettered and is extensive in India (Arora et al., 2013).

An Industry-regulated advertising code (Alcohol Beverages Advertising Code (ABAC)) applies to all alcohol marketing communications (including digital media) in Australia. The Code focuses primarily on the content of alcohol advertisements. For example, it states that “a marketing communication must not show (visibly, audibly or by direct implication) the consumption or presence of an Alcohol Beverage as a cause of or contributing to the achievement of personal, business, social, sporting, sexual or other success”, in the context of responsible depiction of alcohol (The Alcohol Beverages Advertising Code, 2013, p. 2). In addition, the Code also restricts portrayal of content that has strong or evident appeal to minors (e.g., animations, imagery, and cartoon characters), advertising using brand logos on non-alcohol beverage products (such as clothing and music CDs), and placement of content in digital media where there are no age-restrictions. The Code does not apply to brand sponsorship (The Alcohol Beverages Advertising Code, 2013).

Although the Code primarily relates to content, restrictions on placement apply to outdoor advertisements and commercials on free-to-air television and digital media where there are no age-restrictions. Therefore, digital media provide companies with a relatively unfettered platform for alcohol advertising other than the requirement that “Marketing Communication may only be placed where the audience is reasonably expected to comprise at least 75% adults (based on reliable, up-to-date audience composition data, if such data is available)” (The Alcohol Beverages Advertising Code, 2017, p. 4).

1.4 Internet access and SNS use

The access to the Internet in India (31%) is much lower than Australia (87%) (IAMA and Kantar IMRB, 2016; Sensis Social Media Report, 2016). However, a much bigger population and the rapid rise in alcohol consumption make India an important market for alcohol companies, and the Internet is an easy way to reach large numbers of potential consumers (Arora et al., 2013; World Health Organization, 2014). Data on the number of Internet and SNS users in each country are reported in Chapters 4 and 5.

1.5 The role of SNS in drinking

Four drinking motives, namely, social, conformity, enhancement, and coping motives have been identified as powerful proximal predictors of alcohol consumption, especially among youth (Cooper, 1994; Kuntsche et al., 2008; Mohr et al., 2005). Social and conformity motives include drinking as a predictor of socialising with others and being socially accepted. In such scenarios, drinking conforms to a particular community, for example, peers, and as a means to fit in with that group (Westgate, 2014). Enhancement motives have been reported by young drinkers as the ones that give positive enhancements such as celebrating alcohol consumption and feeling good (Westgate, 2014). Coping motives include coping with emotional states, and to alleviate negative emotional responses such as stress, depression, and so forth (Westgate, 2014).

Litt and Stock (2011) demonstrate that social and conformity motives, in particular, have strong social components and may potentially encourage alcohol-related social media use as well as real-life drinking behaviour. Social media may serve as a platform for those who view alcohol consumption as socially desirable and who want to fit in and conform to perceived social norms. Consequently, they may engage in both greater alcohol consumption and more alcohol-related posting on SNS (Westgate, 2014; Stoddard et al., 2012). SNS may also provide means to cope with negative emotions by either serving as a distraction from those emotions, or as platform to seek emotional support (coping motives).

Similarly, reporting drinking to have good time and fun at party, on SNS, accelerates the enjoyment of such activities (enhancement motives). This, in turn, may be associated with increased alcohol-related content posting on SNS, and greater alcohol consumption (Mohr et al., 2005).

However, theory development and research specific to the field of new communication technologies is still in its infancy and has been hampered by the rapidly changing technology and the platforms they support (Valkenburg et al., 2016). The difficulty of theory formation and testing is further impeded by the problem of intersecting disciplines in this area (Valkenburg et al., 2016). Therefore, the thesis takes an atheoretical approach in examining the alcohol marketing strategies used by brands on social media.

Alcohol companies publish content on their SNS pages and initiate conversations about their products with SNS users (Van Bellegham, 2011). This content is often based on users' interests, everyday activities, lifestyles, cultural practices, and individual identities, and it often encourages SNS users to celebrate and/or promote consumption via both direct and indirect references to alcohol (Atkinson et al., 2017; Atkinson, Ross, Begley, & Sumnall, 2014; Carah, Meurk, Males, & Brown, 2017; Lyons, Goodwin, McCreanor, & Griffin, 2015; Niland, McCreanor, Lyons, & Griffin, 2017). These conversations facilitate the development of user-generated content in a way such that users inadvertently co-create 'intoxigenic' online spaces (El-Amir & Burt, 2010; McCreanor et al., 2013).

The user-generated content is more beneficial to brands compared with brand-generated content because it flows more quickly and effectively into online peer networks via likes, clicks, tags, check-ins, and comments, thus increasing the reach and impact of the content to a wider audience. Hence, SNS users become a part of brand promotion to their online peer networks (Brodmerkel & Carah, 2013; Casswell, 2004; Mosher, 2012). This 'word-of-mouth' marketing effectively replaces marketers with peers and online friends as the source

of the messaging, which blurs the distinction between brand-generated and user-generated content (Mart, Mergendoller, & Simon, 2009).

It has been suggested that brands are specifically targeting young people on SNS, including those below the legal drinking age (Gordon, 2011; Griffiths & Casswell, 2010; Nicholls, 2012; Zulli et al., 2014). Marketing content often involves highly credible language, imagery, interactive games and competitions, celebrity endorsement, use of cartoons and memes, event-based sponsorship, food and/or cocktail recipes, motivational talks, and other promotional techniques such as attractive packaging and flavoured drinks, the latter especially to attract females and younger age groups (Carah, 2014; Nicholls, 2012; Winpenny, Marteau, & Nolte, 2014).

Brands also relate drinking to social status and sexual prowess, such as posting content featuring attractive female models and posts that link drinking to masculine identities (Carah, 2014; Lyons et al., 2015; Rhoades & Jernigan, 2013). Critically, exposure to these forms of marketing material are appealing to young people and potentially influence young people's alcohol use (Atkinson et al., 2014; Jernigan, Noel, Landon, Thornton, & Lobstein, 2017; Moreno, Cox, Young, & Haaland, 2015; Nicholls, 2012).

1.6 Purpose of the study

The choice of comparing SNS alcohol marketing in India and Australia was informed by developed 'wet' and emerging 'dry' markets and cultures of consumption which would allow the exploration of how alcohol marketing on SNS differs between such cultures. Such a comparison would also help us to understand the 'global' and 'local' characteristics of alcohol marketing. Because the Internet gives greater flexibility, responsiveness, and ability to specifically target niche groups (Hardey, 2011; Leyshon, 2011), it was hypothesised that alcohol marketers would use SNS to customise marketing strategies to cater to specific national contexts and that consumer responses to such marketing would vary between different cultural settings.

The choice of examining Facebook, YouTube, and Twitter, was informed by their popularity among SNS users (in terms of number of users) in the general population as well as younger groups, in both countries. At the time this study was proposed (early 2014), other SNS platforms such as Instagram were relatively newer and there was a lack of data on the popularity of these SNS among alcohol marketers and younger SNS users, hence Facebook, YouTube, and Twitter were chosen for this study.

Underage drinking and associated harms are a major problem in Australia and a growing concern in India (Australian Institute of Health and Welfare, 2014; World Health Organization, 2014). SNS use by young people puts them at the risk of exposure to online alcohol marketing (Gupta, Pettigrew, Lam, & Tait, 2016, 2018), and thus increases the likelihood of alcohol use (Gupta et al., 2016; Jones et al., 2016) and subsequent alcohol-related problems (Westgate & Holliday, 2016; Westgate, Neighbors, Heppner, Jahn, & Lindgren, 2014).

Most of the academic work on exposure to alcohol marketing via SNS has been conducted in the USA (Alhabash et al., 2015; Boyle, LaBrie, Froidevaux, & Witkovic, 2016; Nesi, Rothenberg, Hussong, & Jackson, 2017), the UK (Atkinson et al., 2017; Critchlow, Moodie, Bauld, Bonner, & Hastings, 2017; Nicholls, 2012), and Australia. Most of the international and Australian studies have focused on Facebook (Carah, 2014; Carah et al., 2017; Carrotte, Dietze, Wright, & Lim, 2016; Jones & Magee, 2011; Jones et al., 2016; Lim, Hare, Carrotte, & Dietze, 2016), and there is a lack of research on other SNS.

As outlined above, although there are substantial differences in the prevalence of alcohol use between these countries, social media is a relatively new means of advertising in both settings that is worthy of greater investigation. This study appears to be the first to identify and compare strategies alcohol companies use for alcohol promotion on SNS and their influence on youth alcohol consumption across countries. The study's results will be useful

to guide policies to reduce harmful use of alcohol resulting from exposure to SNS alcohol marketing, especially among younger age groups.

1.7 Objectives

- a) To investigate and compare the types of techniques alcohol companies utilise for alcohol promotion on official Indian and Australian alcohol brand pages on three leading SNS: Facebook, YouTube, and Twitter and the extent of user engagement with these techniques.
- b) To investigate and compare the association between self-reported exposure to alcohol marketing on social media and alcohol use among Indians and Australians aged 13-25 years.

1.8 Methods

In order to understand what is already known on the subject of interest and to facilitate the identification of key components of the topic, the initial task was to conduct a systematic literature review. It was expected that this would assist in creating a framework to develop the research, identify key gaps in knowledge on the area, and aid in anticipating potential outcomes from the study at a later stage (Cronin, Ryan, & Coughlan, 2008). Unlike traditional (narrative) reviews that summarise and synthesise a volume of literature on the subject of interest, systematic reviews use “explicit and rigorous criteria to identify, critically evaluate, and synthesise all the literature on a particular topic” (Cronin et al., 2008, p. 39). Therefore, a systematic review of published studies that investigated the relationship between young people’s engagement with SNS alcohol marketing and alcohol use, was undertaken for this study. The details on the framework used for the review, search strategy, description of the studies included in the review, quality assessment of the studies, and strengths and limitations of the review are reported in Chapter 2.

A mixed method approach was utilised for this study, as combining qualitative and quantitative data is likely to provide a richer and more detailed understanding of the research problem compared with using a single methodology (Denzin & Lincoln, 2005; Johnson & Onwuegbuzie, 2004). In addition, amalgamation of qualitative and quantitative data (known as methodological triangulation) enhances the validity of findings and increases our understanding of the studied phenomenon (Bekhet & Zauszniewski, 2012; Creswell, 2003). In the present study, the quantitative results complemented and clarified the qualitative findings in the context of the strategies used by alcohol companies on SNS, which are deemed more popular among the younger age groups. Although preferred (Tashakkori & Teddlie, 1998), there is no consensus over the use of this method (Greene & Caracelli, 1997). However, recommendations have been made to use a mixed methods approach in research (Tashakkori & Teddlie, 1998), acknowledging each method and being explicit about when each is used (Greene & Caracelli, 1997).

An inductive thematic analysis approach was chosen over the theoretical thematic analysis method for analysing the qualitative data in this study. This was because the latter is based on a specific theory and links the resulting themes back to the initial theory rather than being based on the actual data analysed (Boyatzis, 1998; Braun & Clarke, 2006; Corbin & Strauss, 2014), hence, limiting the scope of the analysis (Corbin & Strauss, 2014; Speziale, Streubert, & Carpenter, 2011). In contrast, an inductive coding approach is a 'bottom-up' or data driven analysis, that allows the generation of themes that are closely related to the studied phenomenon rather than linking the data back to the theory (Boyatzis, 1998; Corbin & Strauss, 2014), and thus providing a more detailed and richer analysis specifically related to the actual data. While this is an advantage of an inducting thematic analysis approach, this also limits the interpretative value of the data since the resulting themes do not sit in an existing theoretical framework (Braun & Clarke, 2006). However, this does not affect the essential trustworthiness of the resulting themes because the inductive approach does not take the theoretical framework into consideration (Braun & Clarke, 2006; Javadi & Zarea,

2016). Given the data driven nature of the inductive approach, there is debate, about the extent to which it should be informed by the literature with a tension between an analysis that is constrained by preconceptions versus one that is sensitised to critical issues (Braun & Clarke, 2006).

The choice of this method was further strengthened by similar previous studies that used an inductive thematic analysis method, thus supporting the appropriateness of the method selected for this study (Atkinson et al., 2017; Nicholls, 2012; Winpenny et al., 2014). The details on the coding process are reported in Chapters 3, 4, and 5.

An online survey method was utilised for the quantitative data collection for this study. Given the topic and the target sample: 1) the choice of an online survey was logical in that the survey was aimed at collecting information on respondents' exposure to online alcohol promotion, and for that they needed to have Internet access; 2) there is a much greater usage of digital media among young people compared with other age groups (Dobson, 2012; Lenhart & Madden, 2007); and 3) young people are more likely to respond honestly to online surveys compared with traditional paper-and-pencil measures, especially for studies of alcohol and other drugs (Bost, 2005; Davies et al., 2000; Ramo, Liu, & Prochaska, 2012). The information on sampling, tool development, recruitment procedure, and data analyses are discussed at length in Chapter 6. Further, a short description of how the survey results support the results from the qualitative study is presented in Chapter 7.

Chapter 2: Literature review

This chapter presents a published systematic review of studies that investigated the association between exposure to and engagement with Internet-based alcohol-related content and alcohol use among young people (Gupta et al., 2016). The published review is supplemented with an updated review that included new studies identified up until November 2017 (see section 2.2).

The methodology utilised in the original systematic review informed the selection of types of studies, participants, exposures, and outcome measures, for the updated review. The initial systematic review for the period up to December 2015 identified 15 studies (three qualitative and 12 quantitative). Of these, nine involved passive exposure and six direct exposure to advertising. The updated review identified 13 new studies (see section 2.2), illustrating the growing research interest in this field. It should be noted that a few ($n = 4$) studies published before December 2015 were identified during repeat (updated) search using the same search terms and included in the updated review.

2.1 A systematic review of the impact of exposure to Internet-based alcohol-related content on young people's alcohol use behaviours

2.1.1 Abstract

Aims

To conduct a systematic review of studies exploring the relationship between exposure to Internet-based alcohol-related content and alcohol use among young people.

Methods

Searches of electronic databases and reference lists of relevant articles were conducted to retrieve studies of relevance up until December 2015. Full texts of the studies that met the inclusion criteria were read, appraised for quality using the Kmet forms and guidelines, and included in this review.

Results

Fifteen relevant studies were identified. The included studies were a mix of cross-sectional, experimental, and qualitative studies conducted in the USA, the UK, Australia, and New Zealand. The age range of the participants involved in these studies was 12 to 25 years. Included studies employed a variety of study designs and a range of different exposure variables and outcome measures. Studies demonstrated significant associations between exposure to Internet-based alcohol-related content and intentions to drink and positive attitudes towards alcohol drinking among young people.

Conclusion

Exposure to alcohol-related content on the Internet might predispose young people to patterns of alcohol use by promoting alcohol as a natural and vital part of life. However, the research exploring the influence of this novel form of advertising on young people's alcohol use is emergent, and comprised primarily of cross-sectional studies. To evaluate the direction of the association between exposure to online alcohol-related content and alcohol use, we call for further research based on longitudinal designs.

2.1.2 Introduction

The alcohol industry portrays alcohol as a valuable commodity and associates it with strength, success, and fun (Casswell, 2004; Austin et al., 2006; Austin and Knaus, 2005), and depicts alcohol consumption as normative (Pettigrew et al., 2012). The industry is often seen to be in discord with public health due to its efforts to encourage weaker policies, deter more effective ones (Dobson, 2012), and to target youth via alcohol advertising using various marketing platforms (Smith and Foxcroft, 2009; Dobson, 2012).

Researchers have previously explored the association between alcohol advertising on traditional media (such as TV, print, radio and billboards) and its effect on alcohol use among young people. These studies show that exposure to alcohol-related content influences young people's beliefs about and attitudes towards drinking (Smith and Foxcroft, 2009; Anderson et al., 2009; Snyder et al., 2006; Thomsen and Rekve, 2006; Sargent et al., 2006; Ellickson et al., 2005; Stacy et al., 2004; Casswell and Zhang, 1998; Wyllie et al., 1998). These studies have also demonstrated that exposure to alcohol advertising is likely to promote drinking among youth and increases the likelihood that they will consume more if they already drink (Babor et al., 2010; Griffin et al., 2009; Anderson et al., 2009).

A recent review examined the role of social media in alcohol use but did not use a systematic approach (Westgate & Holliday 2016). The authors are not aware of any systematic reviews of studies investigating the relationship between exposure to Internet-based alcohol-related content and alcohol use among young people. Internet-based alcohol advertising is a relatively new form of advertising utilized by the alcohol industry to target young people in particular, and is therefore worthy of deeper investigation.

2.1.3 Methods

Types of studies

A PICo (Population, Interest, and Context) framework was utilized to conceptualize the search strategy for this review (Appendix 2.1.9.1). Studies investigating the impact of exposure to Internet-based alcohol-related content on alcohol use among young people were included. Those that only included alcohol advertising in traditional media were excluded. If studies included alcohol-related content presented both online and in traditional media, these were included where the effects of online content were analyzed separately. This strategy informed an exclusive estimation of the effect of exposure to Internet-based alcohol-related content on alcohol use among young people.

Studies utilizing cross-sectional, longitudinal, experimental, and qualitative research designs were included in this review (Appendix 2.1.9.2). Reviews and mixed-methods studies were excluded because the Kmet forms and guidelines (a quality appraisal tool used to evaluate the quality of studies) do not provide quality appraisal measures for these (Kmet et al., 2004).

Types of participants

The target age range for participants was 12 to 25 years. Studies that included young people as participants were excluded if results were not presented separately by age group.

Types of exposures

Given the dearth of studies directly assessing the topic of interest, studies exploring both exposure to user-generated online alcohol-related content (e.g., exposure to friends' online pictures of drinking, alcohol-related status updates) and exposure (content that is initiated by the alcohol industry as a part of their marketing efforts) to alcohol advertising were included. Studies were excluded if the results were not presented separately for online exposure to alcohol-related content so that the separate effect of online exposure could be assessed.

Types of outcome measures

In order to increase the available evidence base included in the review, studies that reported intention to drink or attitude to drinking were included along with those relating to self-reported alcohol use. Studies aimed at evaluating awareness of and responses to advertising in the absence of measured effects on drinking were excluded.

Identification of studies

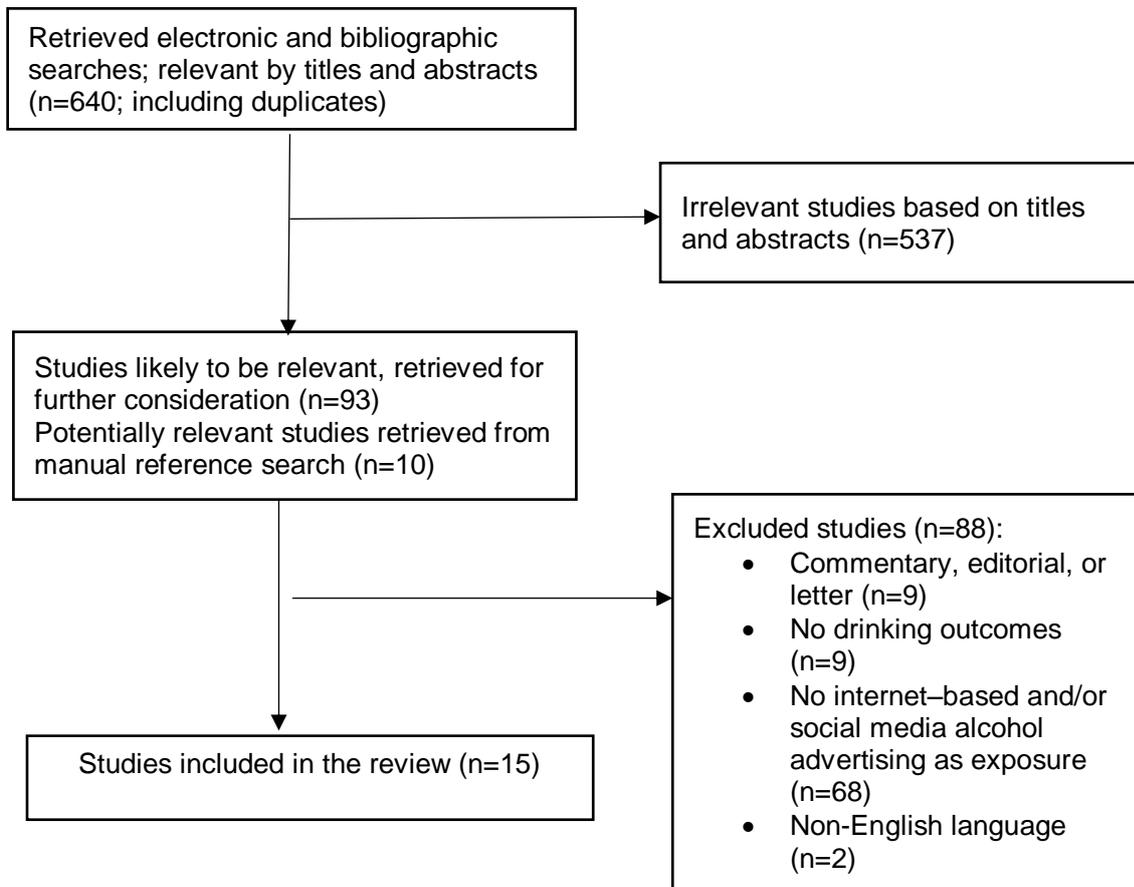
We piloted search terms to balance specificity and sensitivity of the search terms and fields. Iterative refinements were carried out, including MESH terms. The literature search was carried out using online databases (Medline, Embase, PsycINFO, Scopus, CINAHL Plus, and Sociological abstracts) and search engines to identify academic and organizational papers up to December 2015 (Appendix 2.1.9.3). Reference lists of potentially relevant studies were also manually scanned to identify additional relevant studies. Searches were restricted to English

language papers. To locate grey literature (documents published by organizations, rather than academic journal articles or books), Google Scholar, MedNAR, PsycEXTRA and NTIS (National Technical Information Service) were used. Theses and conference presentations related to the topic of review were also eligible.

Relevant articles were selected in three stages on the basis of the eligibility criteria described above (Appendix 2.1.9.2). Preliminary scrutiny of the titles was undertaken to remove articles irrelevant to the review. Next, articles deemed irrelevant by abstract content were discarded and full texts of the remaining potentially relevant articles were obtained. Manual reference searches were carried out on potentially relevant articles to increase the evidence base. Data from included studies were extracted and summarized as a narrative synthesis.

The search strategy retrieved 640 potentially relevant peer-reviewed articles. Ninety-three articles deemed relevant by titles and abstracts were identified for further consideration and full texts of these articles were obtained. Ten additional relevant articles were identified following the manual scanning of reference lists of retrieved articles. Ultimately, 15 articles that conformed to the eligibility criteria were included in this review (Figure 1). After assessing the exposure and outcome measures reported by these studies, it was evident that the relevant variables were too heterogeneous to be combined into a single effect size estimate, or even clustered into several estimates.

Figure 2.1.1: Results of the articles search



Quality appraisal of included studies

Quality appraisal of the included studies was carried out using the Kmet forms and guidelines (Kmet et al., 2004). These guidelines informed evaluation of quantitative and qualitative studies using different checklists/scoring systems. Rating of individual studies was carried out by two researchers independently (HG, RJT). The scores were calculated as (actual score/potential maximum score)*100 and the mean quality scores are reported in Table 2.1.8.1.

2.1.4 Results

Characteristics of the included studies are tabulated in Table 2.1.8.1. Nine studies utilized a cross-sectional design (Glassman, 2012; Gordon et al., 2011; Hoffman et al., 2014; Stoddard et al., 2012; Jones and Magee, 2011; McClure et al., 2013; Westgate et al., 2014; Jones et al., 2015; Moreno et al., 2012), two studies were experimental (Alhabash et al., 2015; Litt and Stock, 2011), and one was longitudinal (Huang et al., 2014). Three further studies adopted a qualitative approach (Moraes et al., 2014; Cavazos-Rehg et al., 2015; Barnes et al., 2016). The quality scores for all 15 studies were higher than 65% (mean of 85%) and were thus deemed suitable for inclusion in the systematic review.

Ten studies were conducted in the USA (Glassman, 2012; Hoffman et al., 2014; Stoddard et al., 2012; McClure et al., 2013; Westgate et al., 2014; Alhabash et al., 2015; Cavazos-Rehg et al., 2015; Litt and Stock, 2011; Moreno et al., 2012; Huang et al., 2014), two in the UK (Gordon et al., 2011; Moraes et al., 2014), two in Australia (Jones and Magee, 2011; Jones et al., 2015), and one in New Zealand (Barnes et al., 2016).

The age range of the participants across these studies was 12 to 25 years. Studies operationalized exposure to alcohol-related content through various methods such as free-recall or recognition of advertising seen on social networking sites. Types of exposure included participants' exposure to user-generated online alcohol-related content (e.g., exposure to friends' online pictures of drinking, alcohol-related status updates, and posted pictures of

alcohol use on Facebook) (Cavazo-Rehg et al., 2015; Glassman, 2012; Litt and Stock, 2010; Stoddard et al., 2012; Westgate et al., 2014; Gordon et al., 2011; Moreno et al., 2012; Huang et al., 2014; Barnes et al., 2016) and exposure to alcohol advertising (Hoffman et al., 2014; Jones and Magee, 2011; McClure et al., 2013; Jones et al., 2015; Alhabash et al., 2015; Moraes et al., 2014).

The primary outcomes of interest relate to youth alcohol use. In addition to estimates of quantities consumed, various proxy indicators for alcohol use were employed. Types of outcomes included measuring alcohol consumption intentions when exposed to alcohol status updates (Alhabash et al., 2015) and participants posting pictures of themselves drinking on Facebook as evidence of their alcohol consumption (Glassman, 2012; Westgate et al., 2014; Moreno et al., 2012).

Other combinations of predictors and outcomes included exposure to alcohol advertising as a predictor of uptake of drinking and increased frequency of drinking (Jones et al., 2015) and viewing Facebook profiles portraying alcohol use as normative among older peers as a predictor of greater willingness to use alcohol (Litt and Stock, 2011). Stoddard and colleagues used the prevalence of alcohol content on social networking websites and peer AOD use as predictors of alcohol use (2012), while an increase in participant recall of Internet advertising of alcohol was used as a predictor of heavy drinking in another study (McClure et al., 2013). Westgate et al. (2014) utilized posting of alcohol-related content on Facebook as a positive and independent predictor of number of drinks consumed per week, alcohol-related problems, risk of alcohol use disorders, and alcohol cravings. Lastly, the number of pro-alcohol Tweets was considered an outcome measure of the normalization of drinking by Cavazos-Rehg et al. (2015).

2.1.4.1 Individual studies

Studies on exposure to user-generated online alcohol-related content

Glassman (2012) conducted a cross-sectional survey to examine whether posting pictures of alcohol consumption on Facebook of oneself or friends was associated with the number of drinks consumed per week. The study found posting pictures of themselves drinking on Facebook was the strongest predictor of respondents' reported alcohol consumption for students of both genders and across the legal drinking age groups, after controlling for demographic factors ($p = .0001$).

A cross-sectional study conducted by Gordon et al. (2011) explored drinking behaviors and future drinking intentions through participants' recall of alcohol marketing awareness across multiple forms of alcohol marketing, including social networking sites. Results suggested that participation in electronic alcohol marketing (including social networking sites) was significantly associated with drinking, albeit within a small sample ($n = 72$, $p < .001$).

In an experimental study conducted by Litt and Stock (2011), participants viewed experimenter-created Facebook profiles of older high school students portraying alcohol use as normative and rated those profiles. Participants viewed experimenter-created Facebook profiles of older high school students portraying alcohol use as normative (including photographs of the students drinking or not drinking, and drinking or non-drinking related comments made by friends, depending on the experiment condition). Participants then rated those profiles on a series of personality traits. Participants were randomly assigned to one of two Facebook conditions- either an alcohol user condition or a control condition. Alcohol-related cognitions (including willingness to drink alcohol) were assessed after viewing the assigned Facebook profiles. Results showed that participants who viewed Facebook profiles portraying alcohol use as normative among older peers reported greater willingness to use alcohol ($p = .01$), more acceptance towards alcohol use ($p = .04$), and lower perceived vulnerability towards alcohol-related consequences ($p = .01$) compared to those in the control condition.

A cross-sectional study conducted by Stoddard et al (2012) measured frequency of alcohol use in the past 30 days, prevalence of alcohol-related online behaviors (e.g. uploading alcohol-related pictures and posts on social networking sites), attitudes about posting pictures of alcohol and other drug (AOD) use on social networking sites, peer AOD use, peer support online and offline, and anticipated regret about the consequences of posting evidence of AOD use online. Past 30 day alcohol use was significantly and positively associated with greater exposure to social network alcohol content and peer AOD use ($p < .01$). Young adults with higher educational attainment were more likely to report more alcohol use ($p < .01$). No significant associations were found between posting alcohol content on social networking websites and alcohol use, including when analyzed separately for sex, age, and race/ethnicity.

Westgate et al. (2014) used a cross-sectional study design to investigate the relationship between posting and viewing alcohol-related content on Facebook and alcohol use (drinking motives, alcohol consumption, alcohol problems, alcohol use disorders, and alcohol cravings). After controlling for drinking motives, posting alcohol-related content on Facebook was found to be significantly associated with number of drinks consumed per week, alcohol-related problems, risk of alcohol use disorders, and alcohol cravings (all $p < .001$).

Huang et al. (2014) conducted a longitudinal study with 1,563 tenth grade adolescents across five Southern California high schools. The study assessed their Myspace and Facebook use and online risk behaviors. Exposure to friends' online pictures of partying or drinking were found to be significantly associated with alcohol use ($p < .05$).

Moreno et al. (2012) conducted a cross-sectional study with 224 undergraduate students aged 18-20 years with public Facebook profiles who were enrolled at two US state universities. The study explored the associations between displayed alcohol use and intoxication/problem drinking (I/PD) references on Facebook, and self-reported problem drinking. Male I/PD displayers had an 89% higher Alcohol Use Disorders Identification Test (AUDIT) score than their non-displayer counterparts ($p = 0.001$). However, no significant associations were found

for female participants ($p = .07$). The I/PD displayers also reported more incidents of an alcohol-related injury in the past year ($p = .002$) compared to the alcohol displayers (19% vs 7%) and the non-displayers (19% vs 3%).

A qualitative study conducted by Cavazos-Rehg et al. (2015) thematically analyzed a random sample of drinking-related Tweets. Results suggested that of the 4,800 drinking-related Tweets collected, 3,813 were pro-alcohol. Most of the pro-alcohol Tweets were associated with normalizing and/or encouraging drinking. Pro-drinking Tweets outnumbered the anti-drinking Tweets by a factor of 10. It was concluded that although it is difficult to determine the extent to which these Tweets correspond to real drinking behaviors, it could be inferred that people (especially young people) use social media to reveal their intent to drink.

Barnes et al. (2016) qualitatively explored the practices of being “drunk while online” and “drinking while online”. Thematic analyses of focus group and individual interview data found that youth engagement with social networking sites encourages cultures of intoxication, normalizes heavy drinking, and reinforces a culture of risky drinking.

Studies on exposure to online alcohol advertising

Alhabash et al. (2015) investigated the spread of social media content through ‘viral’ behaviors such as ‘liking’, sharing, and commenting on messages. They presented participants with alcohol marketing Facebook status updates (usually short messages on the user’s thoughts, feelings or whereabouts) and advertisements, and assessed their attitudes and viral behavior intentions toward the stimuli. Participants were exposed to 12 Facebook screenshots in random order. Each screenshot was followed by collection of information on the above variables. Alcohol consumption intentions were found to be higher when participants’ attitudes toward alcohol status updates ($p < .05$) and their viral behavioral intentions toward status updates ($p < .01$) were more positive. Intentions towards drinking alcohol were significantly related to viral behavioral intentions for status updates ($p < .001$), even in the condition where an anti-binge-drinking message was present.

Hoffman et al. (2014) assessed recall of social media exposure to alcohol marketing content in the past 3 months, alcohol use during the past 30 days, problem drinking, and quantity of alcohol usually consumed on a single occasion. Exposure to alcohol-related social media was significantly associated with more frequent alcohol use ($p < .001$), problem drinking ($p < .001$), and higher quantities consumed on a single occasion ($p < .001$). The results represent a plausible reciprocal relationship between participants' exposure to alcohol marketing content in social media and alcohol-related behaviors rather than an exclusively predictive one. For example, alcohol users and/or those interested in alcohol use may look for alcohol marketing messages more frequently than other people.

Jones and Magee (2011) evaluated the relationship between drinking patterns and recall of exposure to alcohol advertising across various media (television, newspapers, magazines, bars or pubs, billboards/posters, the Internet, and promotional materials) via an online survey. Exposure to Internet advertising was significantly associated with frequency of alcohol consumption in the past 12 months among males aged 12–15 years (adjusted odds ratio (AOR) = 2.18, $p < .05$). However, the results for males aged 16–17 years and for females across the age groups were not statistically significant. Similarly, alcohol advertising on the Internet was significantly associated with the frequency of alcohol consumption in the previous four weeks among males aged 12–15 years (AOR = 3.05, $p < .05$), but not among females across the age groups.

McClure et al. (2013) investigated the association between Internet advertising exposure and underage drinking using telephone and web-based surveys. Participants' were asked to recall having seen alcohol advertising on the Internet, visiting any alcohol websites, recognizing five specific alcohol home pages, and being an online "fan" of an alcohol brand. After controlling for covariates and weighting all the estimates to control for sampling bias, the odds of 'binge' drinking increased by 39% (AOR = 1.39) for every point increase in the Internet score. Exposure to Internet alcohol advertising was not significantly associated with initiation of alcohol use. This was in contrast to exposure to television advertising, which was positively

associated with initiation. It should be noted that these results were reported in a conference abstract and it was not possible to obtain further data on the study.

An Australian study (Jones et al., 2015) explored the association between alcohol-related behavior and interaction with alcohol advertising and branding on Facebook via an online survey. Interaction with alcohol brands on Facebook was significantly and positively associated with reported frequency of alcohol consumption ($p < .001$). Similarly, interaction with alcohol advertising and branding on Facebook was strongly associated with quantity of alcohol consumed ($p < .001$). A significant association was also found between interaction with alcohol brands on Facebook and heavy episodic drinking ($p = .002$).

Moraes et al. (2014) conducted a netnographic study (defined as a form of ethnography used to study online cultures and communities) that involved collecting data from alcohol-related groups online. Results indicated that alcohol brands and nightclubs use Facebook as a channel to facilitate pro-alcohol communication and reproduce user-generated references and conversations relating to drinking, which promote a heavy drinking culture among young adults.

2.1.5 Discussion

To our knowledge, this review is the first to explore the impact of exposure to Internet-based alcohol-related content on alcohol use among young people. This systematic review found that exposure to Internet-based alcohol-related content was consistently associated with young people's alcohol use. The included studies employed various study designs and a range of exposure and outcome measures. However, despite the heterogeneity of designs and measures, the results were consistent across studies.

Overall, the findings suggest that exposure to alcohol-related content in online environments predisposes young Internet users to pro-alcohol discourses and constitutes an active and continuous conduit for the flow of apparently enjoyable peer-to-peer transmissions of marketers' messages (Westgate et al., 2014; Stoddard et al., 2012; Glassman, 2012; Moraes

et al., 2014; Cavazos-Rehg et al., 2015). These environments have been described elsewhere as 'cultures of intoxication' (Barnes et al., 2016; Measham, 2006:258), 'intoxigenic social environments' (McCreanor et al., 2008:2), or 'alcoogenic environments' (Huckle et al., 2008:1614). Exposure to both consumer and alcohol industry created content are likely to promote positive attitudes towards alcohol use (Moraes et al., 2014; Cavazos-Rehg et al., 2015; Litt and Stock, 2011; Alhabash et al., 2015, Winpenny et al., 2014; Huang et al., 2014), regular alcohol consumption (Jones and Magee, 2011; Jones et al., 2015; Stoddard et al., 2012; Hoffman et al., 2014; Gordon et al., 2011), cultures of heavy and risky drinking (Barnes et al., 2016; Jones et al., 2015; Litt & Stock, 2011; Westgate et al., 2014), and alcohol-related problems and risk of developing alcohol use disorders among youth (Westgate et al., 2014; Hoffman et al., 2014; McClure et al., 2013; Moreno et al., 2012). However, from the current data it is difficult to establish the direction of influence – whether drinkers are more likely to create and engage with alcohol-related content while online, whether exposure to this content affects alcohol use at a later stage, or a combination of both. This warrants a call for longitudinal research that can establish the temporal ordering, if not definitive causality, between these two behaviors. Also, the differential influences of exposure to online alcohol-related content on stages of alcohol use (from initiation to augmenting existing use) necessitate further research to better understand this phenomenon.

There are several limitations that should be considered when interpreting the results of this review. The majority of the quantitative studies included in this review were cross-sectional (except two that were experimental and one that was longitudinal), and therefore have a greater likelihood of systematic biases than more robust study designs, such as longitudinal studies and RCTs. However, the majority of these studies employed statistical strategies to control for a number of potential confounding factors possibly related to alcohol consumption behaviors which made them less susceptible to the effect of systematic bias (Glassman, 2012; Gordon et al., 2011; Hoffman et al., 2014; Stoddard et al., 2012; Jones and Magee, 2011; McClure et al., 2013; Westgate et al., 2014; Jones et al., 2015; Litt and Stock, 2011; Moreno

et al., 2012; Huang et al., 2014). However, there is always scope for unknown, and hence unmeasurable, confounding factors that may influence the results. Although longitudinal studies provide a high level of evidence for investigating the relationship between an exposure and an outcome, even such studies are susceptible to bias if not designed and executed rigorously (Smith and Foxcroft, 2009), particularly in terms of systematic loss to follow-up. It is worth noting that RCTs are considered the best design for inferring causality (Smith and Foxcroft, 2009), but this design is impractical to use in this research area because it is unethical to expose participants outside the laboratory to online alcohol-related content for some time to investigate subsequent potentially harmful effects of alcohol consumption.

Two studies included in this review utilized experimental study designs (Alhabash et al., 2015; Litt and Stock, 2011). These studies evaluated associations between a single exposure to Internet-based alcohol advertising and immediate effects on intentions to drink alcohol (Alhabash et al., 2015), and the effect of exposure to online alcohol-related content and reported drinking (Litt and Stock, 2011). As post-exposure effects were evaluated using a single time point, these studies have limited external validity when comparing to a more typical setting where young people are exposed to multiple messages over an extended period of time (Smith and Foxcroft, 2009).

A lack of generalizability of study results to different populations and subgroups is another limitation of the studies included in this review. For example, university students were often used as participants, but they are not similar to others in the same age group in many respects. A strength of this review is that many of the included quantitative studies collected data from a large number of participants (seven of the 11 studies had more than 500 participants) (Jones and Magee, 2011; Jones et al., 2015; Stoddard et al., 2012; McClure et al., 2013; Gordon et al., 2011; Hoffman et al., 2014; Huang et al., 2014), with only a few quantitative studies using smaller samples (Jones et al., 2015; Litt and Stock, 2011; Alhabash et al., 2015; Glassman et al., 2012; Moreno et al., 2012). Future longitudinal studies are warranted to explore the

potential causal impact of exposure to Internet-based alcohol content on alcohol use among young people.

Another important issue is the possibility of publication bias, with papers reporting significant findings more likely to be published and the associated practice of authors selectively reporting significant associations. In contrast, it is also possible that studies sponsored by the alcohol industry and other such organizations may have found a positive association between exposure to Internet alcohol content and alcohol use among young people, but have not been published due to perceived conflicts of interest. Hence, it is not possible to predict the likely impact of unpublished data on the evidence base in this area. However, the comprehensive search of electronic databases, including the grey literature, and bibliographic searches conducted to retrieve relevant studies have attempted to minimize these issues.

2.1.6 Conclusion

Exposure to alcohol-related content on the Internet might predispose young people to patterns of alcohol use by promoting alcohol as a natural and vital part of life. However, the research exploring the influence of this novel form of exposure on young people's alcohol use is emergent and comprised primarily of cross-sectional studies. To evaluate the direction of the association between alcohol use and exposure to alcohol-related content in online environments, further longitudinal research is required.

2.1.7 References

Alhabash S, McAlister AR, Quilliam ET, Richards JI, Lou C. (2015) Alcohol's Getting a Bit More Social: When Alcohol Marketing Messages on Facebook Increase Young Adults' Intentions to Imbibe. *Mass Commun Soc* 18(3):350-75.

Anderson P, de Bruijn A, Angus K, Gordon R, Hastings G. (2009) Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. *Alcohol Alcohol* 44:229-43.

Austin EW, Chen MJ, Grube JW. (2006) How does alcohol advertising influence underage drinking? The role of desirability, identification and skepticism. *J Adolescent Health* 38(4):376-84.

Austin E and Knaus C. (2005) Predicting the potential for risky behavior among those “too young” to drink as the result of appealing advertising. *J Health Commun* 5:13-27.

Babor TF, Caetano R, Casswell S, Edwards G, Giesbrecht N, Graham K, Rossow I. (2010) Alcohol: No ordinary commodity— a summary of the 2nd ed. *Addiction* 105: 769–79.

Barnes HM, McCreanor T, Goodwin I, Lyons A, Griffin C, Hutton F. (2016) Alcohol and social media: drinking and drunkenness while online. *Crit Public Health* 26(1):62-76.

Casswell S. (2004) Alcohol brands in young peoples’ everyday lives: New developments in marketing. *Alcohol Alcoholism* 6:471–76.

Casswell S and Zhang J-F. (1998) Impact of liking for advertising and brand allegiance on drinking and alcohol-related aggression: a longitudinal study. *Addiction* 93(8), 1209-17.

Cavazos-Rehg PA, Krauss MJ, Sowles SJ, Bierut LJ. (2015) “Hey everyone, I’m drunk.” An evaluation of drinking-related twitter chatter. *J Stud Alcohol Drugs* 76(4): 635-43.

Dobson C. (2012) Alcohol marketing and young people: Time for a new policy agenda. Kingston, Australia: AMA.

Ellickson PL, Collins RL, Hambarsoomians K, & McCaffrey DF. (2005) Does alcohol advertising promote adolescent drinking? Results from a longitudinal assessment. *Addiction* 100(2):235-46.

Glassman T. (2012) Implications for college students posting pictures of themselves drinking alcohol on Facebook. *J Alcohol Drug Educ* 56(1):38-58.

Gordon R, MacKintosh AM, Moodie C. (2011) Assessing the cumulative impact of alcohol marketing on young people's drinking: Cross-sectional data findings. *Addict Res Theory* 19(1):66-75.

Griffin C, Howell A, Hackley C, Mistral W, Szmigin I. (2009) Every time I do it I absolutely annihilate myself': Loss of (self-) Consciousness and loss of memory in young people's drinking narratives. *Sociology* 43(3):457–76.

Hoffman EW, Pinkleton BE, Austin EW, Reyes-Velázquez W. (2014) Exploring college students use of general and alcohol-related social media and their associations with alcohol-related behaviors. *J Am Coll Health* 62(5):328-35.

Huang GC, Unger JB, Soto D, Fujimoto K, Pentz MA, Jordan-Marsh M, Valente TW. (2014) Peer influences: the impact of online and offline friendship networks on adolescent smoking and alcohol use. *J Adolescent Health* 54: 508-14.

Huckle T, Pledger M, Casswell S. (2012) Increases in typical quantities consumed and alcohol-related problems during a decade of liberalising alcohol policy. *J Stud Alcohol Drugs* 73 (1):53–62.

Jones SC and Magee CA. (2011) Exposure to alcohol advertising and alcohol consumption among Australian adolescents. *Alcohol Alcohol* 46(5):630-37.

Jones SC, Robinson L, Barrie L, Francis K, Lee JK. (2015) Association Between Young Australian's Drinking Behaviours and Their Interactions With Alcohol Brands on Facebook: Results of an Online Survey. *Alcohol Alcohol* 1-17.

Kmet LM, Lee RC, Cook LS. (2004) Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields. The Alberta Heritage Foundation for Medical Research. Retrieved from <http://www.ahfmr.ab.ca/frames3.html>

Litt DM, Stock ML. (2011) Adolescent alcohol-related risk cognitions: the roles of social norms and social networking sites. *Psychol Addict Behav* 25(4):708-13.

McClure AC, Stoolmiller M, Jackson KM, Sargent JD. (2013) TV and internet alcohol marketing and underage alcohol use. *Alcohol Clin Exp Res* 37:13A.

McCreanor T, Barnes HM, Kaiwai H, Borell S, Gregory A. (2008) Creating intoxicogenic environments: marketing alcohol to young people in Aotearoa New Zealand. *Social Science & Medicine* 67(6):938-46.

Measham F. (2006) The new policy mix: alcohol, harm minimisation, and determined drunkenness in contemporary society. *Int J Drug Policy* 17(4):258–68.

Moraes C, Michaelidou N, Meneses RW. (2014) The use of Facebook to promote drinking among young consumers. *J Mark Manage* 30(13-14):1377-1401.

Moreno MA, D'Angelo J, Kacvinsky LE, Kerr B, Zhang C, Eickhoff J. (2014) Emergence and predictors of alcohol reference displays on Facebook during the first year of college. *Comput Human Behav* 30(0):87-94.

Pettigrew S, Roberts M, Pescud M, Chapman K, Quester P, Miller C. (2012) The extent and nature of alcohol advertising on Australian television. *Drug Alcohol Rev* 31(6):797-802.

Sargent JD, WT, Stoolmiller M, Gibson J, Gibbons FX. (2006) Alcohol use in motion pictures and its relation with early-onset teen drinking. *J Stud Alcohol* 67: 54-65.

Smith LA and Foxcroft DR. (2009) The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: systematic review of prospective cohort studies. *BMC Public Health* 9: 51-51.

Snyder LB, Milici FF, Slater M, Sun H, Strizhakova Y. (2006) Effects of alcohol advertising exposure on drinking among youth. *Archives of Pediatrics & Adolescent Medicine* 160(1): 18-24.

Stacy AW, Zogg JB, Unger JB, Dent CW. (2004) Exposure to Televised Alcohol Ads and Subsequent Adolescent Alcohol Use. *Am J Health Behav* 28: 498-509.

Stoddard S, Bauermeister JA, Gordon-Messer D, Johns M, Zimmerman MA. (2012) Permissive norms and young adults' alcohol and marijuana use: The role of online communities. *J Stud Alcohol Drugs* 73:968–75.

Thomsen SR and Rekve D. (2006) Entertainment and music magazine reading and binge drinking among a group of juvenile offenders. *Int J Adolesc Med Health* 18(1):123-31.

Westgate EC, Neighbors C, Heppner H, Jahn S, Lindgren KP. (2014) "I Will Take a Shot for Every 'Like' I Get on This Status": Posting Alcohol-Related Facebook Content Is Linked to Drinking Outcomes. *J Stud Alcohol Drugs* 75(3):390-98.

Winpenny EM, Marteau TM, Nolte E. (2014) Exposure of children and adolescents to alcohol marketing on social media websites. *Alcohol Alcoholism* 49: 154-159.

Wyllie A, Zhang JF, Casswell S. (1998) Positive responses to televised beer advertisements associated with drinking and problems reported by 18 to 29-year-olds. *Addiction* 93(5):749-60.

2.1.8 Tables

Table 2.1.8.1 Characteristics of included studies, subdivided into passive exposure and active exposure studies

Study characteristics	Participants' characteristics	Analysis (Kmet quality rating*)
Passive exposure studies		
Study: Glassman, 2012 Design: Cross-sectional Location: USA Data collection: Online questionnaire	Sample: n=445, recruited from a large U.S. Midwestern public university, with 73% of the participants aged 18-22 years (Mean=23.09, SD=7.45) Sex: Female 60% Ethnicity: Caucasian (76%), African - American (11%), Asian/Pacific Islander (4%), Hispanic (2%), American Indian/Alaskan Native (0.5%), other ethnic groups (5%)	Chi square tests, multiple linear regression, and independent-samples t-test with control for confounders. Data were analyzed separately for gender, age, race/ethnicity, grades, Sorority/Fraternity (0.91)
Study: Gordon et al., 2011 Design: Cross-sectional Location: Scotland, UK Data collection: Face-to-face interviews, accompanied by a self-completion questionnaire	Sample: n=920, second year pupils, aged 12-14 years, attending schools in three local authority areas in the West of Scotland. Sex: Female 53% Ethnicity: White (93%), Asian (3%), mixed race (1%), Black (1%), Chinese and other (<1%)	Regression analyses, with multiple control variables (age, gender, social grade (based upon occupation of head of household), ethnicity and religion) (0.95)
Study: Litt and Stock, 2011 Design: Experimental Location: USA Data collection: Data collection method not reported (Showing experimenter created Facebook profiles)	Sample: n=189, adolescents aged 13-15 years (Mean=14.7, SD=0.77) recruited from five private high schools, a swim team, and a church youth group Sex: Female 51% Ethnicity: As the study involved seeking information on illegal behaviors of minors,	MANCOVA, and bootstrap estimation multiple mediation analysis with multiple control variables (age, gender, past alcohol use, school site, and hours on Facebook) (0.68)

	IRB did not allow collection of ethnic/racial information to protect anonymity	
Study: Stoddard et al., 2012 Design: Cross-sectional Location: USA Data collection: Online survey	Sample: n=3,448, college students, aged 18-24 years recruited through an online Facebook advertisement. Sex: Female 48.4% Ethnicity: White (70%), African American (5%), Asian/Pacific Islander (11%), Hispanic/Latino (8%), Native American (1%), other (1%), Multiracial (2%)	Pearson's correlations and multivariate regression analyses, weighted sample was used. Analyzed weighted sample n=817. Data were not controlled for potential confounding (0.91)
Study: Westgate et al., 2014 Design: Cross-sectional Location: USA Data collection: Online survey	Sample: n=1,099, full time undergraduate students aged 18-25 years (Mean=20.40, SD=1.60) randomly selected from large university in the Pacific Northwest Sex: Female=654, male=449, transgender=2, 1 declined to answer Ethnicity: 59% White, 27% Asian, 8% biracial or multiracial, and the remaining 6% Black/African American, American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, unknown, or declined to answer	Factor analysis, Pearson's correlations and regression, with multiple control variables - gender, drinking motives number of Facebook friends (0.91)
Study: Huang et al., 2014 Design: Longitudinal Location: USA Data collection: Online survey	Sample: n=1,563, tenth grade adolescents (average age 15 years) across five Southern California high schools Sex: Female: Male- evenly distributed Ethnicity: 67% Hispanic, 33% Asian	Linear regression models, controlled for effects of online activity with friends on smoking and alcohol use outcomes at time-point 2 (0.82)
Study: Moreno et al., 2012 Design: Cross-sectional Location: USA Data collection: Social Network Study, a longitudinal study of high school adolescents	Sample: n=224, aged 18-20 years) enrolled at two state universities Sex: Female=122, male=102 Ethnicity: 68% White, 32% Others	Fisher exact test and Chi-square tests, zero-inflated negative binomial (ZINB) regression. Data were controlled for age and sex (0.91)

<p>Study: Cavazos-Rehg et al., 2015 Location: USA Data collection: Tweets containing alcohol- or drinking-related keywords were collected from March 13 to April 11, 2014</p>	<p>Sample: n=5,000, random sample of drinking-related Tweets in the English language</p>	<p>Thematic analyses of the Tweets collected (0.80)</p>
<p>Study: Barnes et al., 2016 Design: Group discussions (recruited by word-of-mouth and snowballing techniques) Location: New Zealand Data collection: 34 Focus groups (ranged mainly between 3 and 7 participants, with 2 groups of 2 participants) and 23 individual interviews</p>	<p>Sample: n=141, aged 18-25 years recruited from multiple start-points, including workplaces, universities and community groups. Sex: Female=80, male=57, Fa'afafine=4 Ethnicity: Maori, Pasifika, (e.g. Pacific Islander), and Pakeha (e.g. European)</p>	<p>Thematic analyses for focus group data and a multi-modal approach to individual interviews (0.75)</p>
<p>Direct exposure studies</p>		
<p>Study: Alhabash et al., 2015 Design: Experimental design: <ul style="list-style-type: none"> - x3 display ad type (alcohol ad vs. anti-binge drinking public service announcement vs. local bank) - x2 likes (low vs. high) - x2 shares (low vs. high) - x6 status update repetitions Location: USA Data collection: Online questionnaire</p>	<p>Sample: n=413, recruited from introductory classes at a large U.S. Midwestern university, with a mean age of 21 years (Mean=20.58, SD=1.52) Sex: Female 57.1% Ethnicity: White/Caucasian (77.2%), Other (22.8%)</p>	<p>Linear regression model with no control for confounders. Genders not analyzed separately (0.67)</p>
<p>Study: Hoffman et al., 2014 Design: Cross-sectional Location: USA Data collection: Online survey</p>	<p>Sample: n=737, college students (average age 21.4 years) recruited from two universities, one public (61% of participants) in the Pacific Northwest and the other private (39% of participants), Catholic university in the Northeast Sex: Female (68%), male (32%), (n=91 did not report their sex)</p>	<p>Multiple regression analyses, with multiple control variables (sex, age, reported family income, reported grades in school, expectations for educational attainment, year in college, and university affiliation) (0.86)</p>

	Ethnicity: Caucasian (76%), African American (3%), Asian (7%), Hispanic (4%), other (3%), 7% declined to report their ethnicity	
Study: Jones and Magee, 2011 Design: Cross-sectional Location: NSW, Australia Data collection: Online and offline surveys	Sample: n=1,113, adolescents aged 12-17 years recruited from high schools, shopping malls, online Facebook advertising, and a parallel focus group study on consumption of alcopops Sex: Female 57.5% Ethnicity: Not collected	Logistic regression, with multiple control variables - age, gender, country of birth, religion, parents' alcohol consumption, siblings', and friends' alcohol consumption (1.00)
Study: Jones et al., 2015 Design: Cross-sectional Location: Australia Data collection: Online survey	Sample: n= 283, Australian Facebook users aged 16-24 years recruited via a market research panel, iView Sex: Female 71.7% Ethnicity: Not collected (85.9% born in Australia)	Chi square and logistic regression, with multiple control variables - gender, age, education, employment, and country of birth (0.91)
Study: McClure et al., 2013 Design: Cross-sectional Location: USA Data collection: Phone and web-based survey (NB Conference abstract)	Sample: n=2,012, younger than 21 years Sex: Not reported in the abstract	Logistic regression, with multiple control variables - age, gender, race, sensation-seeking, friend and parent drinking. All estimates were weighted to account for sampling bias (0.86)
Study: Moraes et al., 2014 Design: Online recruitment Location: UK Data collection: 3 Focus groups (ranged mainly between 4-6 participants per group) and netnographic study (conducted between March and June 2011)	Sample: n=15, Facebook users aged 18-24 years recruited online via a web portal. The netnographic study involved collecting data from alcohol-related groups, nightclub groups and pages, and official brand pages through Facebook (n=11) Sex: Female 75%	Template analyses for both focus group data and netnographic or online ethnography) data. Data were managed using NVivo9 (0.90)

*Mean quality rating: the scores by each assessor were calculated as (actual score/potential maximum score)

2.1.9 Appendices

Appendix 2.1.9.1: Search strategy using the PICO concept

P (Population)	I (Interest)	Co (Context)
Young people (adolescents and young adults)	Impact on alcohol consumption behaviors	Internet-based alcohol advertising/marketing

Appendix 2.1.9.2: Eligibility criteria

Types of studies	Types of participants	Language	Types of exposure	Types of outcome measures
<ul style="list-style-type: none"> • Cohort/Longitudinal • Cross-sectional • Experimental • Time-series • Econometric • RCT – not possible in this context • Qualitative • Theses • Conference Presentations 	<p>Young people of school or college age (age 12 – 25)</p>	<p>English</p>	<p>Exposure to Internet-based alcohol-related content, including both passive exposure and exposure to direct advertising</p>	<p>Inclusion criteria: self-reported alcohol use, intention to drink, or attitude to drinking</p> <p>Exclusion criteria: studies aimed at evaluating awareness and response to advertising that did not measure effects on drinking were excluded</p>

Appendix 2.1.9.3: Search strategy

	Medline (OVID)	Embase (OVID)	PsycINFO (OVID)	Scopus	CINAHL Plus	Sociological abstracts
1	Drinking behaviour?r Explode all fields	Drinking behaviour?r Explode all fields	Drinking behaviour?r Explode all fields	Drinking behaviour?r Explode all fields	Drinking behaviour?r Explode all fields	Drinking behaviour?r Explode all fields
2	Alcohol drinking Explode all fields	Alcohol drinking Explode all fields	Alcohol drinking Explode all fields	Alcohol drinking Explode all fields	Alcohol drinking Explode all fields	Alcohol drinking Explode all fields
3	(Alcohol* OR drink*).ti,ab	(Alcohol* OR drink*).ti,ab	(Alcohol* OR drink*).ti,ab	(Alcohol* OR drink*).ti,ab	(Alcohol* OR drink*).ti,ab	(Alcohol* OR drink*).ti,ab
4	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab	(Alcohol* OR drink*) AND young people or youth or adolescents or teens.ti,ab
5	Alcohol marketing OR adverti?ing. Explode all fields	Alcohol marketing OR adverti?ing. Explode all fields	Alcohol marketing OR adverti?ing. Explode all fields	Alcohol marketing OR adverti?ing. Explode all fields	Alcohol marketing OR adverti?ing. Explode all fields	Alcohol marketing OR adverti?ing. Explode all fields
6	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)	(Alcohol or drink) and (youth or young people or adolescents or teens) and (Alcohol marketing or adverti?ing) and (internet or social media or social networking sites) (all fields)

Grey Literature - MedNAR, PsycEXTRA and NTIS (National Technical Information Service). Theses and conference presentations related to the topic of the review were also sought.

2.2 Overview of the updated review

2.2.1 Study characteristics and quality assessment

Of the 13 new studies identified, five were conducted in the USA (Boyle et al., 2016; Huang, Soto, Fujimoto, & Valente, 2014; McClure et al., 2016; Nesi et al., 2017; Pumper & Moreno, 2013), three in Australia (Carrotte et al., 2016; Jones et al., 2017; Ridout, Campbell, & Ellis, 2012), two in the UK (Critchlow et al., 2017; Purves, Stead, & Eadie, 2014), one each in Belgium (Geusens & Beullens, 2017) and New Zealand (Niland, Lyons, Goodwin, & Hutton, 2014), and one cross-country study conducted in Germany, Italy, the Netherlands, and Poland (de Bruijn et al., 2016). Of these, five studies utilised a cross-sectional design (Carrotte et al., 2016; Critchlow et al., 2017; de Bruijn et al., 2016; McClure et al., 2016; Ridout et al., 2012), five were longitudinal (Boyle et al., 2016; Geusens & Beullens, 2017; Huang et al., 2014; Nesi et al., 2017; Pumper & Moreno, 2013), and three were qualitative (Jones et al., 2017; Niland et al., 2014; Purves et al., 2014). The age range of the participants across these studies was 14 to 29 years.

To ensure that the included studies met a minimum standard of quality, the Kmet forms and guidelines were utilised for quality assessment. Two researchers carried out the scoring independently with differences resolved by discussion. The quality scores were calculated as actual score/potential maximum score. Finally, those studies with a score higher than .65 were included in the review (Kmet, Lee, & Cook, 2004). The lowest quality score was .86, so no studies had to be excluded. The individual study characteristics and quality scores are reported in Table 2.2.1.

The identified studies utilised a range of exposure types and outcome measures. Types of exposures included participants' exposure to peers' SNS posting of alcohol-related content, self-posting of such content on SNS/online, and interaction with (e.g., liking or following) alcohol companies' SNS pages. The involvement with such content was assessed through participants' recall or recognition of online alcohol-related content. Types of outcomes

included participants' involvement with exposure to online alcohol content as a predictor of intention to drink, onset of alcohol use, binge drinking, heavy episodic drinking, and risky drinking. The details on exposures and outcomes measures for each study are reported in section 2.2.2.

Table 2.2.1 Characteristics of included studies, subdivided into passive exposure and direct exposure studies

Study characteristics	Participants' characteristics	Analysis (Kmet quality rating*)
Passive exposure studies		
<p>Study: Boyle et al., 2016 Design: Longitudinal Location: USA Data collection: online surveys SNS examined: Facebook, Instagram, and Snapchat</p>	<p>Sample: n=408, freshmen (Mean=18.10 years, SD=0.43) Sex: Female (64%) Ethnicity: Caucasian (54%), Asian (11%), African American (9%) Hispanic (22%), multi-racial or other (4%)</p>	<p>Multiple regression, with multiple control variables (0.95)</p>
<p>Study: Huang et al., 2014 Design: Longitudinal Location: USA Data collection: Paper-and-pencil surveys SNS examined: Facebook and MySpace</p>	<p>Sample: n=1,434, 10th-grade students (average age 15 years) recruited from five Southern California high schools Sex: Female (51%) Ethnicity: Latino or Hispanic (66%), other (24%)</p>	<p>Meta-analyses of stochastic actor-based models, with multiple control variables (0.95)</p>
<p>Study: Jones et al., 2017 Design: Qualitative Location: Australia Data collection: Personal interviews (2), focus group discussions (1), and written commentaries on self-examination of topics relating to alcohol (12) SNS examined: Not specified</p>	<p>Sample: n=60, current drinkers (18-21 years old) residing in Western Australia. A research agency and online advertising were employed for participant recruitment Sex: Female (50%) Ethnicity: Not collected</p>	<p>Thematic analysis (0.95)</p>
<p>Study: Nesi et al., 2017 Design: Longitudinal Location: USA Data collection: online surveys SNS examined: Not specified</p>	<p>Sample: n=658; high school students, recruited from six middle schools in Rhode Island (Mean=15.8 years) Sex: Female (59%) Ethnicity: Caucasian (78.2%), American Indian (5.5%), Asian (3.2%), Black (4.6%), Hispanic (10.6%), mixed race (5.5%), other (6.6%)</p>	<p>Multiple regression, with multiple control variables (0.95)</p>

<p>Study: Niland et al., 2014 Design: Qualitative Location: New Zealand Data collection: Focus group discussions SNS examined: Facebook</p>	<p>Sample: n=7, aged 18-25 years Sex: Female n=4 Ethnicity: All NZ European</p>	<p>Thematic analysis (0.95)</p>
<p>Study: Purves et al., 2014 Design: Qualitative Location: UK Data collection: 1. Content posted on six alcohol brands' SNS pages, over a seven-day period 2. Focus group interviews (8) – separate male and female groups were made. Participants (6 per group) were categorised into two categories depending on the age group and drinking status SNS examined: Facebook, Twitter, YouTube, Pinterest, and Tumblr</p>	<p>Sample: n=48, aged 14-17 years Sex: an even number of males and females Ethnicity: Not mentioned</p>	<p>Alcohol brand SNS pages: Content analysis informed by a netnographic approach Focus groups: Thematic analysis (0.90)</p>
<p>Direct exposure studies</p>		
<p>Study: Carrotte et al., 2016 Design: Cross-sectional Location: Australia Data collection: Online questionnaire SNS examined: Facebook, Instagram, and Twitter</p>	<p>Sample: n=1,001, 15- 29 year olds (Mean=21.1, IQR 17.6-24.6) Sex: Female 72%, transgender 0.4%, other 0.3% Ethnicity: Not reported</p>	<p>Logistic regression and ordinal logistic regression analyses, with multiple control variables (0.95)</p>
<p>Study: Critchlow et al., 2017 Design: Cross-sectional Location: UK Data collection: Online survey SNS examined: Not specified</p>	<p>Sample: n=405, aged 18-25 years (Mean=21.15, SD=2.22) recruited through online survey advertisements (such as Facebook and university website) Sex: Female 72% Ethnicity: White British (66%), Other (34%)</p>	<p>A hierarchical logistic regression, with multiple control variables. (0.95)</p>

Study: de Bruijn et al., 2016 Design: Cross-sectional Location: Germany, Italy, the Netherlands and Poland Data collection: Online questionnaires SNS examined: Not specified	Sample: n=9,038, school students (Mean=14.05, SD=0.82) Sex: Female 50% Ethnicity: Not reported	Logistic regression analyses, with multiple control variables (0.95)
Study: Geusens and Buellens, 2017 Design: Longitudinal Location: Belgium Data collection: Paper-and-pencil questionnaire SNS examined: Not specified	Sample: n=1,006 secondary school students aged 18-19 years (Mean=18.19, SD=0.87) Sex: Female (60.3%) Ethnicity: Not reported	MANOVA tests, with multiple control variables (0.95)
Study: McClure et al., 2016 Design: Cross-sectional Location: USA Data collection: Phone and web-based survey SNS examined: Not specified	Sample: n=2,012, 15- 20 year olds Sex: Female 51% Ethnicity: White (69%), Black (8%), Hispanic (13%), Mixed or other (10%)	Logistic regression, with multiple control variables (0.95)
Study: Pumper and Moreno, 2013 Design: Longitudinal Location: USA Data collection: Phone interviews and Facebook profiles SNS examined: Facebook	Sample: n=315, first-year college students aged 18-19 years Sex: Female (56%) Ethnicity: Caucasian (74.5%), Asian (11.6%), Hispanic (3.4%), multi-racial (6.8%), other (2%)	Chi-squared tests and Wilcoxon sign rank tests, and content analysis. No control variables reported (0.86)
Study: Ridout et al., 2012 Design: Cross-sectional Location: Australia Data collection: Questionnaires on alcohol-related behaviours SNS examined: Facebook	Sample: n=158, 17- 24 year old University students (Mean=18.87, SD=1.27) Sex: Female 64% Ethnicity: Not reported	Regression analyses, with multiple control variables (0.95)

*Mean quality rating: the scores by each assessor were calculated as (actual score/potential maximum score)

IQR – Inter-quartile Range; MANOVA – Multivariate Analysis of Variance; SD – Standard Deviation

2.2.2 Individual study description

2.2.2.1 Passive exposure studies (i.e., studies on exposure to user-generated online alcohol-related content)

An Australian study examined young Australians' (n=60; aged 18-21 years) perceptions of the relationship between alcohol and SNS (Jones et al., 2017). Personal interviews, focus group discussions, and written commentaries on self-examination of topics relating to alcohol were used to collect data. Many participants reported having been regularly exposed to peer-generated alcohol posting on SNS. They also acknowledged the effect of such content (e.g., images) on their drinking behaviours, with content largely associating alcohol with success, pleasure, and strength.

A thematic analysis of focus group interviews conducted among UK adolescents suggested that involvement with SNS alcohol-related postings predicts normalisation of excessive consumption and potentially risky drinking behaviours among young people (Purves et al., 2014). SNS content analysis suggested that alcohol brands used alcohol-related content posted on their SNS pages to initiate conversations among SNS users and between brands and SNS users. This helped users co-produce content. SNS content analysis also suggested that images and language were consciously chosen by brands to relate their content to users' cultures, real-life, and leisure activities. This enabled brands to generate responses from the users consistent with the brands' objectives and appeared to be designed to appeal to niche groups. For example, images relating to brand packaging were found to be a trigger for brand preference between genders. While females appeared to prefer brightly-coloured and new products, males preferred simpler and popular products.

A longitudinal study was conducted among 1,434 10th-grade students in five Southern California high schools (Huang et al., 2014). The aim of the study was to identify associations between participants' friends posting their own pictures of drinking or smoking, on Facebook and MySpace and the likelihood of increasing or maintaining their

(participants') smoking and drinking levels at time 2. A significant association was found between exposure to peers' posting their own pictures of smoking on Facebook and MySpace and own smoking levels at time 2 ($p = .004$). However, exposure to peers' SNS postings of drinking was not significantly related to own alcohol use at time 2 ($p = .807$) (Huang et al., 2014).

Niland et al. (2014) conducted seven Facebook go-along focus group interviews with young European New Zealanders aged 18-25 years. Participants were asked to show their Facebook profiles and discuss their everyday online drinking and social networking practices, such as their exposure to peers' alcohol-related content posted on Facebook. Participants' drinking photos, such as those taken at alcohol-related events and bars and clubs and posted on Facebook, were found to be a dominant feature of their discussions and online social networking activities. The authors concluded that finding online drinking content pleasurable and socially desirable could predict normalisation of alcohol use and reinforce cultures of drinking among young adults (Niland et al., 2014).

A US study examined the relationship between exposure to peers' alcohol-related content posted on SNS (Facebook, Snapchat, and Instagram) during the initial six weeks of college and second semester drinking among 408 first year college students (Boyle et al., 2016). Exposure during the initial weeks of college was found to be an important predictor of drinking six months later across demographic groups ($p < .01$), with a stronger predictive relationship identified among males.

Another longitudinal study was conducted among 658 US high school students (Nesi et al., 2017). This study assessed the relationship between adolescents' exposure to peers' SNS postings of alcohol, "alcohol-favourable peer injunctive norms" (e.g., online self-presentation that appear to be approving of alcohol among peers), and drinking behaviours (initiation of drinking, becoming drunk, and heavy episodic drinking). The associations were assessed at baseline and one year later. Peer injunctive norms significantly predicted the relationship between exposure to friends' SNS postings of alcohol and all drinking behaviours at Time 2 (all $p < .05$).

2.2.2.2 Active exposure studies (i.e., studies on participants' involvement with online alcohol marketing)

Critchlow et al. (2017) explored the relationship between engagement with user-generated online alcohol content (including social media posts) and higher-risk drinking among 18-25 year olds ($n = 405$) in the UK via an online cross-sectional survey. A stronger association was identified between engagement with user-generated online alcohol content and higher-risk drinking (AOR = 1.64) compared with awareness of user-generated online alcohol content and higher-risk drinking (AOR = 1.19). The association between awareness and participation was found to be significant for both males (AOR = 1.84, $p < .05$) and white British participants (AOR = 1.90, $p < .01$) compared with other demographic groups (Critchlow et al., 2017).

An Australian study explored the association between participants' alcohol-identities on Facebook in terms of self- and other-generated alcohol-related content and alcohol consumption and problems among a sample of 158 17-24 year old Australians (Ridout et al., 2012). Alcohol-identity on Facebook was found to be significantly associated with all measures of alcohol consumption for both males and females (Alcohol Use Disorders Identification Test – alcohol consumption (AUDIT-C) $p < .01$; Graduated-Frequency measure – standard drinks consumed (GF-C) $p < .01$; Graduated-Frequency measure – binge drinking

(GF-B) $p < .01$); alcohol dependence/consequences (Alcohol Use Disorders Identification Test – alcohol problems (AUDIT-P) $p < .01$; Rutgers Alcohol Problem Index (RAPI) $p < .01$; and, the College Behaviour Checklist (CBC): $p < .01$)).

The relationship between Internet-based alcohol marketing and alcohol use among 9,038 school students was explored in a cross-country survey conducted in Germany, Italy, the Netherlands, and Poland (de Bruijn et al., 2016). For participants from all these countries, passive exposure to online alcohol marketing (e.g., having seen online alcohol-related content) was significantly associated with increased odds of drinking initiation (OR = 1.6, $p < .001$). Similarly, exposure to online marketing (e.g., ever received promotional emails) was a predictor of binge drinking in the past 30 days (OR = 1.05, $p < .05$). Significant associations were also identified between drinking initiation and active engagement with online alcohol marketing (e.g., searched for information on alcoholic beverages (OR = 1.14, $p < .001$), downloaded alcohol-branded screensaver (OR = 1.12, $p < .001$), and used alcohol-branded social media page (OR = 1.06, $p < .05$)). Further, participation with online alcohol content (e.g., searched for information on alcoholic beverages (OR = 1.11, $p < .001$), downloaded alcohol-branded screensaver (OR = 1.12, $p < .001$), and used alcohol-branded social media page (OR = 1.06, $p < .001$)) was found to be a significant predictor of past 30 days binge drinking.

The association between interaction with SNS alcohol-related content and drinking among young 1,001 Australians was investigated via an online survey (Carrotte et al., 2016). Interaction with SNS alcohol-related content was significantly associated with self-reported risky drinking (OR = 2.1, $p < .001$). Higher levels of risky drinking were identified among older age groups, Australian born respondents, those spending more on recreational activities, illegal drugs users, and those started drinking at an early age.

Pumper & Moreno (2013) investigated the longitudinal association between and Facebook postings of alcohol-related content and drinking, before starting the first year at college

(Time 1) and at the end of first year (Time 2) among 315 first-year US college students. The eligible participants were those deemed “high-risk alcohol users”. Participants’ Facebook accounts were also examined for identifying the references to alcohol use and high-risk alcohol use at both Time 1 and Time 2. A mean increase in both attitude and intention scores towards alcohol was identified at Time 2 compared with Time 1 (4.0 and 4.0 versus 4.6 and 4.9) among high-risk alcohol users. Further, a greater proportion of high-risk alcohol users displayed more references to high-risk alcohol use at Time 2 compared with Time 1 (52% versus 5%) (Pumper & Moreno, 2013).

A Belgian study conducted among 1,006 late adolescents assessed the reciprocity of alcohol-related postings on SNS and binge drinking at T1 (baseline) and T2 (one year later) (Geusens & Beullens, 2017). Results indicated that alcohol-related postings at baseline were associated with binge drinking one year later ($p < .05$) and vice-versa ($p < .05$). Gender differences were identified for these associations: 1) girls reported less binge drinking at T2 ($p < .001$) but not at T1 ($p = .06$) than boys and 2) the frequency of SNS alcohol-related postings were less compared with boys both at baseline ($p = .08$) and follow-up ($p = .13$).

A US longitudinal study investigated the association between baseline exposure to and engagement with online alcohol-related content (assessed as scores on positive responses to exposure and engagement and called “Internet receptivity scores”) and underage alcohol use at 1-year follow-up using computer-assisted telephone and web-based surveys (McClure et al., 2016). While significant associations were found between scores and binge drinking one year later (score of 1: OR = 1.77, $p < .0001$; score of 2: OR = 2.15, $p < .0001$), no such relationship was found in the context of baseline drinking.

2.2.3 Summary of study results

The updated review reinforces the general findings of the earlier review. Overall, the results show that both passive and active exposure to online alcohol marketing content influences alcohol use among young people. Exposure to and involvement with such content predicts

drinking (Boyle et al., 2016; Jones et al., 2017; Niland et al., 2014; Pumper & Moreno, 2013), increases the likelihood of alcohol consumption (Ridout et al., 2012), onset of alcohol use (Carrotte et al., 2016; de Bruijn et al., 2016; Nesi et al., 2017), binge drinking (de Bruijn et al., 2016; Geusens & Beullens, 2017; McClure et al., 2016; Nesi et al., 2017; Ridout et al., 2012), and risky drinking (Carrotte et al., 2016; Critchlow et al., 2017; Nesi et al., 2017; Purves et al., 2014).

Although five studies included in this review were longitudinal and thus could help establish the temporal ordering between exposure and alcohol use, there is a possibility that these associations were not unidirectional, that is, whether exposure led to alcohol use or vice-versa. This calls for studies using more complex modelling methods and employing a diverse set of measures to establish the directionality. Further, there are limitations in the extent to which the studies' results could be generalised to other populations and subgroups. In particular, the studies were all conducted in western, predominantly affluent countries.

Chapter 3: How alcohol marketing engages users with alcohol brand content on Facebook: An Indian and Australian perspective

This chapter presents a published study that investigated and compared marketing strategies alcohol marketers utilised on their Facebook pages in India and Australia. This paper also reports on the extent of user engagement with the type of content posted on those pages (Gupta, Pettigrew, et al., 2018).

3.1 Abstract

Little work has been conducted to understand how alcohol marketers engage users with their brands' Facebook pages in India and Australia. We aimed to evaluate and compare (i) the types of marketing techniques alcohol marketers utilize to facilitate user engagement on their brands' Facebook pages and (ii) the extent to which users engage with these techniques in two diverse national contexts. We identified the 10 most popular alcohol brands on Facebook in India and Australia based on the number of 'likes' for each official brand site. Brand websites and data analytic sources were accessed to collect metrics relating to number of likes, frequency of posts made by alcohol marketers on their brand websites and the resulting comments from fans, and messages relating to responsible drinking. The identified brands accrued substantial user engagement (e.g. Budweiser beer attracted 12.8 million likes in Australia and Foster's beer 802,807 likes in India). The strategies employed were a mix of country-specific (e.g. India: inspirational talks and livelihood skills vs Australia: posts related to the brand's tradition or heritage) and generic approaches (e.g. alcohol sponsorship of sport, music, and fashion, offering consumption suggestions, organizing competitions, giveaways, and use of memes). This cross-national comparison illustrates that alcohol marketing on Facebook is user-focused and flexible, works with specific national contexts, and capitalizes on the cultural meanings users invoke

in their interactions with sites. The study results also demonstrate the potential for brands to engage those under the legal drinking age by delivering alcohol content on Facebook.

3.2 Introduction

The considerable time people spend on social networking sites (SNS) has resulted in alcohol marketers investing substantially in online advertising (Nicholls, 2012). Thus, one of the global alcohol industry leaders, Diageo, attributed a 20% increase in the sale of its Smirnoff and Baileys products to increased Facebook marketing (Nhean et al., 2012). Young people engage with social media more than other age groups and thus are more vulnerable to alcohol-related advertising and the harms associated with it (Dobson, 2012). When exposed to alcohol advertisements on SNS, young people can develop pro-drinking attitudes (Alhabash, McAlister, Quilliam, Richards, & Lou, 2015). This is likely to encourage regular alcohol consumption (Jones, Robinson, Barrie, Francis, & Lee, 2016), promote cultures of heavy and risky drinking (Barnes et al., 2016), and increase the risk of developing alcohol-related problems later in life (Hoffman, Pinkleton, Weintraub, & Reyes-Velázquez, 2014).

Facebook provides an opportunity for companies to utilize marketing strategies as diverse as their consumer base. Customer segment dissimilarities provide companies with the opportunity to employ different marketing strategies to engage users on Facebook. Cross-national comparisons of Facebook alcohol sites have the potential to illustrate how alcohol marketers use SNS to adapt their online promotional activities to specific cultural contexts. As such, a comparative approach was adopted for this study.

India and Australia have diverse socio-cultural contexts and histories, and are examples of 'dry' and 'wet' drinking cultures. For example, the estimated annual per capita consumption of pure alcohol is 4.3 liters in India compared to 12.2 liters in Australia (World Health Organization (WHO), 2014). There are also country-specific differences in consumption across genders and in preferences for particular beverage categories. In both countries, men drink more than women, although the proportions differ substantially. Annual per capita

consumption is estimated at 8L for Indian men and 0.5 L for Indian women, compared to 17L and 7L among Australian men and women respectively (WHO, 2014). Using data on taxed beverages, spirits appear to be the most popular choice in India, whereas beer is most popular in Australia (WHO, 2014).

The discrepancies between the countries can be further observed in the rates of youth drinking. In India, 12% (11% male vs 1% female) of those aged 15-19 years and 30% (28% male vs 2% female) of those aged 20-24 years report consuming alcohol (Parasuraman, Kishor, Singh, & Vaidehi, 2009). In comparison, 29% of those aged 12-17 years and 84% of those aged 18-24 years consume alcohol in Australia, with consumption rates being similar for males and females (Australian Institute of Health and Welfare (AIHW), 2014). India has a less developed heavy drinking culture. For example, about 4% of 18-24 year old Indians are classed as 'heavy drinkers', which is defined as consuming at least 40g of pure alcohol in a single session at least once a month (International Institute for Population Sciences (IIPS), 2003). In contrast, in the same age group, 25% of Australians consume at least 50g of alcohol in a single sitting, and 15% consume more than 110g at least once a month (AIHW, 2014).

Further, patterns of alcohol initiation are moving in opposite directions: in Australia, the average age of initiation increased from 14 years in 1998 to 16 years in 2013 (AIHW, 2014), but decreased in India from 19 years to 13 years over the past two decades (Prasad, 2009). This trend is concerning for India, as a lowering age of initiation means that more people are at risk of adverse alcohol-related outcomes (Babor et al., 2010).

Alcohol consumption patterns vary with wealth, education, and geographical distribution. In India, alcohol is consumed by about 27% of men and 0.5% of women in the highest wealth quintile and 41% of men and 6% of women in the lowest quintile (IIPS, 2007). While urban and rural Indian men consume alcohol almost equally (31% vs 33%), a much greater difference is apparent among women by location (0.6% urban vs 3% rural). Consistent with

the wealth quintile findings, populations with low levels of education consume more alcohol than those with high levels of education - 43% men and 4% women with no education compared with 25% men and 0.6% women with the highest level of education (IIPS, 2007). Conversely, those in the top quintile are the most prevalent drinkers in Australia (83% in the top quintile vs 69% in the lowest quintile) (AIHW, 2014). Further, lifetime risky drinking in Australia is more prevalent in remote/very remote (34.9%) than urban (16.7%) areas and among those with post-school qualifications (19.7%) than those without these qualifications (16.0%) (AIHW, 2014).

These national differences in consumption rates may result from an interplay of socio-cultural norms, such as lower social acceptance of alcohol (Murthy, 2015), religious proscriptions (e.g. lower prevalence of drinking among the 14% of the population in India who identify as Muslims) (Murthy, 2015, Census of India, 2011), and the legal drinking age in India ranging from 18-25 years, with sales banned in certain states (Arora et al., 2013).

Facebook is used extensively by Indians and Australians. It is estimated that there are 108 million Facebook users in India (Statista, 2016), of whom about 50 million are aged 18-24 years and about 12 million are 17 years of age or younger (Nayak, 2014). In 2015, there were an estimated 11 million Australian Facebook users, of whom about 4 million were aged 13-24 years (Statista, 2016). Given the increasing use of Facebook by alcohol marketers (Nhean et al., 2012), young people who are active on Facebook are at risk of exposure to this marketing. However, work in understanding engagement with alcohol-related content on Facebook is in its infancy.

There is a small but growing body of research exploring how Australians engage with such marketing practices and the potential impacts on alcohol consumption behaviors. These include descriptive (Jones et al., 2016; Jones & Magee, 2011) and exploratory studies (Dobson, 2012; Carah, 2014; Lim, Hare, Carrotte, & Dietze, 2016; Carah, Meurk, Males, & Brown, 2017). The present study appears to be the first investigating social media marketing

of alcohol brands from an Indian perspective. Against this background, this study aims to investigate the extent of user engagement with alcohol brand content and to examine and compare the types of marketing techniques marketers utilize to facilitate user engagement on popular Indian and Australian alcohol brands' Facebook pages.

3.3 Methods

3.3.1 Data sourcing

The search strategy (Table 3.7.1) was informed by an Australian study of alcohol brands' Facebook pages (Carah, 2014). We compiled a comprehensive list of alcohol brands from key reports on alcohol marketing and the alcohol policy environment in India (Arora et al., 2013; Alcohol brands in India, 2013) and Australia (McCusker Centre for Action on Alcohol and Youth, 2014; Lin, 2015). This list comprised 256 and 287 brands distributed in India and Australia respectively. In each case, we searched for a brand Facebook page. While Facebook is a single, worldwide SNS, alcohol brand Facebook pages are country specific, but users can access these from around the world. Where more than one brand-specific Facebook page was available for a brand, we used the 'switch region tab' to see the India/Australia-specific posts (Winpenny, Marteau, & Nolte, 2014). We also sought a statement such as 'this is the official page' on the 'about' tab on the brand's Facebook page. The absence of this statement excluded the brand from the analysis.

Brands with a local Facebook presence were searched for the number of likes they had received. The ten brands in each country with the highest number were selected. There was no overlap between the brands identified for the two countries, but Diageo owns multiple Indian and Australian brands included in the study (Table 3.7.2).

To explore the extent of user engagement, the following information was collected for two months (December 2015-January 2016): the number of posts published and the number of likes, fans, and shares that posts received. Becoming a fan means that one receives content (such as status updates, pictures, etc.) from the brand; liking the page does not generate

such content. However, Facebook has recently changed this process so that to become a 'fan' of a page, one simply clicks 'like' on the brand page. Hence, there are 'brand likes' vs 'post likes' (with the latter referring to liking an individual communication the brand has posted, whether one is currently a fan or had liked the entire brand page). For clarity, we have used the legacy term 'fans', in addition to likes. While the number of likes and the year the brand appeared on Facebook were gathered from Facebook-generated metrics, the numbers of fans, posts, and shares were sourced from the Socialbakers website (which provides statistics and metrics for social media websites: Socialbakers, 2016), as these data were not available on the brands' Facebook pages.

3.3.2 Coding process and analysis

Brand-generated posts and user comments were downloaded and analyzed using NVivo10 to facilitate detailed thematic analysis. As the coding process was emergent in nature (i.e., an inductive approach was adopted rather than a deductive approach) (Huberman & Miles, 1994), a single coder (the lead author) undertook the coding process. As per Strauss & Corbin (1990), the coding process involved commencing with a priori codes identified from the relevant alcohol literature that were progressively supplemented with codes emerging from the data. The resulting NVivo nodes were interrogated to generate themes, which were subsequently discussed among the members of the research team to refine the final categories.

Additionally, frequency of comments on brands' pages, links to the official brands' websites, links to Twitter/YouTube/Instagram, and messages related to responsible drinking were collected (Winpenny et al., 2014). Numerical data were managed using MS Excel. Ethics approval to access these data was obtained from the Curtin University (ethics approval number: RDHS-239-15).

3.4 Results

3.4.1 User engagement

Of the top 10 Indian brands, five were whisky, three were beer, one was a ready-to-drink (RTD) rum-based product, and one was a vodka brand. In contrast, three of the top Australian brands were beer, three were vodka, two were whisky, one was tequila, and one was a liqueur. In both India and Australia, the most popular brand was a beer, with 800,000 (Foster's) and 12.8 million (Budweiser) likes respectively.

Table 2 shows the extensive content brands posted, which was associated with substantial user engagement in the form of likes, fans, posts generated by the brands, and posts shared by the users. The Australian brands accumulated many more likes, had more fans, and more post shares than their Indian equivalents. In some cases, brands with fewer fans had more content sharing. Thus, McDowell's No. 1 had fewer fans and more shares than Foster's, which had more fans and fewer shares. Also, the number of posts generated did not directly correspond to the number of fans and vice-versa. For example, 803,339 fans generated 325 posts for Foster's, whereas Budweiser had 42,476 fans who produced 327 posts.

3.4.2 Content of alcohol marketing

Various techniques were used on the brands' websites to encourage engagement with users. The strategies employed were a mix of country-specific (e.g. India: camaraderie, inspirational talks, and livelihood skills vs Australia: posts related to the brand's tradition or heritage) and generic approaches (e.g. alcohol sponsorship of sport, music, and fashion, time-and-event-specific drinking, offering consumption suggestions, organizing competitions, giveaways, sexually suggestive content, and use of memes) (Tables 3.7.31 & 3.7.4).

Some of the Australian brands involved creating stories related to users' traditions, cultural heritage, interests, and values. For example, Jägermeister uploaded photos and videos prompting users to celebrate Australia Day by drinking alcohol, and Johnnie Walker and

Stella Artois uploaded images of the brands' founding fathers narrating stories about the history of their distilleries/breweries in a specific region. On the other hand, Haywards 5000, a popular Indian brand, promoted several entrepreneurship programs under the name of 'Hauslabuland Academy', where those who had previously benefitted from such programs narrated their own stories, mentioning the brand's name.

Several Indian brands utilized inspirational talks to facilitate interaction with users.

Statements such as 'Progress comes when you step outside your comfort zone' (Haywards 5000) and 'Every little thing contributes to great success. #Pause and let's raise a toast to all your victories' (Black Dog) indirectly relate success and hard work to alcohol consumption. Other common themes for Indian brands were camaraderie, togetherness, and acceptance within the users' social networks:

This leap day, take a giant leap towards friendship and catch up with that long lost friend of yours over a #DaaaaamnColdDaaaaamnCo#Stayrefreshed (Foster's)

Which is your all-time #No1Yaari gaana? (asking users to post their all-time favourite friendship song) (McDowell's No. 1).

Brands appeared to tap into users' interests and embed those interests into their drinking cultures through such posts. In addition, both Indian and Australian brands utilized Internet memes and modified them to the brand's identity to add humor and 'savviness' to attract users to such content. These posts accrued extensive user engagement in the form of users reproducing multiple meanings of the original posted content. For example, to Jägermeister's meme portraying a majestic stag and a small fox with human bodies with a statement, 'Bigger isn't always better...Introducing...The new 200ml', users readily engaged and responded in several ways including: 'This could be the key to success' and 'Introducing another way to make more money woo'.

Posts also related to promoting brands at cultural, music, fashion, and sporting events. This involved uploading photos/videos taken at events and asking users to narrate their own

stories and post pictures relating to celebrating events with drinking. The majority of Australian brands (e.g. Absolut) and several Indian brands (e.g. Black Dog) posted content relating to music festivals or award events sponsored by the brand. References to sports were also popular, with Indian brands capitalizing heavily on cricket and Australian brands associating their products with football, surfing, and tennis. Brands also ran event-related competitions such as singing competitions (e.g. McDowell's No. 1) and prize draws (e.g. Stella Artois). While brands did not directly endorse heavy drinking at events, they provided users with content they could link to their own drinking experiences. In this way, the brands created stories about the events and facilitated the linking of those stories to the users' own drinking cultures.

Some brands promoted their products by placing them in advertisements relating to popular movies. In some cases posts included displaying sexually suggestive content. For instance, White Mischief posted images of attractive women in revealing clothing at various brand-sponsored events.

Brands also posted content depicting brand images/logos on products such as caps and other clothing. Budweiser asked Australian Facebook users to check into events sponsored by the brand and to enter a prize draw to receive a free cap with a Budweiser logo. Users reacted enthusiastically to these posts: 'Yes please, where can I get my hands on one of these?' and posting their pictures with those caps on, saying 'UH OOOOH!!! Thanks Budweiser [for the cap]'. Similarly, the Breezer Facebook page featured posts offering free music CDs bearing its logo.

Both Indian and Australian brands posted images/videos suggesting specific methods of consuming their products. These included demonstrations of cocktail and/or food recipes. Examples include 'Match this loco tropical weather with a delicious Coco Loco!' (Smirnoff) and 'Baileys Cheesecake with Caramel Sauce – mesmerising isn't it?' (Baileys). Users readily engaged with these posts and subsequently shared their own recipes on brands'

walls. Thus, the brands provided users with information that encouraged further communication and interaction by users. This strategy appeared to target users' interests and to embed the consumption of the products within those interests.

Brands published posts suggesting drinking at a particular time or event, such as after work, on weekends and public holidays, at festivals, and during brand-sponsored tours:

Saturdays are for Sunshine, Smirnoff, Shorts and Sandals. #SLIPSLOPSLAP'

(Smirnoff)

Experience the Good Times all around, with #KF360Cities! This time we take you on a tour of Pondicherry, with its golden sands and French colonial architecture, in 360°!

#360Video (Kingfisher)

Where will you be raising your chalice this Australia Day? (Stella Artois)

User responses to the Black Dog post about taking a pause from work by consuming whisky included comments such as 'I should be doing this right now. Apparently there's some rule about not being under the influence of alcohol while working. I do my best work when I'm drinking'. Such content appeared to be aligned with users' interests, hence increasing the affinity between brands and users and prompting them to drink.

Some of the brands also published posts relating to sexually suggestive content in the context of time- and event-specific drinking: Budweiser uploaded photos of women wearing swimsuits, lying by a pool, and enjoying a glass of beer. These types of images generated numerous comments from users such as 'Find the hot chicks then get some beer'.

Nine of the Australian brands had a link to DrinkWise (an alcohol industry funded organization) on their Facebook pages. In contrast, five of the Indian brands provided information about responsible consumption, such as messages related to drinking and driving. However, none of the brands appeared to have links to non-industry affiliated responsible drinking information sources such as government websites.

3.4 Discussion

Although India has a much larger population (Census of India, 2011) and many more Facebook users than Australia (Statista, 2016), interaction in terms of likes on alcohol brand Facebook pages was higher for Australia. The reason for the lesser user engagement for the Indian brands is unclear, but could be an interplay of various socio-cultural norms, such as lower social acceptance of alcohol (Murthy, 2015), religious proscriptions (Murthy, 2015), significant gender differences in alcohol consumption (WHO, 2014), and a less-developed drinking culture (Rathod, Nadkarni, Bhana, & Shidhaye, 2015). There are fewer cultural inhibitions to prevent users from engaging with brands in the Australian context, which is likely to largely account for the greater user engagement observed for the Australian brand pages. It is argued that the greater the number of fans a brand has, the greater the chances that the brand's page will be seen by the Facebook friends of that fan, hence further increasing user engagement with the brand (Carah, 2014). Thus, becoming a 'fan' is likely to be more powerful than 'liking' in the minds of one's Facebook friends.

We identified country-specific techniques employed to engage users. These included some of the Indian brands explicitly utilizing and embedding camaraderie and togetherness into the users' drinking cultures. This is possibly attributed to users' leisure-driven engagement with Facebook that feeds into the 'aspirational' quality of Facebook to reach out to the disenfranchised in India (Kumar, 2014), and thus increasing the brands' reach to this part of the community (especially younger men) that accesses Facebook typically on mobile phones (Kumar, 2014). Some of the Australian brands associated their products with users' cultures and interests. Associating 'belongingness' to a common heritage, as was done by the Australian brands, could potentially be the Australian version of the Indian 'togetherness'. Such practices appeared to be attempts to localize the brands and make them part of real communities, regions, and livelihoods.

Associations between higher alcohol consumption and lower education and socioeconomic status in India (IIPS, 2007) could potentially explain the instances of 'inspirational' marketing content and the specific emphasis on offering 'livelihood skills' identified on the Indian brands' sites. These country-specific examples could reflect underlying differences in the users attracted to the brands, differences in the brands' ability to generate content that fans wanted to share, or differences between 'individualistic' and 'collectivistic' cultures in the propensity to share and engage with SNS content (Jackson & Wang, 2013).

Demographic information was not available on brands' pages and thus we were unable to determine the ages and genders of those engaging with the brands. However, the identified engagement strategies utilized by both the Indian and Australian brands (i.e., competitions, prize draws, free tickets to music events) suggest young people were being targeted given evidence linking the popularity of such strategies with young people (Weaver, Wright, Dietze, & Lim, 2016). Such strategies also do not always conform to the existing Alcohol Beverages Advertising Code (ABAC) in Australia (Weaver, Wright, Dietze, & Lim, 2016), hence necessitate effective implementation of these guidelines, particularly in relation to younger Facebook users. Further, the Advertising Standard Council of India (ASCI) does not restrict Internet-based alcohol advertising (ASCI, 2013), hence alcohol advertising via social media is largely unregulated and rampant in India, as evident from this study.

We found that brands accumulated extensive likes on their Facebook pages. For example, Budweiser beer accrued 12.8 million likes within Australia, a country with a total population of around 24 million (Australian Bureau of Statistics, 2016). Some alcohol brands create multiple artificial identities and fake profiles on Facebook to facilitate the widespread dissemination of their messages (Dobson, 2012). Thus, although the brands in this study accrued a substantial number of likes, this technique makes the 'real' popularity of their Facebook presence uncertain. Also, we could not determine if users were followers of just one particular brand or whether they follow multiple brands, so the total number of people exposed to the alcohol-related content is unknown.

The lack of effective age restrictions on social media access (and thus potential exposure to marketing) combined with emerging evidence that links exposure to alcohol advertising with earlier or greater alcohol use by young people has urgent policy implications (Gupta, Pettigrew, Lam, & Tait, 2016). SNS marketing should be required to abide by the same requirements as television advertising because the potential effects on young people are comparable (Dobson, 2012). This is likely to be difficult because where posts are not of interest to users, they can be quickly removed from a brand's newsfeed (Carah, 2014). This flexibility means that brands can rapidly modify content in response to users' engagement (or non-engagement) in a way that cannot be done in traditional advertisements. The marketing strategies described in this paper may also be used over other networking platforms (e.g., Instagram and Twitter). As such, future research may seek to compare strategies used to target the same audience over multiple platforms. Finally, there was no brand overlap between countries in our sample, so it may be useful to examine how individual brands are marketed across different countries.

Some limitations should be considered when interpreting results of this study. The most important is the inclusion of only two countries in a cross-country comparison and the limited time period for data collection that could have different seasonal characteristics for each country. In addition, some selection bias could result from identifying the brands with the highest number of Facebook likes rather than using a random selection from all eligible brands. Given the gender disparities in alcohol use in India (IIPS, 2007), an analysis by gender would also be of interest, but it was not possible to identify this in the current dataset.

A further consideration is that this study undertook a largely exploratory approach to report the techniques that alcohol brands employ to engage consumers on Facebook. However, as alcohol marketing on social media represents a new challenge and work on this topic is in its infancy, an exploratory approach was required to inform future analyses that can aim to produce more generalizable results. In particular, additional cross-national comparisons of

this kind are warranted to demonstrate how alcohol marketers use SNS to adapt their online promotional activities to specific cultural contexts.

3.6 References

Advertising Standards Council of India. (2013). The code for self-regulation in Advertising.

Retrieved from http://www.ascionline.org/images/pdf/asci_code1new.pdf

Alhabash, S., McAlister, A. R., Quilliam, E. T., Richards, J. I., & Lou, C. (2015). Alcohol's getting a bit more social: When alcohol marketing messages on Facebook increase young adults' intentions to imbibe. *Mass Communication and Society*, 18(3), 350-75. doi:

10.1080/15205436.2014.945651

Arora, M., Dahiya, P., Nazar, G., Gupta, H., Singh, D., Sahoo, P., ... Chatterjee, M. (2013).

Alcohol marketing and regulatory policy environment in India. A Report. Public Health

Foundation of India. New Delhi, India: PHFI. Retrieved from [http://iogt.org/wp-](http://iogt.org/wp-content/uploads/2013/12/PHFI-Alcohol-Industry-Report.pdf)

[content/uploads/2013/12/PHFI-Alcohol-Industry-Report.pdf](http://iogt.org/wp-content/uploads/2013/12/PHFI-Alcohol-Industry-Report.pdf)

Australian Bureau of Statistics. (2016). Census Data. Retrieved from

<http://www.abs.gov.au/ausstats/abs@.nsf/0/1647509ef7e25faaca2568a900154b63?OpenDocument>.

Australian Institute of Health and Welfare. (2014). National Drug Strategy Household Survey detailed report 2013. (Drug statistics series no. 28. Cat. no. PHE 183). Canberra, Australia: AIHW.

Babor, T. F., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., ...

Rossow, I. (2010). Alcohol: No ordinary commodity— a summary of the 2nd ed. *Addiction*, 105, 769–79. doi: 10.1111/j.1360-0443.2010.02945.x

Barnes, H. M., T. M., Goodwin, I., Lyons, A., & Hutton, C. G. F. (2016). Alcohol and social media: drinking and drunkenness while online. *Critical Public Health*, 26(1), 62-76. doi:

10.1080/09581596.2015.1058921

Carah, N. (2014). Like, comment, share alcohol brand activity on Facebook. Deakin, Australia: Foundation for Alcohol Research and Education, University of Queensland. Retrieved from <http://fare.org.au/wp-content/uploads/research/Facebook-and-alcohol-advertising-report.pdf>

Carah, N., Meurk, C., Males M., & Brown J. (2017). Emerging social media 'platform' approaches to alcohol marketing: a comparative analysis of the activity of the top 20 Australian alcohol brands on Facebook (2012-2014). *Critical Public Health*, 1-11. doi: 10.1080/09581596.2017.1282154

Dobson, C. (2012). Alcohol marketing and young people: Time for a new policy agenda. Kingston, Australia: AMA. Retrieved from https://ama.com.au/sites/default/files/documents/alcohol_marketing_young_people.pdf

Gupta, H, Pettigrew, S, Lam, T, & Tait, R. J. (2016). A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and Alcoholism*, 51(6) 763–771. doi: 10.1093/alcalc/agw050

Hoffman, E. W., Pinkleton, B. E., Weintraub Austin, E., & Reyes-Velázquez, W. (2014). Exploring college students use of general and alcohol-related social media and their associations with alcohol-related behaviors. *Journal of American College Health*, 62(5), 328-335. doi: 10.1080/07448481.2014.902837

Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In *Handbook of Qualitative Research*, pp. 428-44 [NK Denzin and YS Lincoln, editors]. Thousand Oaks: SAGE Publications.

International Institute for Population Sciences and Macro International. (2007). National Family Health Survey (NFHS-3) 2005- 06. New Delhi: Ministry of Health and Family Welfare, Government of India. Retrieved from <http://www.measuredhs.com/pubs/pdf/SR128/SR128.pdf>

International Institute for Population Sciences, World Health Organization (2003). Health system performance assessment. World Health Survey, 2003, India. Geneva: India-WR Office. Retrieved from http://www.who.int/healthinfo/survey/whs_hspa_book.pdf

Jackson, L. A., & Wang, J. L. (2013). Cultural differences in social networking site use: A comparative study of China and the United States. *Computers in Human Behavior*, 29, 910-21. doi: 10.1016/j.chb.2012.11.024

Jones, S. C., Robinson, L., Barrie, L., Francis, K., & Lee, J. K. (2016). Association between young Australian's drinking behaviours and their interactions with alcohol brands on Facebook: Results of an Online Survey. *Alcohol and Alcoholism*, 1-17. doi: 10.1093/alcalc/agv113

Jones, S., & Magee, C. (2011). Exposure to alcohol advertising and alcohol consumption among Australian adolescents. *Alcohol and Alcoholism*, 46(5), 630-637. doi: <http://dx.doi.org/10.1093/alcalc/agr080>

Kumar, N. (2014). Facebook for Self-empowerment: A Study of Facebook Adoption in Urban India. *New Media and Society*, 16(7), 1122-37. doi: 10.1177/1461444814543999

Lim, M. S. C., Hare, J. D., Carrott E. R., & Dietze, P. M. (2016). An investigation of strategies used in alcohol brand marketing and alcohol-related health promotion on Facebook. *Digital Health*, 2: 1–7. doi: 10.1177/2055207616647305

Lin, R. (2015). Lifted spirits: Successful boutique distilleries entice new industry entrants. IBIS World Industry Report C1213 Beer/Spirit Manufacturing in Australia. Retrieved from <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=116>
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=118>

List of alcohol brands in India and their distillery name. (2013). Retrieved from <http://www.theboozeguru.com/liquorbrands.htm>

McCusker Centre for Action on Alcohol and Youth. (2014). A Guide to the Alcohol Industry. Retrieved from https://mcaay.org.au/assets/publications/industry-guides/mcaay_aguidetothealcoholindustry_feb2014-final.pdf

Murthy, P. (2015). Culture and alcohol use in India. *World Association of Cultural Psychiatry*, 27-39.

Nayak, V. (2014). 92 Million Facebook users make India the second largest country. Retrieved from <http://dazeinfo.com/2014/01/07/facebook-inc-fb-india-demographic-users-2014/>.

Nhean, S, Nyborn, J, Hinchey, D, Valerio, H, Kinzel, K, . . . Jernigan, D. H. (2012). The frequency of company sponsored alcohol brand-related sites on Facebook. *Substance Use Misuse*, 49,779–82. doi: 10.3109/10826084.2014.880177

Nicholls, J. (2012). Everyday, everywhere: alcohol marketing and social media—Current trends. *Alcohol and Alcoholism*, 47(4), 486–93. doi: 10.1093/alcalc/ags043

Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India. (2011). Census of India. Retrieved from <http://www.censusindia.gov.in/2011census/C-01.html>.

Parasuraman, S, Kishor, S, Singh, S. K., & Vaidehi, Y. (2009). National Family Health Survey (NFHS-3), India, 2005-06. Mumbai: International Institute for Population Sciences. Retrieved from http://www.rchiips.org/NFHS/youth_report_for_website_18sep09.pdf

Prasad R. (2009). Alcohol use on the rise in India. *Lancet*, 373(9657), 17-8. PubMed PMID: 19125444. Epub 2009/01/07. eng.

Rathod, S. D., Nadkarni, A, Bhana, A, & Shidhaye, R. (2015). Epidemiological features of alcohol use in rural India: A population-based cross-sectional study. *BMJ Open*, 5:e009802. doi:10.1136/bmjopen-2015-009802

Socialbakers (2016). Retrieved from

<http://www.socialbakers.com/statistics/facebook/pages/total/australia/brands/alcohol/>

<http://www.socialbakers.com/statistics/facebook/pages/total/india/brands/alcohol/>

Statista (2016). Retrieved from

[http://www.statista.com/statistics/304827/number-of-facebook-users-in-india/;](http://www.statista.com/statistics/304827/number-of-facebook-users-in-india/)

<http://www.statista.com/statistics/304862/number-of-facebook-users-in-australia/>

Strauss, A. & Corbin, J. (1990). *Basics of Qualitative Research*. Thousand Oaks, CA: SAE Publications.

Weaver, E. R. N., Wright, C. J. C., Dietze, P. M., & Lim, M. S. C. (2016). 'A drink that makes you feel happier, relaxed and loving': Young people's perceptions of alcohol advertising on Facebook. *Alcohol and Alcoholism*, 51(4), 481–86. doi: 10.1093/alcalc/agt134

Winpenny, E. M., Marteau, T. M., & Nolte, E. (2014). Exposure of children and adolescents to alcohol marketing on social media websites. *Alcohol and Alcoholism*, 49(2), 154-59. doi: 10.1093/alcalc/agt174

World Health Organization. (2014). *Global Status Report on Alcohol and Health*. Geneva, Switzerland: WHO. Retrieved from

http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf.

3.7 Tables

Table 3.7.1: Search strategy to select the 10 most ‘liked’ brands in both India and Australia on Facebook

	India	Australia
Alcohol reports used	<ul style="list-style-type: none"> • Report on alcohol marketing and regulatory policy environment in India (2013) • Liquor Brands in India (2013) 	<ul style="list-style-type: none"> • MCAAY (2014) • IBIS World Industry Report Beer Manufacturing in Australia (2015) • IBIS World Industry Report Spirit Manufacturing in Australia (2015)
No. of alcohol brands distributed in the country	256	287
Brands with Facebook presence	28	134
Brands with dedicated official Facebook pages	25	67

Table 3.7.2: User engagement with Facebook (December 2015-January 2016)

Country	Brand	Beverage Category	First year on Facebook	Likes	Fans	Posts (brand-generated)	Shares (user made)
India	Foster's	Beer	2010	802,807	803,339	325	13,949
	Haywards 5000	Beer	2013	699,492	697,415	314	13,245
	Royal Challenge*	Whisky	2010	389,049	386,398	256	20,871
	Kingfisher	Beer	2013	376,233	7,288,069	278	23,262
	McDowell's No. 1*	Whisky	2012	367,865	378,915	178	18,466
	Black Dog	Whisky	2010	188,312	189,981	92	1,210
	White Mischief	Vodka	2009	143,119	71,782	71	486
	Breezer	RTD	2011	126,556	629,184	143	12,287
	Vat 69*	Whisky	2012	99,075	100,750	87	402
	Blenders Pride	Whisky	2011	9,073	256,066	101	1,768
	Subtotal	-	-	-	3,209,754	10,801,899	1,845
Australia	Budweiser	Beer	2010	12,827,216	42,476	327	23,205
	Smirnoff*	Vodka	2009	11,550,463	255,343	234	28,169
	Johnnie Walker*	Whisky	2008	11,474,737	136,699	267	36,342
	Corona Extra	Beer	2010	8,815,797	55,424	144	14,231
	Stella Artois	Beer	2012	7,628,921	25,475	123	9,286
	Absolut	Vodka	2009	5,830,061	80,783	132	11,681
	Baileys	Whisky	2009	4,106,013	188,266	111	19,210
	Jägermeister	Liqueur	2010	3,999,889	137,572	145	3,172
	Patron Tequila	Tequila	2009	3,723,251	23,017	102	1,204
	SKYY Vodka	Vodka	2013	3,213,251	26,927	112	2,168
	Subtotal	-	-	-	73,169,929	297,819	1,686

TOTAL	-	-	76,379,683	11,099,718	3,531	233,743
--------------	---	---	-------------------	-------------------	--------------	----------------

RTD = ready-to-drink product: * Owned by Diageo

Table 3.7.3: Alcohol marketing content on the 10 most popular alcohol brands with an Indian Facebook presence

	Indian Brands (in order of popularity by likes)				
	Foster's	Haywards 5000	Royal Challenge	Kingfisher	McDowell's No. 1
'Like' button	x	x	x	x	x
Video advert	x	-	x	x	x
Competitions / giveaways	x	-	x	x	x
Alcohol sale links	-	-	-	-	-
Examples of content on brand's Facebook page	<ul style="list-style-type: none"> • Travel • On tour party videos • Comedy • TESD • Memes • Camaraderie 	<ul style="list-style-type: none"> • Entrepreneur-ship skills • TESD • Camaraderie • Wisdom talks 	<ul style="list-style-type: none"> • Sports • Travel • Cocktail recipes • TESD • Sexual content • Festival celebration • Memes 	<ul style="list-style-type: none"> • Sports • Music festivals • Travel • On tour party videos • Festival celebration • Memes • Consumption suggestions • Fashion • TESD • Sexual content 	<ul style="list-style-type: none"> • Sports • Camaraderie • Prize draw • Memes • Singing competitions
Frequency of brand comments on wall	> weekly	> weekly	> weekly	> weekly	> weekly
Responsible drinking messages	x	-	x	-	-
Link to official website	-	x	x	x	x
Link to Twitter	x	-	-	-	x
Link to YouTube	-	-	-	-	x

Link to Instagram	-	-	-	-	X
Indian Brands continued (in order of popularity by likes)					
	Black Dog	White Mischief	Breezer	VAT 69	Blenders Pride
'Like' button	x	x	x	x	x
Video advert	x	-	-	-	-
Competitions/ giveaways	x	x	x	-	-
Alcohol sale links	-	-	-	-	-
Examples of content on brand's Facebook page	<ul style="list-style-type: none"> • Music festivals • Comedy • Luxury • Food recipes • Camaraderie/ Togetherness • Inspirational talks • TESD 	<ul style="list-style-type: none"> • Cocktail recipes • Music festivals • Comedy • Sports • Travel • TESD • Memes • Sexual content 	<ul style="list-style-type: none"> • Music festivals • TESD • Food recipes • Memes • Comedy • Travel 	<ul style="list-style-type: none"> • Cocktail/food recipes • Memes • Camaraderie • Memes • Inspirational talks • Famous quotes from Bollywood movies 	<ul style="list-style-type: none"> • Cocktail recipes • Meme • Festival celebration • Memes • Fashion
Frequency of brand comments on wall	> weekly	> weekly	> weekly	Weekly	> weekly
Responsible drinking messages	x	x	-	x	-
Link to official website	x	x	x	-	x
Link to Twitter	-	x	x	-	-
Link to YouTube	-	x	x	-	-

Link to Instagram

-

-

-

-

-

TESD = Time- and Event-Specific drinking; X = content present; - = content absent; >weekly = more than weekly

Table 3.7.4: Alcohol marketing content on the 10 most popular alcohol brands having Australian Facebook presence

	Australian Brands (in order of popularity by likes)				
	Budweiser	Smirnoff	Johnnie Walker	Corona Extra	Stella Artois
'Like' button	x	x	x	x	x
Video advert	x	x	x	x	x
Competitions/ giveaways	x	x	x	x	x
Alcohol sale links	-	-	-	-	-
Examples of content on brand's Facebook page	<ul style="list-style-type: none"> • Sports • Music festivals • Travel • On tour party videos • Comedy • Posts related to the brand's tradition or heritage • Contests • Sexual content 	<ul style="list-style-type: none"> • Music festivals • Travel • On tour party videos • Cocktail recipes • Contests • Festival celebration • TESD 	<ul style="list-style-type: none"> • Music festivals • Travel • Cocktail recipes • On tour party videos • TESD • Fashion • Motivational videos (e.g. 'Keep walking', 'Be joyous') • Advertisements related to movies • Posts related to the brand's tradition or heritage 	<ul style="list-style-type: none"> • Sports • Music festivals • Travel 	<ul style="list-style-type: none"> • Sports • Advertisements related to movies • Prize draw • Festival celebration • Posts related to the brand's tradition or heritage
Frequency of brand comments on wall	Weekly	> weekly	> weekly	> weekly	Daily
Link to official website	-	x	x	x	x
Link to DrinkWise website	x	x	x	x	x

Link to Twitter	-	-	-	-	-
Link to YouTube	-	-	-	-	-
Link to Instagram	-	x	x	x	-

Australian Brands continued (in order of popularity by likes)

	Absolut	Baileys	Jägermeister	Patron Tequila	SKYY Vodka
'Like' button	x	x	x	x	x
Video advert	x	-	x	x	-
Competitions/ giveaways	x	x	x	x	-
Alcohol sale links	-	-	-	-	-
Examples of content on brand's Facebook page	<ul style="list-style-type: none"> • Cocktail recipes • Music festivals • Advertisements related to movies • On tour party videos 	<ul style="list-style-type: none"> • Cocktail recipes • Fashion festivals 	<ul style="list-style-type: none"> • Music festivals / awards • Cultural (e.g. Australia Day) • TESD • Sports • Meme • Festival celebration • Travel 	<ul style="list-style-type: none"> • Cocktail recipes • Posts related to the brand's tradition or heritage • Music festivals/awards • Meme • Sexual content 	<ul style="list-style-type: none"> • Music festivals • Cocktail recipes • Meme • Festival celebration • Travel • Sexual content
Frequency of brand comments on wall	Weekly	> weekly	> weekly	> weekly	> weekly
Link to official website	-	x	x	x	x
Link to DrinkWise website	x	x	x	x	-
Link to Twitter	-	-	-	-	-
Link to YouTube	-	-	-	-	-
Link to Instagram	-	x	x	x	x

DrinkWise = an alcohol industry funded organization on responsible drinking

Chapter 4: A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia

This chapter presents a published study that investigated and compared marketing strategies alcohol marketers utilised on their official Twitter pages in India and Australia. This paper also reports on the extent of user engagement with the type of content posted on those pages (Gupta, Lam, Pettigrew, & Tait, 2017).

4.1 Abstract

Aims: To evaluate (i) the types of techniques alcohol marketers utilize to facilitate user engagement with content on leading Indian and Australian Twitter alcohol brand pages and (ii) the extent to which users engage with this content in two diverse national contexts.

Methods: The 10 alcohol brands per country with the greatest Twitter presence were identified based on the number of “followers”. Numbers of tweets, photos, and videos were collected, and the type of content noted for each brand between January 1, 2016 and February 29, 2016. The data were analyzed via an inductive coding approach using NVivo10.

Results: In total, the brands had accumulated up to 150,386 followers (Indian: 110,032; Australian: 40,354). The techniques utilized were a mix of those that differed by country (e.g., India: sexually suggestive content versus Australia: posts related to the brand’s tradition or heritage) and generic approaches (e.g., alcohol sponsorship of sport, music, and fashion; offering consumption suggestions; organizing competitions; giveaways; and use of memes).

Conclusions: The flexibility of Twitter, which complements traditional marketing, allows brands to adapt and deliver their online alcohol content in specific national contexts and to capitalize on the cultural meanings users invoke in their interactions with the brands.

4.2 Introduction

The popularity of social media is an incentive for the alcohol industry to invest in online advertising (Nicholls, 2012): in 2009, the UK became the first country where the budget for online alcohol advertising overtook television advertising (Sweney, 2009). Alcohol marketers are skilled at producing engaging online content, with successful content often going viral (Niland, McCreanor, Lyons, & Griffin, 2017). Importantly, the impact of this marketing is enhanced by brands encouraging user-generated references and conversations relating to drinking (Chester, Montgomery, & Dorfman, 2010). Thus, users become online ambassadors of the brands and co-creators of pro-alcohol online spaces, which serves to intensify “norms of intoxication” and “entrench intoxicogenic environments” (McCreanor et al., 2013, p117). Further, the conversations blur the distinction between user-generated and brand-created material (Nicholls, 2012).

The strategy of marketers on social networking sites (SNS) is to ‘observe, stimulate, and participate’ (Van Bellegham, 2011) in ‘positive conversations about the brands’ (Van Bellegham, 2011) and direct those conversations in real-time (Carah, Meurk, Males, & Brown, 2017; Atkinson, Ross-Houle, Begley, & Sumnall, 2017). In addition to encouraging SNS users to promote or celebrate consumption, brands strengthen cultural identities by engaging users in the dissemination of cultural practices and values to which the brand could never explicitly prescribe meaning (Carah, Brodmerkel, & Shaul, 2015).

Brands may strategically ‘wink at cultural values, rituals, and identities’ (Carah et al., 2015, p19) in a manner that encourages SNS users to incorporate the anticipated social meaning of the brand into their SNS profiles (Purves, Stead, & Eadie, 2014). Similarly, it has been proposed that in selecting and displaying alcohol-related material, SNS users enhance their social capital and social relationships, with brands moving beyond functionalism and taking on symbolic meanings consistent with the individuals’ identities (Atkinson et al., 2017; Atkinson, Ross, Begley, & Sumnall, 2014).

Particularly among adolescents, the development of self-identity is a critical task, with SNS posited to play an important part in facilitating self-disclosure, self-presentation, peer feedback, and formation of group identities (Spies-Shapiro & Margolin, 2014). Such processes can increase the affinity between brands and SNS users over time such that brands come to belong to young people's socio-cultural identities and lifestyles (Carah et al., 2017). This engagement in turn facilitates brand content in going viral through users' online networks, and provides data on users for future marketing, potentially through the algorithm predictions of SNS (Carah et al., 2015).

As occurs with other SNS (Gupta, Pettigrew, Lam, & Tait, 2017), Twitter has the potential for precise targeting of specific consumer segments. This targeted content can differ at the country level. Cross-national comparisons can thus illustrate the flexibility of advertising on social media platforms with alcohol marketers adapting their online promotional activities to specific cultural contexts. As such, a comparative approach was adopted for this study using India and Australia as contrasting cultural contexts. This study appears to be the first to comprehensively analyze different approaches to alcohol marketing on Twitter across countries.

4.2.1 Drinking prevalence and patterns

India and Australia have substantially different socio-cultural contexts and histories, and represent contrasting drinking cultures. In simplistic terms, these are examples of 'dry' and 'wet' drinking cultures, respectively (Bloomfield, Stockwell, Gmel, & Rehn, 2003). Despite traditionally low levels of alcohol consumption in India, annual per capita consumption increased from 3.6 liters of pure alcohol in 2003-2005 to 4.3 liters in 2008-2010 (World Health Organization (WHO), 2014). The equivalent figures for Australia were from 10.1 liters to 12.2 liters (WHO, 2014).

In both countries, males drink more than females (lifetime drinkers aged 15+). In Australia, women drink 42% of their male counterparts' volume (7L versus 17L). The gender disparity

is far greater in India, with women drinking 6% of their male counterparts' volume (0.5L versus 8L) (WHO, 2014). One factor underlying this difference may be gender (in)equality (French, Sargent-Cox, Kim, & Anstey, 2014), with India ranked 129th in the world on gender equality compared with Australia at 18th (United Nations Human Development Report, 2011). However, at least among higher status groups, attitudes towards female alcohol use are rapidly changing in India (Arora et al., 2016). In addition, Indian male drinkers are more likely to consume commercially produced alcohol than female drinkers, who may consume more homemade alcohol, which is not advertised (Mahanta et al., 2016).

Substantial differences in youth alcohol consumption are also evident. In India, 11% of males and 1% of females aged 15–19 years and 29% of males and 2% of females aged 20–24 years report consuming alcohol in the last year (Parasuraman et al., 2009). In contrast, 23% of those aged 12–17 years and 62% of those aged 18–24 years consumed alcohol in Australia in the last year, with use being similar across genders (Australian Institute of Health & Welfare (AIHW), 2017). These differences in alcohol use between India and Australia likely reflect a variety of socio-cultural norms (Rathod, Nadkarni, Bhana, & Shidhaye, 2015; Murthy, 2015). The Australian purchase age for alcohol is 18 years. The Indian legal drinking age ranges from 18-25 years, with sales banned in some states (Arora et al., 2013). Additionally, 14% of the population identify as Muslim and report substantially lower alcohol use than non-Muslims (Murthy, 2015; Office of the Registrar General & Census Commissioner, 2011). Further, drinking is not equally socially acceptable between the genders in India; some women drink at home to avoid publicly engaging in a potentially shameful behavior (Kermode, Sono, Songput, & Devine, 2013; Murthy, 2015). These variations in culture and patterns of consumption are likely to result in different types of online content being produced by the two countries to target their intended audiences (Gupta et al., 2017).

4.2.2 Regulations applying to alcohol advertising

Many countries regulate alcohol advertising, although the extent of oversight differs widely (for national details see European Centre for Monitoring Alcohol Marketing, 2017). In India, alcohol advertising is regulated by the Advertising Standard Council of India (ASCI, 2013). The ASCI Code imposes a complete ban on alcohol advertising in traditional media. The code prohibits both direct placement of the product as well as indirect references such as the use of brand-associated colors in non-alcohol advertisements. However, many companies use surrogate advertising (e.g., advertising other merchandise under the same brand name as their alcohol products). Some also sponsor music, fashion, and sports events, and engage celebrities to endorse their brands. As this code does not apply to Internet-based advertising, advertising via social media is unregulated and extensive in India (Arora et al., 2013).

In Australia, an Industry-regulated advertising code (Alcohol Beverages Advertising Code (ABAC)) restricts the depiction of the effects of alcohol, including not implying that the consumption or presence of an alcoholic beverage causes or contributes to the achievement of social, sporting, sexual, or other success. It further restricts the portrayal of content that has strong or evident appeal to minors (e.g., animations) and applying brand extensions (e.g., logos) to non-alcohol beverage products and the placement of content in digital media where there are no age-restrictions. However, this code does not apply to brand sponsorship (ABAC, 2013). The code primarily relates to content, although restrictions on placement apply to outdoor advertisements and commercials on free-to-air television. The ABAC has since revised these regulations (ABAC, 2017).

4.2.3 Research significance

Although there is a lower prevalence of access to the Internet in India (31%) than Australia (87%), the size of the population together with the rapid rise in alcohol consumption means India is an important market for alcohol brands (IMRB, 2016; Sensis, 2016). The Internet

provides an important means of reaching potential consumers. Of an estimated 432 million Internet users in India, 51% (60% male versus 40% female) of urban and 48% (75% male versus 25% female) of rural Internet users, use the Internet daily. Further, about 65% of these Internet users are below 25 years of age (IMRB, 2016). In Australia, of an estimated 23 million Internet users, 87% of people are daily Internet users (88% metropolitan versus 85% regional) and 69% of the Internet users use SNS, with similar rates of usage among males and females. Among SNS users, 75% belong to the 18-29 years age group (Sensis, 2016).

In 2016, there were an estimated 23 million Twitter users (2% of the population) in India and 3 million (13% of the population) in Australia (Statista, 2016). Of the Australian SNS users, Twitter is used by 25% males compared with 14% females, with about 33% belonging to the 18-29 years age group (Sensis, 2016). However, age group-specific data on Indian Twitter users are not publically available, although it is suggested that there is a marked gender divide with about 80% being male (YourStory, 2012). There appears to be only one academic work on online exposure to alcohol marketing via social media in India (Gupta et al., 2017), and most Australia research has focused on Facebook (e.g., Carah et al., 2017; Jones et al., 2016; Weaver, Wright, Dietze, & Lim, 2016). Several international studies have analyzed user engagement with alcohol brand content on Twitter (e.g., Atkinson et al., 2017; Barry et al. 2016; Cavazos- Rehg, Krauss, Sowles, & Bierut, 2015; Winpenny, Marteau, & Nolte, 2014; Nicholls, 2012). These studies reported the frequent use of cartoon characters, real-world tie-ins, games, competitions, time-specific suggestions to drink, comedy, fashion, engagement with music and sporting events, and engagement with local venue and event marketing (Atkinson et al., 2017; Barry et al. 2016; Winpenny et al., 2014; Nicholls, 2012), in their SNS conversations.

Previous research suggests that exposure to online alcohol marketing increases the likelihood of alcohol use (Cranwell, Britton, & Bains, 2017; Gupta, Pettigrew, Lam, & Tait, 2016) and alcohol-related problems including increased risk of developing alcohol use

disorders (Westgate, Neighbors, & Heppner, 2014), especially among youth (Jones et al., 2016). Also, there is evidence that alcohol marketers use tailored social marketing strategies to cater to specific national contexts (Gupta et al., 2017). Therefore, we investigated the strategies used by alcohol companies on Twitter to promote their products in culturally diverse locations and the extent of user engagement. This information is important to guide both national and international efforts to minimize harmful alcohol consumption resulting from exposure to alcohol marketing, especially among young people.

4.3 Methods

4.3.1 Data collection

Following the search strategy utilized by Carah (2014) and Gupta et al. (2017), we searched for a Twitter presence for every alcohol brand distributed in India (n = 256) and Australia (n = 287).

While Twitter is a single worldwide SNS, Twitter pages are country-specific, but accessible internationally. To confirm if the brand had an official Indian/Australian Twitter page, we sought a statement such as 'this is the official page'. If this strategy was unsuccessful, we accessed the brand's national official website and searched for its national Twitter presence. The absence of an official Twitter presence excluded the brand from the analysis (India: n = 12; Australia: n = 48).

Among brands with a Twitter presence, the 10 brands per country with the largest number of followers were selected. Notably, this may or may not be related to their market share. There was no overlap between the top 10 brands identified for the two countries, and while several brands within each country were produced by the same company, there were no producers in common across the two countries.

For each brand, we extracted: the date the Twitter page was established, number of followers, tweets, photos, and videos posted on the Twitter pages plus messages relating to

responsible drinking and legal drinking age. For the two months from January 1 to February 29, 2016, we collected brand- and user-generated content appearing as 'original tweets' and 'retweets' (i.e., when the content is reposted by brands and/or users). We collected these data to investigate the extent of marketing activity and user engagement. Approval to access the data was obtained from an Institutional Ethics Committee.

4.3.2 Coding process and analysis

An overview of the coding process is shown in Table 4.7.1. The content of both brand- and user-generated content was downloaded and analyzed using NVivo10 to facilitate a thematic analysis. As the coding process was primarily inductive (Huberman & Miles, 1994), a single coder undertook all coding to accommodate the need for emergent node development. The coding process started with a priori codes identified from the existing evidence in this domain (e.g., competitions; time-specific suggestions to drink; comedy; and fashion, music, and sporting events (Atkinson et al., 2017; Barry et al. 2016; Winpenny et al., 2014; Nicholls, 2012)). These codes were then supplemented with codes emerging from the data (Strauss & Corbin, 1990). The research team discussed the themes and refined the resulting interpretation. The same coding process has been used previously (Gupta et al., 2017), generating comparable findings to earlier research (e.g., Atkinson et al., 2017; Nicholls, 2012). This supports the appropriateness of the methodological approach and the consistency of themes identified in this study (Thomas, 2003).

4.4 Results

4.4.1 User engagement

Table 4.7.2 shows the 10 leading brands for India and Australia with their descriptive data at the start of the project. The establishment dates ranged from 2008 to 2013 (Indian: 2008-2012; Australian: 2009-2013). The most popular Indian brand was a beer (Kingfisher: 71,000 followers), while the most popular Australian brand was a wine (Penfolds: 17,400 followers).

The top 10 Indian brands were, three beers, three whiskies, two rums, and one ready-to-drink rum-based product. In contrast, the top Australian brands comprised, seven wines, two beers, and one whisky.

In terms of the number of followers, tweets, photos, and videos, Indian brands showed greater user engagement than the Australian brands, with the top Indian brand having more followers (71,000) than all 10 Australian brands combined (40,400). However, the number of followers did not consistently reflect the number of tweets accumulated by the brand in either country (e.g., Foster's (India) had 5,734 followers and 24,200 tweets while Penfolds (Australia) had 17,400 followers and 2,230 tweets). Similarly, the numbers of photos and videos posted on a brand's page did not necessarily relate to the number of tweets.

Nevertheless, the number of followers gives the best available indication of the actual reach of Twitter among users (Nicholls, 2012; Winpenny et al., 2014). However, this is not a measure of the number of people who may have actively viewed each Tweet. The data reported in Table 4.7.2 reflect the cumulative numbers in each category ever posted on a brand's Twitter page by users or brands. Table 4.7.4 shows how often each theme was identified in Twitter postings made during the study period.

4.4.2 Content of alcohol marketing

Brands utilized multiple strategies to facilitate user engagement with content posted on their Twitter pages (Table 4.7.3). These strategies included references to time-and event-specific drinking (TESD); sponsorship of sport, music, and fashion; consumption suggestions; competitions; giveaways; memes; sexually suggestive content; inspirational talks; references to camaraderie; and references to the brand's heritage).

A. Common strategies

TESD

Eighteen brands included TESP references to drinking after work, on weekends, public holidays, and special occasions (e.g., Australia Day, Republic Day, and Valentine's Day):

Well you've gotta give credit where credit is due. Cheers for the holiday your majesty.
Have a great long weekend (Carlton Draught, Australia).

We hope our Australian friends are enjoying today with friends, family, a bbq and a bottle of Lindeman's finest [wine] #AustraliaDay #Wine (Lindeman's, Australia).

Perfect Wednesday night dinner:- Good Chinese Great Company and a Chilled beer.
#ChinaGardenChinese #KingfisherBeer (Kingfisher, India).

Memes

Internet memes (typically images to which followers can add humorous captions) were used by 11 brands and were creatively adapted to reflect brand identities. The intended purpose of using memes appeared to be to add humor and attract users to such content. For example, Carlton Draught (Australia) referenced a popular song by posting the following picture with a tweet saying "Um-Ber-Ellas. They'll do the job in rain, hail or shine & easily attach to any pint of Brewery" (Figure 4.8.1).

Other posts prompted users to generate more content, which in turn appeared to enable brands to capture information relating to followers' interests and respond with further content that embedded drinking within those interests. For example, TempusTwo (Australia) posted a picture saying "You now have a new favourite colour, my favourite colour is wine! #TempusTwo #itsTempusTwoTime". Users reciprocated enthusiastically to this tweet by reporting their favorite colors and relating them to alcohol (e.g., "Red wine goodness ;)").

Competition and giveaways

Six brands organized event-related competitions such as "Comedy Hunt" (Royal Challenge, India) and offered giveaways ([yellow tail] wine, Carlton Draught; Australia). For example:

Best VIP time @fashionweekend with runway, pink bubbles + goodie bags thanks to @ursulaheather and @yellowtail_aust [yellow tail] wine (Australia).

...Guess who its [sic] going to be and take away amazon gift coupons. #INDVSAUS
#WC2016 #WC20 #CRICKETWORLDCUP (Blenders Pride, India).

Consumption suggestions

Eight Indian and Australian brands posted images/videos demonstrating cocktail and/or food recipes. Examples included “Loaded cheesy nachos are the best combination with #Breezer Blackberry #BreezerGrub” (Breezer, India). Users enthusiastically engaged with these posts and shared their own recipes.

Inspirational talks

References to inspirational talks (six brands) were also seen with both Indian and Australian brands: “Here's to Saini [a person's name] for quitting the IAS to offer free education to India's youth. #BoldMove”. This was followed by a posted picture saying “Sometimes, the boldest thing you can do, is quit [and take up what makes you happier]” (Royal Challenge, India) and “The harder the struggle, the more glorious the triumph #wolfblass #herestothechase” (Wolf Blass Wine, Australia). Such references appeared to be attempts to relate success and hard work to the brand.

Camaraderie and togetherness

Another common theme related to camaraderie, togetherness, and acceptance within the users' social networks (seven brands). Examples included:

Cold beer, warm evenings and old friends. Don't show up empty handed! Simple.
#Sol (Sol Beer, Australia).

...if you agree that you've made the best of friends over a peg... The older, the better- friends and whisky (McDowell's No. 1, India).

Here's to moments enjoyed with family and friends! #LindemansWine
#MemorableMoments (Lindeman's, Australia).

Users readily engaged with such posts and responded actively to such content: “[retweet] if you agree that you've made the best of friends over a peg [unit of alcohol]” (user comment to the McDowell’s No. 1, India, tweet above). Through these posts, brands appeared to position themselves in users’ everyday online conversations and integrate those conversations with their drinking experiences.

Responsible drinking

Four Australian and three Indian brands had safety messages such as “drink responsibly” and “don’t drink and drive” on their Twitter pages. However, none appeared to have links to relevant websites, such as those of health agencies. References to the legal drinking age were evident on the Twitter pages of five Australian and two Indian brands. ‘Responsible drinking’ is essentially not a Tweet category as these messages were mentioned on a brand’s Twitter page Impressum or added to other content, such as photographs.

B. Strategies that differed by country

Brand sponsorship

The promotion of brand-sponsored events, such as sporting, music, and fashion events (14 brands), was another widely used strategy. In terms of sport, while Australian brands associated their products with a range of sports including Australian Rules football (Carlton Draught), cycling (Wolf Blass Wines), and motorsports (Jack Daniel’s), Indian brands such as Blenders Pride, Heineken, and Kingfisher referred primarily to cricket. References to music and fashion events were also popular with both Indian (e.g., Kingfisher’s Sunburn Festival) and Australian (e.g., Tempus Two) brands. Mentions of music events were largely associated with Indian brands, whereas references to fashion events were largely seen with Australian brands. As well as posting pictures and videos taken at such events on their Twitter pages, brands asked users to tweet their own stories and post pictures relating to celebrating those events, including with alcohol.

Traditions and cultural heritage

Five Australian brands posted content relating to their traditions and cultural heritage, and used a range of techniques to integrate those stories within users' interests and values. For instance, Jack Daniels tweeted "Mr Jack's spirit lives on & it's at times like these that we continue his tradition of bringing people together [with a glass of whisky]" (Australia). McGuigan (Australian brand) posted a series of stories and pictures of its wineries presenting the brand's wine making history.

Sexually suggestive content

Two Indian brands published posts with sexually suggestive content. For instance, while tweeting about the Sunburn Festival music festival and the making of the 'KF Calendar', pictures of attractive female models in swimming costumes were posted (Figure 4.8.2). For the opportunity to appear on the calendar with the models, the brand asked users to tweet their selfies. The content seemed to capture users' attention and interest, with more than 1,200 likes accrued, hence increasing the affinity between brands and users. In contrast, overtly suggestive content of this nature was not evident on the Australian brands' Twitter pages.

4.5 Discussion and Conclusion

To our knowledge, this is the first study to perform a cross-cultural comparison of Twitter-based alcohol marketing. The findings of this study support and extend previous work by identifying alcohol companies' online marketing strategies in terms of the themes identified. Further, this study extends current knowledge by providing a comparative account of how brands tailor content to cultural contexts.

Overall, we inferred that users are not merely passive recipients of brand content posted on SNS, rather, they actively participate in content creation. Brands encourage this by facilitating direct (e.g., through users responding to the brand posts or posting own content) and indirect (e.g., engaging with content through users' SNS friendship networks) user interaction with brand content (Atkinson et al., 2017; Carah et al., 2015). The user-generated

content can be used by brands to further create and tailor content within users' cultural spaces and practices (e.g., brand promotion at sporting and music events) and target niche audiences (e.g., targeting youth by organizing competitions, offering giveaways, and use of memes). Further, brands appear to capitalize on users' identity-making by enabling users to post images and other content (Spies-Shapiro & Margolin, 2014) and facilitating self-representation (e.g., displaying selective alcohol-related material based on users' preferences) (Atkinson et al., 2017; Carah et al., 2015; McCreanor et al., 2013).

We identified greater user engagement in terms of followers for Indian brands than their Australian counterparts. This is likely because of the substantial difference in populations, with many more Indian than Australian SNS users (300 million versus 16 million) and Twitter users (23 million versus 3 million) (IMRB, 2016; Sensis, 2016). Also, there are 'digital divides' within countries based on age (the majority of SNS users are aged below 30 years), gender (more male SNS users), and location (more SNS users in urban locations) (IMRB, 2016; Sensis, 2016). Such divides potentially influence social media use and hence exposure to and interaction with alcohol marketing across SNS.

Although marketing strategies were generally comparable in both countries (e.g., consumption suggestions, competitions, giveaways, and memes), those that differed by country were also identified. In particular, while Australian Twitter brands often promoted a wide range of sports (e.g., football, cycling, and motorsports); Indian brands only sponsored cricket. These differences could be attributed to the popularity of different sports in the respective countries. Mentions of music events were mainly associated with Indian brands, whereas references to fashion events were largely seen with Australian brands.

Some of the Indian brands published posts containing sexually suggestive content, which was substantially less evident among the Australian brands. This difference may be due to Australian restrictions regarding the portrayal of alcohol contributing to sexual success (ABAC, 2013). Further, as Indian men consume substantially more alcohol than Indian

women (WHO, 2014), it is likely that Indian alcohol brands consciously target men on social media platforms utilizing such content. It should be noted that this type of content appeared on only two Indian brands' Twitter pages, which could have happened by chance.

Furthermore, between country variations in content also related to portrayal of 'brand heritage'. Some of the Australian brands published posts relating to the brand's long-running tradition or heritage. Such practices appeared to be attempts to localize the brands and make them part of real communities, regions, and livelihoods (Gupta et al., 2017). This strategy was not evident in the context of Indian brands. Alcohol use in India is rapidly transitioning from regional, ritual, and traditional patterns of use to a mainstream product (Murthy, 2015). Concurrently, international and Indian made foreign liquor (e.g., whisky and rum) brands are regarded as conferring higher status than traditional alcohol (Murthy, 2015), which may explain why heritage is not emphasized by brands.

The flexibility of Internet advertising means that brands can guide conversations with users and importantly, that users have capacity to interact with the content, both of which are much more difficult to achieve with traditional advertising (Gupta et al., 2017). Despite dissimilarities in content, time- and event-specific drinking tweets were the most extensively used format across both countries. These "branded conversation-stimuli" (Nicholls, 2012, p486) appeared to be attempts to normalize drinking by presenting it as an enjoyable pastime that is ubiquitous in both everyday settings and special events.

Inspirational talks, relating success and hard work to drinking, were identified in both countries. This is especially pertinent in the Australian context, as despite ABAC regulations on the responsible depiction of the effects of alcohol, including not directly implying that the consumption or presence of alcohol causes or contributes to achievement (ABAC, 2013), companies posted such content. This suggests that some aspects of the Australian regulatory codes are being breached on Twitter. In the Indian context, while brands were not

able to legally advertise via traditional media avenues, they found a virtually unrestricted space on the Internet, which is a loophole in the ASCI regulations.

The majority of the marketing approaches identified on Twitter are consistent with those previously identified on alcohol brands' Facebook pages (Gupta et al., 2017). However, some of the country-specific strategies employed on Twitter in the Indian context appear to differ from those appearing on Indian Facebook sites. For example, while companies posted references to livelihood skills on Facebook (Gupta et al., 2017), this was absent on Indian Twitter pages. Also, sexually suggestive content was not identified on Australian Twitter pages; however, this type of content was identified on Australian Facebook pages. This variation may reflect differences in the demographics of Facebook and Twitter users or differences in the target markets for the specific brands.

The forthcoming Australian regulatory code (ABAC, 2017) will include tighter age controls on the placement of advertisements in digital environments. However, Barry and colleagues (2016) found that Twitter's age-gate does not prevent those as young as 13 years from viewing or retweeting content. As such, it is likely that those under the legal age for purchasing alcohol have been, and will continue to be, exposed to this form of alcohol marketing even after the implementation of the new code.

Restrictions on alcohol branding and online sales advertisements on Twitter are country-specific. While Australian Twitter pages allow all kinds of online alcohol branding and sales advertisements, these are banned on Indian Twitter pages, except for brand sponsorship at events (Twitter Help Centre, 2017). Given the study findings, these Twitter regulations are apparently not enforced.

Demographic information was not available on the Twitter pages and we were unable to identify the ages of those engaging with the content. However, the extant literature demonstrates that young people are likely to engage with SNS alcohol marketing strategies such as event promotions, competitions, and giveaways (Atkinson et al., 2017; Chester et

al., 2010; Mart, 2011), similar to the strategies identified here. This suggests that the examined brands may intentionally target young people on Twitter. Further, marketing communication must not have strong or evident appeal to minors (ABAC, 2013), so the choice of these marketing strategies suggests a breach of the code. As ASCI does not regulate alcohol advertising via social media (ASCI, 2013), brands can promote their products on SNS in India to all age groups. Considering the growing evidence linking exposure to digital alcohol advertising with earlier and/or greater alcohol use by young people (Critchlow, Moodie, Bauld, Bonner, & Hastings, 2016; Alhabash, McAlister, Quilliam, Richards, & Lou, 2015), the present study indicates the need to better regulate Twitter alcohol advertising, particularly in relation to younger users.

Some limitations should be considered while interpreting the results of this study. We presented a two-country comparison; hence the results cannot be generalized to populations with different socio-cultural norms and characteristics. This study was a cross-sectional examination over a short period of time and may not reflect seasonal variation across the respective countries. For example, during winter in Australia, beer consumption declines and wine's increases, and so wine producers may concentrate their SNS marketing during their traditional peak consumption periods (Roy Morgan Research, 2015). Hence, other tweet categories may have emerged outside this period. Further, the data were collected during a discrete time period, while the number of followers accumulates over time. We were unable to track the new followers in that period and whether these were related to new content. In addition, there could be selection bias resulting from identifying the brands with the highest number of followers rather than using a random selection of eligible brands.

A further consideration is that some marketers reportedly engage in 'astroturfing' (Dobson, 2012) or the creation of numerous fake brand ambassadors. Thus, although the brands had a substantial number of followers, the astroturfing phenomenon makes their 'real' popularity uncertain. Savic et al. (2016) argue that internal diversity is significant in any country in the context of drinking; this would seem to be especially the case for a country as large and

diverse as India. Also, we cannot determine if users were unique followers of a particular brand or followed multiple brands, so the total number of followers engaged with the alcohol-related content is unknown. As discussed above, users do not need to actively engage with a brand on social media to be exposed to alcohol-related marketing (Carah et al., 2017), hence measuring user engagement in terms of 'followers' may not represent the true extent of exposure.

Finally, this study undertook an exploratory approach to describe the strategies alcohol companies utilize to engage users with brand content on Twitter. As research on alcohol marketing via social media is in its infancy, this kind of initial exploratory work is required to inform subsequent in-depth analyses. Future research could focus on cross-national comparisons involving other countries and different social media platforms (e.g., YouTube and Instagram) to further demonstrate how alcohol companies use social media to adapt their online content to different geographical contexts.

4.6 References

Advertising Standards Council of India. (2013). The code for self-regulation in Advertising in India. Retrieved from https://www.ascionline.org/download.php?f=code_book.pdf

Alhabash, S., McAlister, A.R., Quilliam, E.T., Richards, J.I., & Lou, C. (2015). Alcohol's getting a bit more social: When alcohol marketing messages on Facebook increase young adults' intentions to imbibe. *Mass Communication and Society*, 18(3).

Arora, M., Tewari, A., Bassi, S., Chauhan, K., Bhasin, S., Bakshi, A.-S., & Andréasson, S. (2016). Exploring perceptions of alcohol use in two Indian states: A qualitative study from Delhi and Haryana, India. *International Journal of Alcohol and Drug Research*, 6(1), 1-6.

Arora, M., Dahiya, P., Nazar, G., Gupta, H., Singh, D., Sahoo, P., . . . Chatterjee, M. (2013). Alcohol marketing and regulatory policy environment in India. A Report. Public Health Foundation of India. New Delhi, India: PHFI.

Atkinson, A. M., Ross, K. M., Begley, E. & Sumnall, H. (2014). Constructing alcohol identities. The role of Social Network Sites (SNS) in young peoples' drinking cultures. Centre of Public Health, Liverpool John Moores University.

Atkinson, A., Ross-Houle, K. M., Begley, E., & Sumnall, H. (2017). An exploration of alcohol advertising on social networking sites: an analysis of content, interactions and young people's perspectives. *Addiction Research & Theory*, 25(2), 91-102.

Australian Bureau of Statistics. (2014). 4307.0.55.001 - Apparent Consumption of Alcohol, Australia, 2013-14 Commonwealth of Australia. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4307.0.55.001/>

Australian Bureau of Statistics. (2017) 3101.0. Census Data. Commonwealth of Australia. Retrieved from <http://www.abs.gov.au/ausstats/abs%40.nsf/94713ad445ff1425ca25682000192af2/1647509ef7e25faaca2568a900154b63?OpenDocument>

Australian Institute of Health and Welfare. (2017). National Drug Strategy Household Survey (NDSHS) 2016 key findings. Retrieved from <http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources/ndshs-2016/alcohol/>

Barry, A. E., Bates, A. M., Olusanya, O., Vinal, C. E., Martin, E., Peoples, J. E., . . . Montano, J. R. (2016). Alcohol marketing on Twitter and Instagram: Evidence of directly advertising to youth/adolescents. *Alcohol and Alcoholism*, 51(4) 487–92.

Bloomfield, K., Stockwell, T., Gmel, G., & Rehn, N. International comparisons of alcohol consumption. *Alcohol Research & Health*, 27(1):95-110.

Carah, N. (2014). Like, comment, share alcohol brand activity on Facebook. Deakin, Australia: Foundation for Alcohol Research and Education.

Carah, N., Brodmerkel, S., & Shaul, M. (2015). Breaching the code: Alcohol, Facebook and self-regulation. Canberra, Australia: Foundation for Alcohol Research and Education.

Carah, N., Meurk, C., Males, M., & Brown, J. (2017). Emerging social media 'platform' approaches to alcohol marketing: A comparative analysis of the activity of the top 20 Australian alcohol brands on Facebook (2012–2014). *Critical Public Health*, 1–11.

Cavazos-Rehg, P. A., Krauss, M. J., Sowles, S. J., & Bierut, L. J. (2015) "Hey everyone, I'm drunk." An evaluation of drinking-related twitter chatter. *Journal of Study on Alcohol and Drugs*, 76:635–43.

Chester, J., Montgomery, K. & Dorfman, L. (2010). Alcohol marketing in the digital age, Berkley Media Studies Group, online. Retrieved from <http://www.digitalads.org/documents/BMSG-CDDDigital-Alcohol->

Creswell, J. W. (2002). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Upper Saddle River, NJ: Pearson Education.

Cranwell, J., Britton, J., & Bains, M. (2017). "F*ck It! Let's Get to Drinking—Poison our Livers!": a thematic analysis of alcohol content in contemporary YouTube music videos. *International Journal of Behavioral Medicine*, 24,66–76.

Critchlow, N., Moodie, C., Bauld, L., Bonner, A., & Hastings, G. (2016). Awareness of, and participation with, digital alcohol marketing, and the association with frequency of high episodic drinking among young adults. *Drugs: Education, Prevention and Policy*, 23 (4),328-336.

Dobson, C. (2012). Alcohol marketing and young people: Time for a new policy agenda. Kingston, Australia: AMA. Retrieved from

https://ama.com.au/sites/default/files/documents/alcohol_marketing_young_people.pdf

European Centre for Monitoring Alcohol Marketing. (2017). Retrieved from <http://eucam.info/regulations-on-alcohol-marketing/>

French, D. J., Sargent-Cox, K. A., Kim, S. & Anstey, K. J. (2014). Gender differences in alcohol consumption among middle-aged and older adults in Australia, the United States and Korea. *Australian and New Zealand Journal of Public Health*, 38, 332–39.

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2016). A systematic review of the impact of exposure to Internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and Alcoholism*, 51(6), 763–71.

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2017). How alcohol marketing engages users with alcohol brand content on Facebook: An Indian and Australian perspective. *Critical Public Health*. <http://dx.doi.org/10.1080/09581596.2017.1318203>

Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In *Handbook of Qualitative Research*, pp. 428-44 [NK Denzin and YS Lincoln, editors]. Thousand Oaks: SAGE Publications.

IAMAI and Kantar IMRB. (2016). Internet in India – 2016 An IAMAI & KANTAR IMRB Report. Retrieved from <http://bestmediainfo.com/wpcontent/uploads/2017/03/Internet-in-India-2016.pdf>

Jones, S. C., Robinson, L., Barrie, L., Francis, K., & Lee, J. K. (2016). Association between young Australian's drinking behaviours and their interactions with alcohol brands on Facebook: Results of an Online Survey. *Alcohol and Alcoholism*, 1-17.

Kermode, M., Sono, C. Z., Songput, C. H., & Devine, A. (2013). Falling through the cracks: a qualitative study of HIV risks among women who use drugs and alcohol in Northeast India. *BMC International Health and Human Rights*, 13(1), 9.

Mahanta, B., Mohapatra, P. K., Phukan, N., & Mahanta, J. (2016). Alcohol use among school-going adolescent boys and girls in an industrial town of Assam, India. *Indian Journal of Psychiatry*, 58(2), 157–163.

Mart, S. (2011). Alcohol marketing in the 21st century: new methods, old problems. *Substance Use & Misuse*, 46, 889–92.

McCreanor, T., Lyons, A., Griffin, C., Goodwin, I., Moewaka, B. H., & Hutton, F. (2013). Youth drinking cultures, social networking and alcohol marketing: implications for public health. *Critical Public Health*, 23(1), 110-20.

Murthy, P. (2015). Culture and alcohol use in India. *World Cultural Psychiatry Research Review*, 27-39.

Nicholls, J. (2012). Everyday, everywhere: alcohol marketing and social media—Current trends. *Alcohol and Alcoholism*, 47(4), 486–93.

Niland, P., McCreanor, T., Lyons, A. C., & Griffin, C. (2017). Alcohol marketing on social media: young adults engage with alcohol marketing on facebook. *Addiction Research & Theory*, 25(4), 273-84.

Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India. (2011). Census of India. Retrieved from <http://www.censusindia.gov.in/2011census/C-01.html>.

Purves, R. I., Stead, M. & Eadie, D. (2014). “What are you meant to do when you see it everywhere?” Young people, alcohol packaging and digital media. *Alcohol Research UK*. Retrieved from http://alcoholresearchuk.org/downloads/finalReports/FinalReport_0120.pdf

Rathod, S. D., Nadkarni, A., Bhana, A., & Shidhaye, R. (2015). Epidemiological features of alcohol use in rural India: A population-based cross-sectional study. *BMJ Open*, 5:e009802.

Roy Morgan Research. (2015). Winter warmers and fair-weather friends: our seasonal drinking habits. Article No. 6422. Retrieved from <http://www.roymorgan.com/findings/6422-our-seasonal-drinking-habits-201508272256>

Savic, M., Room, R., Mugavin, J., Pennay, A., & Livingston, M. (2016). Defining “drinking culture”: A critical review of its meaning and connotation in social research on alcohol problems, *Drugs: Education, Prevention and Policy*, 23:4, 270-282.

Sensis Social Media Report. (2016). How Australian people and businesses are using social media. Retrieved from https://www.sensis.com.au/asset/PDFdirectory/Sensis_Social_Media_Report_2016.PDF

Spies-Shapiro, L. A., & Margolin, G. (2014). Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical Child and Family Psychology Review*, 17, 1-18.

Statista (2017). Number of Twitter users in Australia from 2014 to 2016 (in millions) Retrieved from <https://www.statista.com/statistics/558285/number-of-twitter-users-in-australia/>

Statista (2017). Number of Twitter users in India from 2012 to 2019 (in millions) Retrieved from <https://www.statista.com/statistics/381832/twitter-users-india/>

Strauss, A. & Corbin, J. (1990). *Basics of Qualitative Research*. Thousand Oaks, CA: SAGE Publications.

Sweney, M. (2009). Internet overtakes television to become biggest advertising sector in the UK. *The Guardian*, online. Retrieved from <http://www.guardian.co.uk/media/2009/sep/30/Internet-biggest-ukadvertising-Sector>

The Alcohol Beverages Advertising Code. (2013). ABAC Responsible Alcohol Marketing Code. Retrieved from <http://www.abac.org.au/wp-content/uploads/2014/06/ABAC-Responsible-Alcohol-Marketing-Code-30-4-14.pdf>

The Alcohol Beverages Advertising Code. (2017). ABAC Responsible Alcohol Marketing Code. Retrieved from http://www.abac.org.au/wp-content/uploads/2017/07/ABAC_CodeofConduct_2017_web.pdf

Thomas, D. R. (2003). A general inductive approach for qualitative data analysis. Retrieved from <http://www.frankumstein.com/PDF/Psychology/Inductive%20Content%20Analysis.pdf>

Twitter Help Centre. (2017). Retrieved from <https://support.twitter.com/articles/13920#>;
<https://support.twitter.com/articles/20170440#>

United Nations Human Development Report. (2011). Sustainability and Equity: A Better Future for All. Palgrave Macmillan, Basingstoke UK.

Van Bellegham, S. (2011). How Diageo's digital strategy came to life. The Conversation Manager. Retrieved from <http://www.theconversationmanager.com/2011/06/14/how-diageos-digital-strategy-came-to-life/http://www.webcitation.org/64Ywf8u12>.

Weaver, E. R. N., Wright, C. J. C., Dietze, P. M., & Lim, M. S. C. (2016). 'A drink that makes you feel happier, relaxed and loving': Young people's perceptions of alcohol advertising on Facebook. *Alcohol and Alcoholism*, 51(4), 481–86.

Westgate, E. C., Neighbors, C., Heppner, H., Jahn, S., & Lindgren, K. P. (2014). "I Will Take a Shot for Every 'Like' I Get on This Status": Posting Alcohol-Related Facebook Content Is Linked to Drinking Outcomes. *Journal of Studies on Alcohol and Drugs*, 75(3), 390-398.

Winpenney, E. M., Marteau, T. M., & Nolte, E. (2014). Exposure of children and adolescents to alcohol marketing on social media websites. *Alcohol and Alcoholism*, 49(2), 154-59.

World Health Organization. (2014). Global Status Report on Alcohol and Health. Geneva, Switzerland: WHO. Retrieved from http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf.

YourStory. (2012). [Twitter Stats] More than 80% Twitter Users in India are Males! Retrieved from <https://yourstory.com/2012/10/twitter-stats-more-than-80-twitter-users-in-india-are-males/>

4.7 Tables

Table 4.7.1: The coding process in inductive analysis (adapted from Creswell, 2002, Figure 9.4, p266)

Review all data	Identify specific segments of information	Label the segments of information to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most important categories
662 (India) and 445 (Australia) pages of text	372 (India) and 296 (Australia) segments of text	32 categories	17 categories	10 categories

Table 4.7.2: User engagement with Twitter at the time of data collection

Country	Brand	Category	Year started Twitter	Followers	Tweets	Photos and videos	
India	Kingfisher	Beer	2008	71,000	26,600	2,129	
	Bacardi	Rum	2009	15,200	6,673	661	
	Heineken	Beer	2011	14,400	9,782	1,468	
	Breezer	RTD	2013	14,100	2,152	257	
	Foster's	Beer	2009	5,734	24,200	501	
	White Mischief	Vodka	2011	1,751	3,149	NA	
	Blenders Pride	Whisky	2013	1,724	2,388	1,903	
	Royal Challenge	Whisky	2010	277	1,976	65	
	McDowell's No. 1	Whisky	2012	161	195	NA	
	McDowell's No. 1 Rum	Rum	2012	71	234	125	
	<i>Subtotal</i>				<i>110,032</i>	<i>77,349</i>	<i>7,109</i>
Country	Brand	Category	Year started Twitter	Followers	Tweets	Photos and videos	
Australia	Penfolds	Wine	2010	17,400	2,230	492	
	Wolf Blass Wines	Wine	2011	7,230	8,313	343	
	Jack Daniel's	Whisky	NA	6,373	1,318	398	
	Tempus Two	Wine	2010	2,285	1,549	230	
	Carlton Draught	Beer	2011	1,861	3,050	214	
	[yellow tail] wine	Wine	2009	1,596	2,898	235	
	Sol Beer	Beer	2013	1,496	679	304	
	McGuigan	Wine	2010	1,361	711	108	
	Yellowglen	Wine	2012	474	1,098	546	
	Lindeman's	Wine	2010	278	1,014	183	
	<i>Subtotal</i>				<i>40,354</i>	<i>22,860</i>	<i>3,053</i>
	TOTAL				150,366	100,209	10,162

NA = Data not available, RTD = ready to drink (pre-mixed beverage)

Table 4.7.3: Tweet themes identified on the 10 most popular alcohol brands with Indian and Australian Twitter presence

Brands	Tweet Themes: Indian Brands										Additional content	
	TESD	Memes	Camaraderie and Togetherness	Competitions	Event sponsorship (at sports, music, and fashion events)	Giveaways	Sexually suggestive content	Inspirational talks	Brand heritage	Consumption suggestions	Legal drinking age	Responsible drinking messages
Kingfisher	✓	✓	✓	✓	✓	✓	✓	x	x	x	x	✓
Bacardi	✓	✓	x	x	✓	x	x	x	x	✓	x	x
Heineken	✓	x	x	✓	✓	x	x	x	x	x	✓	x
Breezer	✓	✓	✓	✓	✓	x	x	x	x	✓	x	x
Foster's	✓	✓	✓	x	✓	x	x	x	x	x	x	✓
White Mischief	✓	x	x	x	x	x	✓	x	x	x	x	x
Blenders Pride	✓	x	x	x	✓	x	x	x	x	x	x	x
Royal Challenge	✓	x	x	✓	✓	x	x	✓	x	✓	✓	✓
McDowell's No. 1	✓	✓	✓	x	x	x	x	x	x	x	x	x
McDowell's No. 1 Rum	x	✓	✓	x	x	x	x	✓	x	✓	x	x

Brands	Tweet Themes: Australian Brands										Additional content	
	TESD	Memes	Camaraderie and Togetherness	Competitions	Event sponsorship (at sports, music, & fashion events)	Giveaways	Sexually suggestive content	Inspirational talks	Brand heritage	Consumption suggestions	Legal drinking age	Responsible drinking messages
Penfolds	✓	x	x	x	x	x	x	x	✓	✓	✓	✓
Wolf Blass Wines	✓	x	x	x	✓	x	x	✓	x	x	x	x
Jack Daniel's	x	x	✓	x	x	x	x	x	✓	x	✓	✓
Tempus Two	✓	✓	x	x	✓	x	x	x	✓	✓	x	x
Carlton Draught	✓	✓	x	✓	✓	x	x	x	x	x	✓	✓
[yellow tail] wine	✓	✓	x	x	✓	✓	x	x	x	✓	✓	x
Sol Beer	✓	✓	✓	x	✓	x	x	✓	x	x	✓	x
McGuigan	✓	✓	x	x	x	x	x	x	✓	✓	x	✓
Yellowglen	✓	✓	x	x	✓	x	x	✓	x	✓	x	x
Lindeman's	✓	✓	✓	x	✓	x	x	✓	✓	✓	x	x

TESD = Time- and Event-Specific drinking

✓ = present; x = absent

Table 4.7.4: Categorization of tweet subjects for Indian and Australian brands during the study period (January 1, 2016 to February 29, 2016)

Tweet subject	Number of references (%)	
	India	Australia
Time- and event-specific drinking	491 (40)	554 (35)
Memes	104 (8)	284 (18)
Music	102 (8)	52 (4)
Sports	90 (7)	71 (5)
Fashion	21(2)	82 (6)
Camaraderie	79 (6)	44 (3)
Giveaways and competitions	134 (11)	69 (4)
Sexually suggestive content	64 (5)	-
Consumption suggestions (food/cocktail recipes)	87 (7)	185 (12)
Inspirational talks	52(4)	91(6)
Brand heritage	-	129 (8)
Total	1224	1561

4.8 Figures

Figure 4.8.1: A meme posted on Carlton Draught's Twitter page



Figure 4.8.2: An example of sexually suggestive content posted on Kingfisher's Twitter page



Chapter 5: Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts

This chapter presents a published study that investigated and compared marketing strategies alcohol marketers utilised on their official YouTube pages in India and Australia (Gupta, Lam, Pettigrew, & Tait, 2018a). This paper also reports on the extent of user engagement with the type of content posted on those pages.

5.1 Abstract

Background: We know little about how social media alcohol marketing is utilized for alcohol promotion in different national contexts. There does not appear to be any academic work on online exposure to alcohol marketing via social media in India, and most of the limited research in Australia has focused on Facebook. Hence, the present study extends previous research by investigating alcohol promotion conducted on an under-researched form of social media (YouTube) in two contrasting geographic contexts. This study examines and compares the types of strategies used by marketers on Indian and Australian alcohol brands with the greatest YouTube presence, and the extent to which users engage with these strategies.

Methods: The 10 alcohol brands per country with the greatest YouTube presence were identified based on the number of 'subscriptions'. The number of videos, views per video, and the type of content within the videos were collected for each brand. The data were analyzed using an inductive coding approach, using NVivo 10.

Results: The targeted brands had gathered 98,881 subscriptions (Indian brands: $n = 13,868$; Australian brands: $n = 85,013$). The type of marketing strategies utilized by brands were a

mix of those that differed by country (e.g. sexually suggestive content in India and posts related to the brand's tradition or heritage in Australia) and generic approaches (e.g. encouraging time- and event-specific drinking; demonstrations of food/cocktail recipes; camaraderie; competitions and prize draws; and brand sponsorship at music, sports, and fashion events).

Conclusions: This cross-national comparison demonstrates that YouTube provides alcohol marketers with an advertising platform where they utilize tailored marketing approaches to cater to specific national contexts and develop content on the cultural meanings users invoke in their interactions with these strategies. Those exposed to alcohol marketing on YouTube are likely to include those under the legal drinking age.

5.2 Background

Along with conventional marketing media such as television and print, alcohol marketers have adopted social media platforms as contemporary marketing tools. As well as influencing alcohol use [1, 2], online conversations about alcohol are postulated to become central to identity construction processes, development, and maintenance of relationships and lifestyles [3]. These intertwined processes of identity construction and influence make social media a powerful medium for alcohol marketers to create and effectuate strategies to target audiences, including young people [4-6].

Alcohol marketing on social networking sites (SNS) is different to traditional media in the way that brands encourage SNS users to co-produce content and leverage users' individual identities and their social relationships as reflected in the content they post on their SNS profiles [7-9]. As per the algorithm predictions of SNS, alcohol marketing on SNS commences with brands instigating, interacting, and observing the communication processes between brands, users, and users' online peer network [10]. This is followed by brands directing those conversations in real-time and embedding themselves within users' lifestyles, identity-making processes, and cultural practices; and developing an active and

continuous conduit facilitating the flow of apparently enjoyable peer-to-peer transmissions of marketers' messages that are disseminated through users' online networks [8, 11, 12].

Further, such online branded conversations could provide data on users and their online peer networks, which could facilitate future marketing to niche groups (e.g. young people).

This new method of communicating with SNS users represents an enormous evolution from the use of traditional advertising media that can only communicate much more static representations of product meaning/symbolism. It has been suggested that alcohol marketing on SNS facilitates identity construction among users [8]. Young people, in particular, interact with marketing content in a way that brands come to belong to their socio-cultural identities and lifestyles [13]. For example, interaction with brand sponsorship at cultural events and event-related marketing (e.g. competitions) on SNS are especially appealing to young people. This potentially makes them less critical of marketing techniques that attempt to integrate the brand content in their cultural spaces. Firstly, because they see such marketing as opportunities for 'self-gain' (e.g., win prizes, free entry to the events, and free alcohol), and secondly it provides them with an opportunity for self-representation and social acceptability via an event which has a pre-existing social currency (especially within their peer networks), both online and offline [8, 12].

These types of communication processes are also conducive to brands, for example, brands ask users to tag themselves in the brand content posted on SNS or check-in the event locations on their SNS profiles. This facilitates the flow of content into the users' SNS peer networks, enhancing further creation of user-generated content [8]. Hence, embedding marketing content into users' leisure, peer networks, and cultural spaces is one of the vital factors in influencing 'brand-user interaction' on SNS [14].

As occurs with other social media platforms [15], alcohol marketers are likely utilizing tailored marketing approaches on YouTube to engage users. This tailoring can occur at the cultural level, hence a cross-national comparison of YouTube alcohol brands' sites has the potential

to explore how alcohol marketers use social media platforms to adapt their online promotional activities to specific cultural contexts. A comparative approach was adopted for this study using India and Australia as contrasting cultural contexts, representing one of the first attempts to comprehensively analyze different approaches to alcohol marketing on YouTube across countries.

5.2.1 Drinking prevalence and patterns

Historically and socio-culturally, India and Australia differ substantially and have contrasting drinking cultures. The annual per capita consumption of pure alcohol is estimated at 4.3L in India [16] compared to 9.7 liters in Australia [17]. Nevertheless, the active marketing of alcohol in India (and China) is thought to have driven the recent global increase in alcohol use [16], emphasizing the importance of exploring alcohol marketing strategies utilized by alcohol companies in this rapidly changing country. In both countries, men drink more, but there is a greater gender disparity in India. Indian women drink 6% (0.5L) of their male counterparts' alcohol volume (8L), while Australian women consume 42% (7L) of their male counterparts (17L) [16]. Furthermore, in India, alcohol use is more prevalent in the lowest wealth quintile than in the highest wealth quintile and among those with lower levels of education [18]. In contrast, in Australia, those in the top wealth quintile and those with more education have a higher prevalence of drinking [19].

There are a multitude of factors that potentially contribute to the consumption pattern differences between India and Australia. For example, in India, there are socio cultural norms that are less accepting of alcohol [20], proscriptions of commonly practiced religions (e.g. lower prevalence of drinking among the 14% of Indians who identify as Muslims) [20,21], and with the legal drinking age in India ranging from 18-25 years, with complete prohibition in certain states [22]. Given the importance of market segmentation in marketing strategies [15], these factors are likely to result in different marketing strategies being produced by alcohol brands between the two countries to optimize sales.

5.2.2 Regulatory environment

Different countries have different alcohol advertising regulations. In India, alcohol advertising regulation is subject to the Advertising Standard Council of India [23]. Although ASCI imposes a blanket ban on alcohol advertising in traditional media; alcohol marketers manage to promote their brands through surrogate advertising. Examples include using the same alcohol brand name on non-alcoholic products such as merchandise; brand sponsorship at sports, music, and fashion events; and celebrity endorsement. However, this Code does not prohibit digital alcohol advertising, so advertising via social media remains unfettered and is extensive in India [22].

In Australia, alcohol advertising is industry-regulated via the Alcohol Beverages Advertising Code (ABAC). This Code applies to all marketing communications (including digital media) in Australia. As per this Code, “a marketing communication must not show (visibly, audibly or by direct implication) the consumption or presence of an Alcohol Beverage as a cause of or contributing to the achievement of personal, business, social, sporting, sexual or other success” (ABAC, 2013, p.2) [24]. It further restricts the depiction of content that has strong or evident appeal to minors (e.g., imagery and cartoon characters), applying brand extensions (e.g., logos on merchandise) to non-alcohol beverage products, and the placement of content in digital media where there are no age-restrictions [24]. However, this Code primarily relates to content, although restrictions on placement apply to outdoor advertisements and commercials on free-to-air television. Hence, digital media platforms are conducive to alcohol promotion in Australia.

In July 2017, ABAC expanded their Code to include placement standards, for example, to only use media platforms with a 75% adult audience. It is of note that even the most youth friendly platforms would struggle to have >25% of their audience being within a five year age bracket (13-17 year olds), i.e. despite the new placement restriction including social media, the ‘75% adult’ criterion means it is in effect, the same as no restriction at all on SNS [25].

5.2.3 Research significance

YouTube is used extensively, with an estimated 40 million YouTube users in India [26], with about 70% of them below 35 years of age [27]. In Australia, this is estimated at 14 million [28], with about 51% of Australian teenagers (aged 14- 17 years) were reported using YouTube in 2013 [29]. While we identified only one academic study that had investigated social media alcohol marketing in the Indian context [15]; several such studies were identified for Australia. However, the limited Australian work had primarily examined alcohol brand content posted on Facebook [12-14, 30, 31]. Several international studies have reported the types of marketing strategies alcohol companies use to market their products on SNS. The strategies include the frequent use of cartoon characters; real-world tie-ins; interactive games; competitions; time-specific suggestions to drink; comedy; engagement with fashion, music, and sporting events; engagement with local venue and event marketing; references to brand heritage; memes; and sexual imagery [8, 9, 32].

Little is known about how marketers engage users with alcohol brand content on YouTube, with just two studies identified. Cranwell et al. (2017) found positive associations between viewing YouTube music videos and alcohol use among 11-18 years old British adolescents [4]. The content of these videos included sexualized imagery or lyrics, associating alcohol use with one's image, lifestyle, and sociability, and content explicitly encouraging excessive drinking. Barry et al. (2015) found 67% of the YouTube alcohol brands' channels were successfully viewed by underage American adolescents, circumventing age-restriction measures [33].

There is evidence that exposure to online alcohol marketing increases the likelihood of alcohol use [1, 30] and alcohol-related problems and increased risk of developing alcohol use disorders [34], especially among youth [30]. It has also been demonstrated that alcohol marketers use tailored marketing strategies to cater to specific national contexts [15]. The present study extends previous research by investigating alcohol promotion conducted on an under-researched form of social media (YouTube) in new geographic contexts (India and

Australia). We aimed to provide insight into the marketing strategies used by alcohol companies to promote their products in culturally diverse locations and the extent of user engagement on official YouTube channels. This information is important to guide both national and international efforts to minimize harmful alcohol consumption resulting from exposure to online alcohol marketing, especially among young people.

5.3 Methods

5.3.1 Sampling and data collection

The search strategy was informed by two recent studies. One investigated both brand- and user-generated alcohol-related content posted on Indian and Australian alcohol brands' Facebook pages [15] and the other examined content posted by alcohol companies and users' responses to that content posted on Australian alcohol brands' Facebook pages [14]. Initially, we compiled a comprehensive list of alcohol brands distributed in India [22, 35] and Australia [36, 37]. These comprised 256 Indian and 287 Australian brands. We searched for each brand's YouTube page.

YouTube is a global social media channel. However, YouTube pages may be country-specific, but accessible from around the world. To confirm if the brand had a relevant Indian/Australian YouTube page, we either sought a statement such as 'this is the official country page' on the brand's YouTube page or accessed the brand's national official website and searched for a hyperlink to their national YouTube page. The absence of a national official YouTube page excluded the brand from the analysis. We found 12 Indian and 42 Australian eligible YouTube pages (Table 5.8.1).

Finally, the 10 brands in each country with the highest number of subscriptions were selected for analysis (notably, this may not reflect the brands' market share). There was no overlap between the top ten brands identified for the two countries but Pernod Ricard and Bacardi own multiple Indian and Australian brands included in the study.

For each brand we extracted year the YouTube page was started, numbers of subscriptions, videos, and views per video. In this study, we defined engagement to include users either viewing or commenting on material posted on brands' pages. Links to the brands' official website, Facebook, Google+, information on messages relating to responsible drinking and legal drinking age were also collected. These publicly available data were retrieved for a period of two months: February 1 to March 31, 2016. Approval to access these data was obtained from the University's Human Research Ethics Committee, with assurances that personal identifying information would not be revealed.

5.3.2 Coding process and analysis

As YouTube offers video-based content, videos available on a brand's YouTube page were watched and examined and the content was analyzed using NVivo10. The objective was to categorize themes shown in the videos. An overview of the coding process is presented in Table 5.8.2. Due to the use of an emergent coding process, a single coder analyzed the data to develop new codes to reflect the content of the data. Although the coding process started with the development of a list of a priori codes (e.g. competitions; time-and-event specific suggestions to drink; comedy; and fashion, music, and sporting events) identified from the relevant alcohol literature [6, 8, 9, 14, 32], new patterns and themes emerging from the raw data were identified (e.g. celebrity endorsements, gender-specific posts, and inspirational talks).

As occurs with an inductive (thematic) coding process, we intended to create as few categories (themes) as possible [38-40]. This process facilitated capturing key themes in the raw data and combining the smaller categories into more encompassing categories in consultation with the research objectives [41]. The resulting NVivo nodes were investigated to generate themes, which were subsequently discussed among research team members to refine the final themes. This method has previously been used to analyze themes from alcohol companies' Facebook sites [15].

5.4 Results

5.4.1 User engagement

Table 5.8.3 shows the 10 leading brands for India and Australia with their descriptive data. The majority of the Indian brands established YouTube pages between 2010 and 2015, while the start dates for Australian brands ranged from 2005 to 2010. Of the Indian brands there were: five whiskies (McDowell's No. 1, Blenders Pride, Haywards 5000, Officer's Choice, and Ricard), two beers (Kingfisher and Foster's), one vodka (White Mischief), one rum (Bacardi), and one ready-to-drink (Breezer; rum-based) beverage. In contrast, the Australian brands comprised four beers (XXXX, Corona Extra, Coopers Ale, and Carlton Draught), two whiskies (Jameson Irish Whiskey and Jack Daniel's), and one each for wine (Jacob's Creek), gin (Bombay Sapphire), rum (Bundaberg Rum), and a vodka (Absolut) product.

The brands with the highest number of subscriptions were whisky brands in both countries (India: McDowell's No. 1; Australia: Jameson Irish Whiskey). The brands had a total of 98,881 subscriptions and 100,718,549 views. Australian brands accrued greater user engagement than their Indian counterparts. For example, Jameson Irish Whiskey generated 31,927,010 views, compared with 34,712,801 for the 10 Indian brands. The number of views and videos was directly proportional to the number of subscriptions for the majority of the Indian brands. In comparison, Australian brands did not demonstrate any such trend with marked differences in the rank ordering by subscriptions or views.

The number of subscriptions gives the best available indication of the actual reach of YouTube among users [9, 32]; however, this is not a measure of the number of people who may have actively viewed each video. The numbers reported in Additional file 1 reflect the cumulative numbers in each category ever posted on a brand's YouTube page by users or brands. Further, the majority of the Indian and Australian brands' pages had links to Facebook and Google+, increasing the reach of these brands to other popular social media

channels. Although considerable variance in user engagement and brand popularity is identified, alcohol companies appear to utilize similar marketing strategies and themes, across SNS, with within and between country differences [15].

5.4.2 Strategies utilized for alcohol marketing

Brands posted a variety of content on their YouTube pages to engage users (Table 5.8.4).

The strategies employed were a mix of those differing by country (e.g. India: sexually suggestive content vs Australia: posts related to the brand's tradition or heritage) and generic approaches (e.g. encouraging time- and event-specific drinking (TESD); demonstrations of food/cocktail recipes; camaraderie; competitions and prize draws; and brand sponsorship at music, sports, and fashion events). Table 5.8.5 shows the frequency of references to the content for each category.

A. Common strategies

TESD

Fourteen brands included TESP references which encouraged drinking at a particular time or event. Common examples included after work, on weekends and public holidays, on special occasions (e.g. St. Patrick's Day), and when traveling:

This summer, Foster's will make sure, no matter where you go, it'll always be DAAAAAMN COLD! Watch our latest TVC and get a taste of DAAAAAMN COLD REFRESHMENT (Foster's, India).

My son, Bryan, and I don't wait for St. Patty's we take a nip every now and then, we have our own Jameson Glasses, which we prefer to the Chivas glasses, happy drinking to you (Jameson Irish Whiskey user comment, Australia).

Carlton Draught's "Aussie pub tour videos" and brand-i Blue Mile Travelogues videos (Kingfisher, India) are among other TESP examples.

Consumption suggestions

Five brands (both Indian and Australian) posted videos demonstrating cocktail and/or food recipes. Some of the Indian brands (e.g. Breezer) linked their drinks to popular Indian flavors such as Aam Panna (mango drink) and Nimbu Pani (lemon drink). Users readily engaged with such posts by suggesting recipes and asking for more information:

Bombay, 7up, two lime wedges; pour, squeeze, stir, enjoy (Bombay Sapphire user comment, Australia).

Where is the recipe for the Sapphire Imperial Sun, winner of last year's contest?
(Bombay Sapphire user comment, Australia).

References to camaraderie and togetherness were seen on the YouTube accounts of both Indian and Australian brands (four brands). While Jacob's Creek (Australia) posted a friendship stories series titled "Sparkling around the world reunion" [with friends], Jameson Irish Whiskey (Australia) uploaded videos titled "Long live the neighbors" that featured stories about drinking buddies. Similarly, McDowell's No.1 (India) uploaded videos titled "No1Yaari, an ode to YAARI [friendship]" in several Indian languages.

Brand sponsorship at music, fashion, and sporting events

Another common theme was the alcohol sponsorship of music, fashion, and sporting events (11 brands). Kingfisher's (India) "Strong backstage music videos" featuring famous Indian singers performing in different Indian languages, Bacardi (India) sponsored music events such as "MH-7 weekender", and Jack Daniel's and Corona Extra's sponsored music concerts are some of the examples. There were references to brand sponsorship of sports events, such as White Mischief (India) uploading videos featuring Indian and International cricket players celebrating success and Cooper's Ale (Australia) promoting its sponsorship of surfing events. Brand sponsorship at fashion events was associated with Blender's Pride (India), Officer's Choice (India), and Carlton Draught (Australia).

Competitions and giveaways

Event-related competitions and prize draws were published by both Indian and Australian brands' (six brands). McDowell's No.1 (India) promoted multiple contests, such as the "Share a hug contest" that provided users with the opportunity to win a chance to meet their favorite cricket players. Other contests included "Karaoke world championship" and "Celebrate your yaari [friendship]" contest (McDowell's No.1, India). Bacardi (India) organized a "Bacardi Music CDs legacy competition" that involved users posting their bartending videos for the chance to win up to US\$1,600. These kinds of posts received positive responses from users: "I would like to win please & I would [like] to attend mamma awards" (Absolut user comment, India).

References to inspirational talks were found for both Indian and Australian brands (three brands). Officer's Choice Blue (India) used its "Raise your voice" campaign to promote equality across the strata of society. Jacob's Creek (Australia) posted its "Made by Moment" film series, featuring a leading tennis player, linking dreams, inspirations, and determination to success. Haywards 5000 (India), under its establishment, "Hausla Buland Academy", offered "Hauslay ki Udaan", a unique entrepreneurship program that focuses on inspiring, supporting, and mentoring young entrepreneurs to help bring their ideas to life. Users were provided with business ideas in different Indian languages via testimonials from previous beneficiaries of such programs and celebrities.

References to responsible drinking and legal drinking age

Messages relating to responsible drinking were found on five Australian and four Indian brands' pages. Examples of such messages included "live freely, drink responsibly" (Jack Daniel's, Australia), "Enjoy Jacob's Creek responsibly" (Jacob's Creek), and "We encourage drinking responsibly" (White Mischief, India). Pernord Ricard (Australia) also posted videos associated with responsible drinking and drinking and driving. However, only Bundaberg (Australia) had links to relevant health, government or to industry-supported sites (e.g. "DrinkWise").

References to the legal drinking age were even fewer. Three Indian and two Australian brands provided users with information such as “This page is for all Carlton Draught (Australia) fans over the age of 18 to enjoy responsibly” and “Please view videos and/or subscribe to the channel only if you're above legal drinking age in your region” (Kingfisher, India).

B. Strategies that differed by country

Brand tradition and heritage

Four Australian brands also posted videos portraying brands' traditions and cultural heritage. For example, Jameson Irish Whiskey uploaded videos relating to whisky production. Bundaberg appeared to be attempting to align its content with the everyday conversations of working class males: “Men like us like Bundaberg rum”, “Men like us like craftsmanship”, “Men like us like rummanship”, and “Men like us like witmanship”. These posts can be interpreted as an attempt to enhance the brand's authenticity and credibility by appealing to men by providing them with content related to Australian masculine identities. Such strategies were mainly associated with Australian brands rather than their Indian counterparts.

Sexually suggestive content (gender targeting)

Four Indian brands published posts containing sexually suggestive content. Kingfisher uploaded videos on the making of “KF swimsuit special calendars”, featuring attractive female models in swimming costumes, and Bacardi posted “Bacardi beach” videos with a similar theme. White Mischief posted images and videos of attractive women in revealing clothing lying by a pool and drinking vodka. The images included the tagline “We're naughty, we're fun and we're here to put you in the mood for mischief [wink emoticon]” and “Flirt with the Mischief Gals”. Other videos showed the brand's female promotional staff asking questions to users and prompting them to ask questions in return. For example:

What do you think makes a good flirt? (Question from brand model).

Love this channel, you girls are so sexy. Can we have more videos of you performing please? (User post).

In contrast, suggestive content of this nature was not evident on the Australian brands' YouTube pages. However, the above mentioned Bundaberg example shows that there is still some level of gender targeting by Australian brands.

Overall, brand activities on YouTube were considerable in terms of the number of subscriptions and views accrued, the frequency of references to the themes identified, and the timing of content posted (e.g. references to TEDS). Brands leveraged interaction with users by initiating and responding to routine conversations about everyday life and creating real-world activities on YouTube (e.g. references to consumption suggestions, competitions, and entrepreneurship). This process facilitated co-creation of content, with user contributions being a key part of brand content. The user-generated content thus created was utilized by brands to further create and tailor content within users' individual (e.g. displaying selective alcohol-related material based on users' preferences, gender targeting), social (e.g. references to camaraderie/togetherness), and cultural spaces (e.g. country-specific event-based brand promotion and consumption suggestions). These strategies also appeared to be attempts to target niche groups, especially young people (such as through references to music and fashion events, competitions, giveaways, and inspirational talks) [8, 9].

5.5 Discussion

There is evidence that exposure to online alcohol marketing increases the likelihood of alcohol use and subsequent alcohol-related problems [1, 3]. Thus, understanding online alcohol marketing strategies is an important prerequisite for policy changes and other interventions.

There are an estimated 432 million Internet users in India (5% of the total population). Of these, 51% (60% male) of urban and 48% (75% male) of rural Internet users use the Internet

daily. Further, about 65% of Indian Internet users are below 25 years of age [42]. In contrast, Australia has about 23 million Internet users (95% of the total population), of whom 87% are daily Internet users (88% metropolitan; 85% regional). Among daily users, about 69% use SNS, with similar rates of use among males and females. About 75% of SNS users belong to the 18-29 years age group [43]. These numbers reflect 'digital divides' within countries based on age (more SNS users aged below 30 years), gender (more male SNS users in India), and location (more SNS users in urban locations) [42, 43]. Such divides potentially influence SNS use and thus involvement with alcohol marketing across social media platforms.

We found that although India has more YouTube users than Australia (40 million vs 14 million) [26, 28], the Australian brands demonstrated greater user engagement than their Indian equivalents. Of the total subscriptions for the top 20 brands across the two countries, 85% were for Australian brands. Most of the Australian brands established a YouTube presence earlier than the Indian brands, potentially indicating the relative maturity of the two markets. More speculatively, these differences may further suggest that marketers are moving from countries where there are stronger alcohol advertising regulations (e.g. Australia) to less regulated markets with greater growth potential (e.g. India).

Although the reasons for the lower level of user engagement for the Indian brands are unclear, these are likely to be an interplay of socio-cultural norms that are less accepting of alcohol [44], religious practices [20], the legal alcohol purchasing age in India which ranges from 18-25 years [22], and significant gender differences in alcohol consumption [16]. There are fewer cultural inhibitions to prevent users from engaging with brands in the Australian context, which is likely to account for the greater user engagement observed for the Australian brand pages.

The preference for spirits among Indian alcohol users [16, 22] and the popularity of whisky brands on Indian YouTube pages suggests that the Indian brands with the most subscribers

on YouTube reflect and may reinforce local alcohol preferences. Similarly, the popularity of beer among Australians [45] possibly explains the presence of four beer brands among the top 10 Australian YouTube pages.

References to brand sponsorship of music, sports, and fashion events were seen in both the Indian and Australian context. While the marketers did not directly endorse heavy drinking at those events, they provided users with event-linked branded content that could be used to prompt or support everyday conversations about the sponsored events and thus possibly influence users to consume their products. Companies can promote their products through sponsorship because this is not covered under the existing Indian and Australian online alcohol advertising policies [5, 22].

Despite commonalities, marketing strategies differed by country. Notably, many of the Indian brands used sexually suggestive content, often including attractive female models. A lack of references to sexually suggestive content on Australian YouTube pages is potentially due to ABAC's responsible depiction of alcohol guidelines that discourage the portrayal of alcohol contributing to sexual success [24]. Furthermore, as the average level of alcohol consumption among men is far greater than that of women in India [16], it is likely that Indian alcohol brands consciously target men by using female models in their online communications. In a country where sex is a taboo subject [46], and for example, it is socially unacceptable for women to wear bikinis in public, even in public swimming pools; this could be an easy way to attract young men to their YouTube sites and brands, potentially increasing the sales of their products. Nevertheless, as shown by the Bundaberg example, there was still gender targeting in Australia, albeit to a lesser extent. The Bundaberg posts explicitly celebrated masculine identities as typically associated with working class men to reinforce positively the validity of their pre-existing identities. In contrast, although the Indian brand Officer's Choice also appeared to appeal to working class men, the content was mainly calling for the elevation of their class. India's middle class

is currently in a rapid growth phase, whereas Australia's middle class has been relatively static [47]. These Indian advertisements appeared to be attempts to use alcohol as an indicator of social equality and progression, especially for the disadvantaged strata of society.

Alcohol marketing via YouTube in India and Australia also appears to be based on the existing interests of its consumers. For example, references to brands' traditions or heritage (in the Australian context) appeared to be attempts to create stories relating to users' traditions, interests, and values, hence localizing the brands, making them part of real communities, regions, and livelihoods, and integrating the consumption of products within those interests.

Further, instances of inspirational talks, featuring famous celebrities narrating their stories and linking them to success, in the presence of an alcoholic beverage in the videos, were identified on alcohol brand YouTube channels, across countries. Adolescents often associate celebrities with alcohol, glamor, attractiveness, and sexuality [48]. This likely results in adolescents having positive attitudes towards alcohol because they trust celebrities and have a tendency to imitate them, a process referred to as 'wishful identification' [49]. Roy et al (2017) demonstrated that about half of all respondents (school students) were willing to follow advice from their favorite celebrity. They also suggested that such endorsements increase the likeability and credibility of the brands among users and potentially increase brand sales [50]. This is likely the reason that references to celebrity endorsement were seen for a few brands in both countries. In the context of regulation, this is especially pertinent for Australia as despite the self-regulatory Alcohol Beverage Advertising Code [24] specification for the responsible depiction of the effects of alcohol that includes not showing or directly implying the consumption or presence of an alcohol beverage as a cause of or contributing to the achievement of sporting, sexual or other success [24], companies posted such content on their YouTube channels.

Furthermore, references to entrepreneurship and inspirational quotes on some of the Indian YouTube pages are likely to reflect the history of the caste system in India and a resulting focus on positioning alcohol products as livelihood opportunities for the disadvantaged strata of society. The equivalent Indian regulations does not include online advertisements so there is no mechanism to regulate the portrayal of such content and Indian brands can freely post videos based on these themes on their YouTube pages [23].

The above mentioned variations in marketing strategies illustrate the ability of brands to generate country-specific content for users to engage with and share. Internet advertising can also respond to users' comments much more rapidly than traditional advertising, which is far less flexible [51]. In the Indian context, this flexibility allows content to be delivered in multiple languages to cater to different segments within the larger culture [52]. This approach was not evident on the Australian sites, despite high levels of multiculturalism within Australia. This is likely attributed to 77% of people in Australia who only speak English at home [53].

The study has several limitations that affect the interpretation of findings. First, the inclusion of only two countries in a cross-country comparison limits the generalizability of the study results to populations with different socio-cultural norms and characteristics. Also, the limited time period for data collection that could have different seasonal characteristics for each country means that other possible content categories could have emerged outside that period.

Second, there is likely to be some selection bias in the identified categories resulting from identifying the brands with the highest number of subscriptions rather than using a random selection from all eligible brands. Further, 'astroturfing', wherein alcohol marketers create multiple (fake) brand ambassadors on their social media websites makes their 'real' popularity uncertain [54]. This could hold true especially in the Indian context due to the potential socio-cultural inhibitions towards alcohol [20, 44], which could have inhibited 'real'

users from engaging with brands. Also, we could not determine if users were unique subscribers to a single brand or to multiple brands, so the total number of subscribers is unknown.

Third, the data were collected during a discrete time period; however, the number of subscriptions accumulates over time. We were unable to track the number of new subscriptions in that period and also if they were related to the content posted during that time. Fourth, given the gender disparities in alcohol use in India [18], an analysis by gender would also be of interest; however, users' genders were not identifiable in the current dataset. Similarly, subscribers' age-related information was not available and thus we were unable to identify the ages of those engaging with the content. However, the brands employed strategies such as competitions, prize draws, game-related apps, free tickets to music events, which together with existing evidence, links the popularity of these strategies to young people [8, 9, 32].

There is no effective age restriction when creating a YouTube account [55]. Although videos with content deemed inappropriate for minors are age-restricted [55], the content can still be viewed if users misrepresent their ages while creating their accounts. Barry et al. (2015, p.89) demonstrated that "every underage profile, regardless of age, was able to successfully subscribe to each of the 16 (100%) official YouTube channels", in their study [33]. Building on the existing evidence [33], this study thus demonstrates the potential of brands to expose children and adolescents to alcohol marketing on YouTube. Due to deficiencies in the existing Australian alcohol advertising code (ABAC), the described marketing techniques breach this code. This warrants policymakers better regulating social media alcohol advertising, particularly in relation to younger social media users [5, 34, 56]. Further, as the Advertising Standard Council of India does not regulate online alcohol advertising [23], YouTube provides alcohol marketers with unfettered opportunities to promote their products. This calls for the formulation of policies regulating online alcohol content and their effective enforcement, in the Indian context.

Finally, this study undertook a largely exploratory approach to report the techniques utilized by alcohol brands to engage consumers on YouTube. As work on this topic is in its infancy, initial exploratory work was required to inform subsequent in-depth analysis. Additional cross-national comparisons of this kind and over different social media platforms are needed to understand how alcohol marketers adapt content in specific national contexts.

5.6 Conclusions

This cross-national comparison demonstrates that YouTube provides alcohol marketers with an advertising platform where they utilize tailored marketing approaches to cater to specific national contexts and develop content on the cultural meanings users invoke in their interactions with these strategies. Those exposed to alcohol marketing on YouTube are likely to include those under the legal drinking age.

5.7 References

1. Gupta H, Pettigrew S, Lam T, Tait RJ: A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and alcoholism* 2016, 51(6):763-771.
2. Alhabash S, McAlister AR, Quilliam ET, Richards JI, Lou C: Alcohol's Getting a Bit More Social: When Alcohol Marketing Messages on Facebook Increase Young Adults' Intentions to Imbibe. *Mass Commun Soc* 2015, 18(3):350-375.
3. Jones, Pettigrew S, Biagioni N, Daube M, Chikritzhs T, Stafford J, Tran J: Young adults, alcohol and Facebook: a synergistic relationship. *Journal of Social Marketing* 2017, 7(2):172-187.
4. Cranwell J, Britton J, Bains M: "F*ck It! Let's Get to Drinking—Poison our Livers!": a Thematic Analysis of Alcohol Content in Contemporary YouTube MusicVideos. *International Journal of Behavioral Medicine* 2017, 24(1):66-76.

5. Weaver ERN, Wright CJC, Dietze PM, Lim MSC: 'A Drink That Makes You Feel Happier, Relaxed and Loving': Young People's Perceptions of Alcohol Advertising on Facebook. *Alcohol and Alcoholism* 2016, 51(4):481-486.
6. Barry AE, Bates AM, Olusanya O, Vinal CE, Martin E, Peoples JE, Jackson ZA, Billinger SA, Yusuf A, Cauley DA et al: Alcohol Marketing on Twitter and Instagram: Evidence of Directly Advertising to Youth/Adolescents. *Alcohol and Alcoholism* 2016, 51(4):487-492.
7. Atkinson AM, Ross KM, Begley E, Sumnall H: Constructing alcohol identities: the role of Social Network Sites (SNS) in young peoples' drinking cultures. In: *Alcohol Insight* 119. Centre for Public Health, Liverpool John Moores University; 2014.
8. Atkinson AM, Ross-Houle KM, Begley E, Sumnall H: An exploration of alcohol advertising on social networking sites: an analysis of content, interactions and young people's perspectives. *Addiction Research & Theory* 2017, 25(2):91-102.
9. Nicholls J: Everyday, everywhere: Alcohol marketing and social media-current trends. *Alcohol and Alcoholism* 2012, 47(4):486-493.
10. Van Bellegham S: How Diageo's digital strategy came to life. *The Conversation Manager*. 2011.
11. Purves RI, Stead M, Eadie D: What are you meant to do when you see it everywhere?" Young people, alcohol packaging and digital media. In.: *Alcohol Research UK*; 2014.
12. Carah N, Brodmerkel, S., & Shaul, M. : Breaching the code: Alcohol, Facebook and self-regulation. In. Canberra: Foundation for Alcohol Research and Education.; 2015.
13. Carah N, Meurk C, Males M, Brown J: Emerging social media 'platform' approaches to alcohol marketing: a comparative analysis of the activity of the top 20 Australian alcohol brands on Facebook (2012-2014). *Critical Public Health* 2017:1-11.

14. Carah N: Like, Comment, Share Alcohol brand activity on Facebook. In.: Foundation for Alcohol Research and Education; 2014.
15. Gupta H, Pettigrew S, Lam T, Tait RJ: How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective. *Critical Public Health* 2017:1-10.
16. World Health Organization: Global Status Report on Alcohol and Health. In. Edited by Department of Mental Health and Substance Abuse WHO; 2014.
17. Australian Bureau of Statistics: 4307.0.55.001 - Apparent Consumption of Alcohol, Australia, 2013-14 Commonwealth of Australia. 2014.
18. International Institute for Population Sciences (IIPS) and Macro International: National Family Health Survey (NFHS-3), 2005–06: India. In.; 2007.
19. Australian Institute of Health and Welfare: National drug strategy household survey detailed report 2013 (Drug statistics series no. 28. Cat. no. PHE 183). 2014.
20. Murthy P: Culture and alcohol use in India. *World Association of Cultural Psychiatry* 2015:27-39.
21. Office of the Registrar General & Census Commissioner Government of India: C-1 Population By Religious Community. 2011.
22. Arora, Dahiya P, Nazar G, Gupta H, Singh D, Sahoo P, Gamlin B, Chauhan K, Chatterjee M: Alcohol Marketing and Regulatory Policy Environment in India. A Report. In.: Public Health Foundation of India; 2013.
23. The Advertising Standards Council of India: The code for self-regulation in advertising. 2013.
24. The Alcohol Beverages Advertising Code: ABAC Responsible Alcohol Marketing Code. 2013.

25. The Alcohol Beverages Advertising Code: ABAC Responsible Alcohol Marketing Code. 2017.
26. Statista: Leading countries based on number of monthly active YouTube users as of 1st quarter 2016 (in millions). 2017.
27. Jain S: 101 Latest Social Media Facts and Stats from India – 2016. 2016.
28. Cowling D: Social Media Statistics Australia – December 2016. 2017.
29. Nielsen Online Ratings: Nielsen Online Ratings, annualised average for 2012 and 2013. 2013.
30. Jones S, Robinson L, Barrie L, Francis K, Lee JK: Association Between Young Australian's Drinking Behaviours and Their Interactions With Alcohol Brands on Facebook: Results of an Online Survey. *Alcohol and Alcoholism* 2016, 51(4):474-480.
31. Lim MS, Hare JD, Carrotte ER, Dietze PM: An investigation of strategies used in alcohol brand marketing and alcohol-related health promotion on Facebook. *DIGITAL HEALTH* 2016, 2:2055207616647305.
32. Winpenny EM, Marteau TM, Nolte E: Exposure of Children and Adolescents to Alcohol Marketing on Social Media Websites. *Alcohol and Alcoholism* 2014, 49(2):154-159.
33. Barry AE, Johnson E, Rabre A, Darville G, Donovan KM, Efunbumi O: Underage Access to Online Alcohol Marketing Content: A YouTube Case Study. *Alcohol and Alcoholism* 2015, 50(1):89-94.
34. Westgate EC, Neighbors C, Heppner H, Jahn S, Lindgren KP: "I Will Take a Shot for Every 'Like' I Get on This Status": Posting Alcohol-Related Facebook Content Is Linked to Drinking Outcomes. *Journal of Studies on Alcohol and Drugs* 2014, 75(3):390-398.
35. List of alcohol brands in India and their distillery name: 2013.

36. Lin R: Lifted spirits: Successful boutique distilleries entice new industry entrants. IBIS World Industry Report. 2015.
37. McCusker Centre for Action on Alcohol and Youth: A Guide to the Alcohol Industry. 2014.
38. Campbell R, Pound P, Pope C, Britten N, Pill R, Morgan M, Donovan J: Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. *Social Science & Medicine* 2003, 56(4):671-684.
39. Braun V, Clarke V: Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006, 3(2):77-101.
40. Corbin J, Strauss A: *Basics of Qualitative Research (3rd ed.): Techniques and Procedures for Developing Grounded Theory*. In. Thousand Oaks, California; 2008.
41. Thomas DR: *A general inductive approach for qualitative data analysis*. 2003.
42. IMAI and Kantar IMRB: *Internet in India - 2016 An IMAI & KANTAR IMRB Report* 2016.
43. Sensis Social Media Report: *How Australian people and businesses are using social media*. 2016.
44. Rathod SD, Nadkarni A, Bhana A, Shidhaye R: Epidemiological features of alcohol use in rural India: a population-based cross-sectional study. *BMJ Open* 2015, 5(12).
45. Australian Institute of Health and Welfare: *National Drug Strategy Household Survey (NDSHS) 2016 key findings*. 2017.
46. Chakraborty K, Thakurata RG: Indian concepts on sexuality. *Indian Journal of Psychiatry* 2013, 55(Suppl 2):S250-S255.

47. Kharas H: THE UNPRECEDENTED EXPANSION OF THE GLOBAL MIDDLE CLASS AN UPDATE. 2017.
48. Roy S, Jain V, Rana P: The moderating role of consumer personality and source credibility in celebrity endorsements. *Asia-Pacific Journal of Business Administration* 2013, 5(1):72-88.
49. Hoffner C, Buchanan M: Young Adults' Wishful Identification With Television Characters: The Role of Perceived Similarity and Character Attributes. *Media Psychology* 2005, 7(4):325-351.
50. Roy A, Ikonen R, Keinonen T, Kumar K: Adolescents' perceptions of alcohol. *Health Education* 2017, 117(3):280-296.
51. Jackson LA, Wang J-L: Cultural differences in social networking site use: A comparative study of China and the United States. *Computers in Human Behavior* 2013, 29(3):910-921.
52. Bouma GD: The role of demographic and socio-cultural factors in Australia's successful multicultural society: How Australia is not Europe. *Journal of Sociology* 2016, 52(4):759-771.
53. Australian Bureau of Statistics: 2016 Census QuickStats. 2016.
54. Dobson C: Alcohol Marketing and Young People: Time for a new policy agenda. In.: Australian Medical Association; 2012.
55. [<https://support.google.com/youtube/answer/2802167?rd=1>]
56. Cavazos-Rehg PA, Krauss MJ, Sowles SJ, Bierut LJ: "Hey everyone, I'm drunk." An evaluation of drinking-related twitter chatter. *Journal of Studies on Alcohol and Drugs* 2015, 76(4):635-643.
57. Creswell JW: Educational research: Planning, conducting, and evaluating quantitative and qualitative research, 4 edn. Boston, MA: Pearson Education, Inc.; 2002.

5.8 Tables

Table 5.8.1: Search strategy to select the top 20 alcohol brands with the greatest YouTube presence, 10 each for India and Australia

	India	Australia
Alcohol reports used to identify alcohol brands active in each country	<ul style="list-style-type: none"> • Report on alcohol marketing and regulatory policy environment in India (2013) • Liquor Brands in India (2013) 	<ul style="list-style-type: none"> • MCAAY (2014) • IBIS World Industry Report Beer Manufacturing in Australia (2015) • IBIS World Industry Report Spirit Manufacturing in Australia (2015)
No. of alcohol brands distributed in the country	256	287
Brands with an unofficial YouTube presence	12	42
Brands with dedicated official YouTube pages	11	33

Table 5.8.2: The coding process in inductive analysis (adapted from Creswell, 2002, Figure 9.4, p266)

Review all data	Identify specific segments of information	Label the segments of information to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most important categories
20 (India) and 27 (Australia) pages of text (in addition to the videos)	18 (India) and 24 (Australia) segments of text	15 categories	10 categories	8 categories

Table 5.8.3: User engagement with YouTube (February 2016 – March 2016)

Brand	Beverage Category	Year started on YouTube	Subscriptions	Views	Videos
India					
McDowell's No. 1	Whisky	2010	5,375	20,445,319	125
Kingfisher	Beer	2006	4,944	6,680,903	609
Blenders Pride ^a	Whisky	2011	1,359	3,967,600	128
Bacardi ^b	Rum	2010	1,001	1,834,536	51
Foster's	Beer	2013	475	1,011,470	5
Haywards 5000	Whisky	2006	432	248,991	23
White Mischief	Vodka	2011	188	96,160	76
Officer's Choice	Whisky	2013	60	27,270	4
Breezer ^b	RTD	2013	22	399,845	4
Ricard ^a	Whisky	2015	12	707	7
Subtotal			13,868	34,712,801	1,032
Australia					
Jameson Irish Whiskey ^a	Whisky	2007	40,724	31,927,010	207
Absolut ^a	Vodka	2006	16,562	17,504,284	230
Bombay Sapphire ^b	Gin	2006	8,198	3,048,482	120
XXXX	Beer	2005	6,881	3,242,233	271
Corona Extra	Beer	2010	6,476	4,935,963	68
Coopers Ale	Beer	2010	1,792	733,580	140
Carlton Draught	Beer	2006	1,417	12,268	3
Bundaberg Rum	Rum	2009	1,341	656,018	19
Jacob's Creek	Wine	2010	811	1,973,077	172
Jack Daniel's	Whisky	2010	811	1,972,833	112
Subtotal			85,013	66,005,748	1,342
TOTAL			98,881	100,718,549	2,344

RTD = ready to drink (pre-mixed beverage) ^a Pernod Ricard; ^b Bacardi

Table 5.8.4: Strategies identified for the top 10 Indian and Australian alcohol brands on YouTube

Indian Brands (listed in order of popularity by subscriptions)

	McDowell's No. 1	Kingfisher	Blenders Pride	Bacardi	Foster's
Type of content	<ul style="list-style-type: none"> • Music • Camaraderie • Competitions 	<ul style="list-style-type: none"> • Music • TESD • Sexually suggestive content 	<ul style="list-style-type: none"> • Fashion • Celebrity endorsements 	<ul style="list-style-type: none"> • Music • Sexually suggestive content • Memes • TESD • Cocktail recipes • Competitions 	<ul style="list-style-type: none"> • TESD • Music
Link to official website	x	✓	✓	x	x
Video advert	✓	✓	x	x	✓
Link to Facebook	✓	✓	✓	✓	✓
Link to Google+	x	✓	✓	✓	✓
Responsible drinking messages	x	x	x	✓	✓
Legal drinking messages	✓	✓	x	x	x
	Haywards 5000	White Mischief	Officer's Choice	Breezer	Ricard
Type of content	<ul style="list-style-type: none"> • Competitions • Inspirational talks • Entrepreneurial programs 	<ul style="list-style-type: none"> • TESD • Celebrity endorsements • Sexually suggestive content • Sports 	<ul style="list-style-type: none"> • Fashion • Sexually suggestive content • Inspirational talks 	<ul style="list-style-type: none"> • Cocktail recipes • Competitions • TESD 	<ul style="list-style-type: none"> • TESD
Link to official website	✓	✓	x	✓	x
Video advert	✓	x	x	x	x
Link to Facebook	✓	✓	x	x	x
Link to Google+	✓	✓	x	x	x
Responsible drinking messages	x	✓	x	x	✓
Legal drinking messages	x	✓	x	x	x

Australian Brands (listed in order of popularity by subscriptions)

	Jameson Irish Whiskey	Absolut	Bombay Sapphire	XXXX	Corona Extra
Type of content	<ul style="list-style-type: none"> • Brand heritage • TESD • Togetherness/ Camaraderie • Food/ Cocktail recipes 	<ul style="list-style-type: none"> • TESD • Competitions • Cocktail recipes 	<ul style="list-style-type: none"> • TESD • Cocktail recipes 	<ul style="list-style-type: none"> • Brand heritage • TESD • Food recipes 	<ul style="list-style-type: none"> • Food recipes • TESD • Music
Link to official website	✓	✓	x	✓	✓
Video advert	✓	✓	x	x	✓
Link to Facebook	✓	✓	✓	x	x
Link to Google+	✓	✓	✓	x	✓
Responsible drinking messages	✓	x	✓	x	x
Legal drinking messages	x	x	x	x	x
	Coopers Ale	Carlton Draught	Bundaberg Rum	Jacob's Creek	Jack Daniel's
Type of content	<ul style="list-style-type: none"> • Memes • Food/ Cocktail recipes 	<ul style="list-style-type: none"> • TESD • Sports • Fashion • Memes 	<ul style="list-style-type: none"> • TESD • Food/ Cocktail recipes • Apps • Gender- specific posts 	<ul style="list-style-type: none"> • Camaraderie • TESD • Brand heritage • Inspirational talks 	<ul style="list-style-type: none"> • Competitions • Cocktail recipes • Memes • Music • Brand heritage
Link to official website	✓	x	x	✓	✓
Video advert	✓	x	✓	✓	✓
Link to Facebook	✓	✓	✓	✓	✓
Link to Google+	✓	✓	x	x	x
Responsible drinking messages	x	x	✓	✓	✓
Legal drinking messages	x	x	x	✓	✓

TESD = Time- and Event-Specific Drinking ✓ = content present; x = content absent

Table 5.8.5: References to the content posted on brands' YouTube pages

Content	Number of references (%)			
	India		Australia	
TESD	64	(33)	89	(46)
Memes	2	(1)	5	(3)
Music	32	(17)	15	(7)
Sports	10	(5)	11	(6)
Fashion	6	(3)	10	(6)
Camaraderie	17	(8)	12	(6)
Competitions	20	(10)	14	(7)
Sexually suggestive content	19	(10)	0	(0)
Consumption suggestions (food/cocktail recipes)	14	(7)	21	(11)
Inspirational talks	8	(4)	5	(3)
Brand heritage	0	(0)	12	(6)
Total	192	(100)	194	(100)

TESD = Time- and Event-Specific Drinking

Chapter 6: The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia

This chapter presents the published study that investigated and compared the association between self-reported exposure to alcohol marketing on social media (Facebook, YouTube, and Twitter) and alcohol use among young Indians and Australians.

6.1 Abstract

Background: Alcohol marketing on social networking sites (SNS) is associated with alcohol use among young people. Alcohol companies adapt their online marketing content to specific national contexts and responses to such content differ by national settings.

However, there exists very little academic work comparing the association between alcohol marketing on SNS and alcohol use among young people in different national settings and across different SNS. Therefore, we aimed to extend the limited existing work by investigating and comparing the association between self-reported exposure to alcohol marketing on three leading SNS (Facebook, YouTube, and Twitter) and alcohol use among young people in diverse national contexts (India and Australia).

Methods: Cross-sectional, self-report data were obtained from a convenience sample of 631 respondents (330 in India; 301 in Australia) aged 13-25 years via online surveys.

Respondents answered questions on their drinking behaviors and involvement with alcohol marketing on SNS.

Results: Many respondents from both countries reported interacting with alcohol content online, predominantly on Facebook, followed by YouTube and then Twitter. The interaction was primarily in the forms of posting/liking/sharing/commenting on items posted on alcohol

companies' social media accounts, viewing the event page/attending the event advertised by an alcohol company via social media, and/or accessing an alcohol website. Multivariate analyses demonstrated significant associations between respondents' interaction with alcohol content and drinking levels, with effects differing by SNS, demographic group, and country. For example, having friends who shared alcohol-related content was an important predictor of usual alcohol consumption for Indian respondents ($p < .001$), whereas posting alcohol-related information themselves was a stronger predictor among Australians ($p < .001$).

Conclusions: The results suggest that interaction with alcohol-related content on SNS is associated with young people's alcohol use behaviors and that these behaviors vary by national settings. This study extends previous work by demonstrating this connection across varying social media platforms and national contexts. The results highlight the need to formulate and implement strategies to effectively regulate the SNS alcohol marketing, especially among younger SNS users.

6.2 Background

Alcohol is one of the leading risk factors for global disease burden among the 15–49 years age group [1]. Alcohol use by young people, especially those under 20 years of age, increases the likelihood of risky behaviors such as aggressive incidents and unprotected sex, and adverse outcomes such as learning difficulties, depression, and accidents [2-4].

Accessing social networking sites (SNS) has become a common pastime for young people, with these websites considered an integral part of their leisure and friendship networks [5, 6]. This development has provided alcohol companies with an opportunity to utilize SNS as highly effective platforms to reach this group and promote their products [7].

Alcohol companies post content on their official SNS pages, which previous research suggests is deemed pleasurable and socially desirable by SNS users [8, 9]. This process involves initiating conversations between SNS users and brands, and thus facilitates

creation of user-generated content. Prompted by brands, users participate in conversations and post content relating to their real-world activities and socio-cultural identities [6]. For example, posting pictures (sometimes with alcohol), tagging their SNS friends in such posts, and checking-in at events on SNS (e.g., music, fashion, sports, and cultural events created by alcohol companies). This is beneficial to brands because such events are deemed socially desirable, increase social capital, and make younger SNS users less critical of these marketing techniques. This process further facilitates the flow of this content into online users' peer networks and the generation of more content that is favorable to brands [10, 11].

The studies examining the effects of exposure to alcohol marketing on SNS indicate that exposed youth are likely to develop positive attitudes towards alcohol use [5, 12], regularly consume alcohol [13], engage in heavy and risky drinking [14], and experience subsequent alcohol-related problems/disorders [15].

6.2.1 Purpose of the study

India and Australia were chosen for this study based on the contrasting alcohol consumption features – 1) dry (India) versus wet (Australia) drinking cultures, 2) proportion of drinkers and/or per capita consumption increasing (India) versus decreasing (Australia) over the past decade, and 3) substantially different socio-cultural norms towards alcohol consumption. These features are discussed at length in the next section.

Harms related to underage drinking are a major problem in Australia [16] and a growing concern in India [1], and are likely influenced by exposure to alcohol marketing [1]. Most of the research exploring the association between alcohol marketing on SNS and alcohol use among young people has been conducted in the USA [12, 15], the UK [6, 14], and Australia [10, 17-21]. However, these studies explored these associations primarily on Facebook, with work involving other SNS such as Twitter and YouTube is sparse. Further, work in other national contexts such as India appears to be lacking, with a few studies identified [22, 23]. Jones et al. (2016) found significant and positive associations between reported exposure to

alcohol advertising and branding on Facebook and reported drinking frequency and volume among 16–24 year old Facebook users [19]. Similarly, another study reported that exposure to Internet advertising was significantly associated with frequency of alcohol consumption among 12–17 year old Australians, with these associations varying across age and gender sub-groups [20].

As stated earlier, alcohol companies use marketing strategies on SNS that are tailored to specific national contexts and users' responses to such marketing content differ by national settings [22-24]. These studies identified common strategies used for alcohol promotion across social media in both countries. These included prompts to engage in time- and event-specific drinking (e.g., "it's Friday, and it's beer-o'clock"), alcohol sponsorship of sporting, music, and fashion events, cocktail recipes and food-drink combinations, competitions, brand-related giveaways, and the use of memes. Other strategies were largely country specific, such as posting content relating to inspirational talks, livelihood skills, and sexually suggestive content on Indian social media sites versus references to a brand's tradition or heritage on Australian sites. Notably, some of the identified strategies (e.g., brand-sponsored events and posts relating to competitions and giveaways) were traditionally more popular amongst younger people. User engagement was assessed through responses to content posted by brands, for example, user-generated messages, images, and videos posted on brands' social media pages.

However, cross-national comparisons examining the effects of exposure to alcohol marketing on SNS and alcohol use among young people and across different SNS are scant. To extend this work, the present study investigated associations between 13-25 year olds' exposure to and interaction with SNS-based alcohol marketing and alcohol use (assessed as usual consumption) in diverse national contexts (India and Australia), and across varying SNS. The selected SNS were all popular amongst young people, allowed for a variety of comparisons with existing work from the USA [12, 15], the UK [6, 14], and Australia [10, 17-21] and represented SNS not yet examined within the Australian and Indian

literature. This information is important to guide the development of regulatory frameworks to minimize any harmful use of alcohol among young people that may result from exposure to alcohol marketing.

6.2.2 Socio-cultural norms and drinking prevalence and patterns

India and Australia have substantially dissimilar socio-cultural contexts and histories, and represent widely contrasting drinking cultures. In India, 11% of males and 1% of females aged 15–19 years and 29% of males and 2% of females aged 20–24 years report consuming alcohol in the past 12 months [25]. In contrast, in Australia 23% of those aged 12–17 years and 62% of those aged 18–24 years consumed alcohol in the past 12 months, with consumption rates being similar for males and females [26]. Similarly, heavy drinking is less prevalent in India than Australia. For example, about 4% of 18–24 year old Indians are classed as ‘heavy drinkers’, defined as consuming at least 50g of pure alcohol in a single session at least once a month [27]. By comparison, in the same age group, 42% of Australians reported consuming 5 or more standard drinks (equivalent of 50+g of alcohol) on a single drinking occasion at least once a month [26].

These differences in national consumption rates are likely due to a range of factors. Socio-cultural norms in India are less accepting of alcohol [28], especially in the context of female drinking [29], and religious practices that proscribe alcohol use (14% of the Indian population is Muslim) [28, 30]. The legal drinking age in India ranges from 18 to 25 years, with sales banned to the whole population in certain states [31]. However, with urbanization and industrialization, economic transition, exposure through extensive alcohol marketing, increased availability, and relaxation of overseas trade rules; alcohol use is increasing in India [31, 32]. Hence, both traditions and social change influence drinking culture in modern India [28, 33, 34]. In contrast, although alcohol has been a ubiquitous feature of Australian culture from its colonial era onwards, per capita consumption has been decreasing over the past 10 years [26, 35]. Consequently, although drinking is more prevalent in Australia

compared to India, the drinking trajectory is on the rise in India and on decline in Australia [25, 26].

6.2.3 SNS use and regulatory environment

Reflecting the size of the overall populations, the sheer number of social media users varies greatly between India and Australia. Twitter has an estimated 23 million users in India (2% of the population) and 3 million in Australia (13% of the population), YouTube has about 40 million users in India (3% of the population) and 14 million in Australia (58% of the population), while Facebook has about 108 million users in India (9% of the population) and 11 million in Australia (46% of the population) [36-38]. Although different SNS vary in terms of user demographics, SNS use overall is more prevalent in the younger age groups. For example, in India about 46% of Facebook users are estimated to be 18-24 years of age and a further 11% are 17 years or younger [39], while 70% of YouTube users are below 35 years of age [40]. Similarly, 36% of Australian Facebook users belong to the 13–24 years age group [38] and about 51% of Australians aged 14-17 years reported using YouTube in 2013 [41]. Among Australian SNS users, Twitter is used by 25% males and 14% females. About 33% of them belong to the 18–29 years age group [42]. Although demographic data on Indian Twitter users are not publically available, it is suggested that about 80% of Twitter users are male [43].

The Advertising Standard Council of India (ASCI) regulates alcohol advertising in India. Although it bans both direct and indirect alcohol advertising in traditional media, it does not cover online alcohol advertising [44]. Therefore, alcohol advertising on SNS remains unfettered and is thus extensive in India [31]. In Australia, alcohol advertising (including on digital media) is self-regulated by the alcohol industry via the Alcohol Beverages Advertising Code [45]. However, the current code only relates to the content of alcohol advertisements, does not consider issues around placement of advertisements on digital media (including where there are no age restrictions), and has very weak enforcement powers [46]. Hence, in

both countries SNS are largely unregulated platforms for alcohol companies to promote their products.

6.3 Methods

6.3.1 Respondents

Eligible respondents were those aged 13–25 years who had lived in India or Australia in the past 12 months, had Internet access, and could understand written English. The choice of this age range was guided by the World Health Organization's and United Nations' definition of adolescence and youth [47].

Two online surveys were developed, one for each country, that included items relating to demographic characteristics, drinking patterns (defined below), and involvement with alcohol marketing on Facebook, YouTube, and Twitter. There did not appear any academic study and/or national surveys that sought information relating to the objectives of the present survey. Hence, relevant items from existing studies and national surveys were reviewed and included in the present surveys. To cover the topics identified in the objectives, additional items were developed and included in the surveys. Questions on country-specific types of alcohol differed between the surveys because the types of alcoholic beverages consumed differ between countries. A standard drink chart was provided to inform respondents of standard drink measures (one standard drink = 10g of alcohol in both countries) to facilitate accurate self-reporting of alcohol consumption levels. The surveys were pilot tested with 20 eligible respondents from each country (10 each in the 13-17 and 18-25 years age groups). The surveys were delivered using Qualtrics Survey Software between March and October 2016.

Survey advertisements were posted on social networking sites, sports clubs' official social media pages, and youth organizations' official social media pages, to recruit the respondents. Sports clubs and youth organizations also sent out study invitations via email to their members. Alcohol- and drug-related websites and fora (e.g., Family drug support,

Bluelight, and Pill Reports) and a word-of-mouth strategy were also utilized to increase recruitment. Ethics approval was obtained from a University Human Research Ethics Committee and all respondents provided online informed consent. Qualtrics survey software's 'anti ballot-stuffing' option was used to prevent the same IP address from accessing the survey more than once, to prevent duplicate survey entries. Further, as no incentive was offered to the respondents, it was unlikely that an individual respondent would complete the survey more than once, thus further decreasing the chances for duplicate survey entries. Providing an incentive for survey participation would also require collecting respondents' potentially identifiable information, such as an email address, which could compromise their anonymity. As alcohol consumption is a relatively sensitive issue in India, especially among young people, we chose to keep the participants' information non-identifiable.

Based on a power calculation, 385 respondents were needed for the survey, from each country (95% CI, with a 5% margin of error and response distribution of 50%) [48]. In total, 680 people opened the survey link of whom, 631 (330 Indians and 301 Australians) respondents who met the eligibility criteria were included in the analysis. The survey response rate was 93% (631/680).

6.3.2 Measures and statistical analyses

Initially, descriptive analyses were conducted to explore overall patterns in the survey data. The key demographic variables (e.g., age, sex, and education) plus alcohol variables are reported in Table 1, and the key independent variables (e.g., SNS engagement) are reported in Table 2. The outcome measure was the number of usual drinks consumed on a typical drinking day. Usual alcohol consumption was analyzed as the arithmetic mean of the range of the survey responses levels (1/2, 1, 2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-15, and 16-19 drinks) other than 20 or more drinks (coded as 20.5 drinks, winsorizing the data). Non-drinkers' data

were coded as 0. This item was taken from Australia's largest and longest running alcohol and other drug survey with participants aged 12 years and older [49].

The results are presented in Table 1 stratified by country, gender, and age group (13–17 years, 18–25 years). Age was split at the boundary of the legal purchase age of alcohol (18 years) in Australia (and some Indian states). In addition, marked differences in patterns of alcohol use were anticipated across the age range. Differences in usual drinks consumed were assessed using Mann-Whitney U tests due to the skewed data distributions. Results were compared between age-groups and between genders within each country and finally between countries. Descriptive data on SNS interactions (Table 2) and other differences in proportions were evaluated with Fisher's exact test due to the low frequencies in some cells.

To examine the relationship between respondents' alcohol use and involvement with alcohol marketing on SNS, we used a standard model building approach (Hosmer and Lemeshow, 2000). Adjusting for key demographic factors (age, gender, and education), each variable was entered separately with the outcome variable (usual consumption levels). Those with a p value of $<.20$ were retained for multivariate analysis [19]. This process was conducted separately for the Indian and Australian data.

Six multiple linear regression analyses were conducted to assess the associations for the outcome variable for each country for each of the three SNS. Therefore, to adjust for multiple significance testing we only interpret values of $p<.008$ ($0.05/6$). For each analysis, multivariate outliers were identified and excluded using Mahalanobis distance ($p<.001$); excluded cases ranged from 0-3 per analysis. Due to the high correlation between age and education level, the multivariate analyses were repeated excluding education. No variable moved across the threshold ($p<.008$) for interpretation in the second analyses compared with the first. Only the first set of analyses is reported.

The following variables were included in the multivariate analyses. The daily hours spent on the Internet were analyzed as the mean of the range of the survey response levels: <1 (coded

as 0.5), 1-2, 3-4, 5-8, and >8 (coded as 8.5 hours thus winsorizing the data). Perceived trends in alcohol advertising and other alcohol-related marketing efforts on SNS in the last 12 months were coded into four categories (increased, unchanged/no difference, decreased, and don't use this channel). Frequency of noticing alcohol brand logos on merchandise shown on SNS was dichotomized (due to small cell sizes when analyzed by age-group and sex) as 'very often or often' and 'sometimes, rarely, never'. Information on whether respondents had attended events in the last 12 months (social, music, sports, and other) sponsored by alcohol companies via advertising on SNS (sometimes termed 'real-world tie-ins') was analyzed as a dichotomized variable again due to small cell sizes when stratified (attended any event - yes/no).

The frequency of receiving suggestions on each of the three SNS to like or to follow alcohol company pages or to participate in alcohol-related events was coded as 'less than once a week', 'weekly', 'every fortnight', 'monthly', and 'don't use this channel'. Information on the degree to which respondents posted and viewed alcohol-related content on each SNS was dichotomized (due to small cell sizes) as 'very often or often' and 'sometimes, rarely, or never'. Finally, the degree to which the respondents' friends or contacts post alcohol-related content on each SNS was coded in the same fashion. SPSS version 22 software was utilized for data analysis. Missing values were managed by using a listwise-deletion approach.

6.4 Results

6.4.1 Demographics and alcohol consumption

In the Indian sample (n = 330), 36% were female and the median age was 20 years (IQR 17-22 years). In the Australian sample, 62% were female and the median age was 20 years (IQR 18-23). Most respondents who completed the Australian survey identified themselves as Australian citizens (82%), whereas nearly all (99%) who completed the Indian version were Indian nationals.

The majority of the Indian (93%) and nearly all Australian respondents (99%) reported having an Internet connection at home. The median daily Internet use was estimated at 1.5 and 3.5 hours among younger and older Indians (across gender), respectively. In Australia, usage was 3.5 hours across demographic groups, except for older males where it was estimated at 6.5 hours (Table 6.8.1). Overall, the median time on the Internet was significantly lower in India than Australia (median 1.5 vs 3.5 hours U 6.8, $p < .001$).

The mean age of first full serve of alcohol was 16.5 (SD 3.5) years in India and 15.2 (SD 2.8) years in Australia, with the earliest age being eight years in both countries. The lifetime prevalence of alcohol use was lower among younger Indians (47% for males and 52% for females) compared to their Australian equivalents (82% for males and 69% for females). Similar patterns were observed for recent drinking (i.e., in the last 4 weeks), across demographic groups and countries (Table 1). The overall prevalence for lifetime and recent drinking was significantly lower in India than Australia (Fisher's Exact test $p < .001$ for both measures).

The median usual drinking levels were significantly higher among males than females in both countries (India median 5.5 vs 3.5: Australia median 3.5 vs 2.0; Table 1). Further, older Indian males drank significantly more than their younger counterparts (5.5 vs 3.5 drinks) and older Australian females had significantly higher usual drinking (2.0 vs 1.0 drinks) than their younger equivalents. Overall alcohol consumption quantity was significantly higher in India than Australia (median 4.5 vs 2.75 drinks U 10.6 $p < .001$). A post-hoc analysis controlling for Internet use, age, and gender found that Indian usual alcohol consumption was still significantly higher than Australian usual consumption ($F = 13.0 (1,508) p < .001$).

6.4.2 Exposure to and interaction with alcohol marketing on SNS

Descriptive data on the variables related to exposure to alcohol marketing on SNS and included in the multivariate analyses are presented in Table 6.8.2. Across all these variables, Indian respondents reported significantly greater involvement with alcohol-related marketing.

Perceived trends in alcohol advertising differed by country. In Australia, the younger participants reported seeing significantly increased amounts of alcohol advertising and other alcohol-related marketing efforts on SNS in the last 12 months. In contrast, older Indians noticed a larger increase than younger Indians.

In both India and Australia, older respondents reported receiving more frequent suggestions on SNS to like or to follow pages or to participate in events with alcohol-related content compared to younger respondents. Finally, on most variables there was greater sharing or interaction on Facebook, followed by YouTube and then Twitter, and this was consistent across demographic groups and countries.

6.4.3 Associations between usual alcohol consumption and alcohol-related interactions on SNS

Multivariate analyses were conducted to determine which influences were significantly associated with usual alcohol consumption quantity. In total, six multivariate models were developed (two countries by three SNS platforms, as items were specific to each SNS).

In addition to age, gender, and education, the Indian univariate analyses identified the following eight variables for inclusion in the multivariate analyses: (i) daily hours spent on the Internet; (ii) noticing alcohol brand logos on merchandise shown on SNS; (iii) attending alcohol industry sponsored events, (iv) sharing own alcohol-related information on SNS; (v) receiving suggestions to interact with alcohol-related content; (vi) perceived changing trends in alcohol advertising; (vii) respondents' SNS friends/contacts sharing alcohol-related information on the particular SNS; and (viii) noticing alcohol-related information on SNS.

All three Indian multivariate models were significant, and accounted for 23-28% of variation in usual alcohol use. Only one variable, age, was associated with usual alcohol quantity across the three analyses, controlling for all other factors ($p < .004$ - $p < .003$). In the Facebook

and Twitter models, consumption increased by about 1/3rd of a drink for each year increase in age, but in the YouTube model it decreased by the same amount for each year of age.

There were three other significant associations in Indian multivariate analyses. First, alcohol use decreased by about 1.3 drinks for each decrease in the frequency measure of friends sharing alcohol-related information on Facebook and YouTube ($p < .001$) (e.g., a decrease from 'sometimes' to 'rarely'). Second, sharing personal alcohol-related content on Twitter ($p = .003$) was associated within an increase in alcohol use of 3.1 drinks for each increase in the frequency of sharing information (e.g., from 'never/ rarely/ sometimes' to 'often/very often') (Table 6.8.3).

Each of the overall models for the Australian analyses was significant, accounting for between 13% and 40% of the variance in alcohol use. In addition to age, gender, and education, univariate analyses identified seven variables for inclusion in the multivariate analyses: (i) noticing alcohol brand logos on merchandise shown on SNS; (ii) attending alcohol industry sponsored events, (iii) sharing own alcohol-related information on SNS; (iv) receiving suggestions to interact with alcohol-related content; (v) perceived changing trends in alcohol advertising; (vi) respondents' SNS friends/contacts sharing alcohol-related information on the particular SNS; and (vii) noticing alcohol-related information on SNS.

In the Australian multivariate analyses, sharing alcohol-related content on Facebook and Twitter ($p < .001$) increased the number of standard drinks consumed by 2.6 and 4.5 drinks respectively for each increase in the frequency of sharing information (e.g., from 'never/rarely/sometimes' to 'often/very often'). Significant associations were also found between gender and usual alcohol consumption across SNS (all $p < .001$) (Table 6.8.4), with females drinking between 1.7 and 2.9 fewer drinks than males.

6.5 Discussion

To our knowledge, this is the first cross-national comparison exploring associations between involvement with SNS-based alcohol marketing on three different SNS and young people's alcohol use, in different national settings.

As per existing data [1], the Indian cohort was expected to have lower consumption than the Australian sample. However, we found higher usual consumption (but lower prevalence) in the Indian cohort than the Australian sample. This discrepancy is likely due to the small sample used in this study, the reliance on those who could read/write English, the non-representative form of sampling, and a potentially more affluent cohort (about 48% of Indian Internet users belong to medium and high status groups) [50] than the general population. Consistent with existing research [25], we found statistically significant gender differences in the quantity consumed, with Indian females drinking less than males, but not in the expected difference in prevalence of drinking. This is potentially attributed to rapidly changing attitudes towards female alcohol use in India, especially among higher status groups [32]. Hence, these findings warrant more research exploring alcohol use among higher status groups and those with high levels of education, in India. In contrast, Australian females reported significantly lower prevalence and quantity drunk compared to males, which is consistent with the results of national surveys [26].

Previous studies have reported significant associations between interaction with alcohol marketing on SNS and more frequent alcohol use and intentions to drink [13, 19, 51]. Consistent with these studies, consumption levels were found to be significantly associated with (i) respondents sharing their own alcohol-related information on SNS and (ii) respondents' SNS friends/contacts sharing such information on SNS. In India, having friends who shared alcohol-related content was an important predictor of usual drinking, whereas posting alcohol-related information themselves was a stronger predictor of usual drinking among Australian respondents. These national differences likely relate to substantially lower

levels of social acceptance of alcohol use in India compared with Australia, hence Indian respondents reported sharing less of their own alcohol-related content on SNS. The above mentioned studies demonstrated these associations only on Facebook, thus the results of this study extend previous work by also demonstrating significant associations between interaction with alcohol-related content on YouTube and Twitter, with different effects found by media type, demographic group, and country.

Overall, the evidence from both countries indicates that many young people are likely to be exposed to alcohol-related marketing on SNS, illustrating the need for comprehensive mandatory regulation. In India, there are currently no regulations on social media alcohol marketing, giving alcohol companies unfettered opportunity to expose youth to alcohol promotion via SNS. This highlights the need to introduce effective strategies to regulate online alcohol marketing to minimize exposure. In the Australian context, high levels of youth involvement with SNS-based alcohol marketing can be at least partially attributed to the deficiencies in the existing code that regulates marketing on social media in Australia [46]. Although a revised version of the code with somewhat stronger placement guidelines is being introduced in Australia in November 2017 [52], it still does not effectively address online alcohol advertising. This indicates the need to further strengthen this code, particularly in relation to addressing exposure of younger SNS users to alcohol marketing online.

Some limitations should be considered while interpreting the results of this study. The samples may not be representative of the Indian and Australian populations in the given age groups. In particular, the respondents had to have Internet access and to be proficient in English. This is likely to be a limitation for the Indian sample, as we do not have information on English language fluency among Indians in the specified age group. However, English is the second official language of India, with about 125 million (out of a billion people) English speaking Indians in 2001 across all ages [53]. Nonetheless, English is the main language for the Internet in India.

The relatively small number of Australian users of Twitter limits the conclusions that can be drawn about that SNS. Further, gender differences in response rates are likely related to typically higher female survey participation in Australia and higher male drinking prevalence in India. Although we used a convenience sampling approach, the findings were largely consistent with the body of literature regarding country-level consumption behaviors and the associations between alcohol advertising and youth drinking.

As noted in the methods section, this study was slightly underpowered, hence a larger sample would be useful to assess the reliability of our exploratory work, in the future studies. Finally, as this study utilized a cross-sectional study design, it was not possible to determine any causal relationships between exposure to alcohol marketing on SNS and alcohol use. This indicates the need for longitudinal studies that can establish the temporal ordering between these two behaviors. As the results differed between countries, indicating that different mechanisms are likely at play, this study also highlights the need to conduct further cross-national comparisons to explore how social media marketing of alcohol affects alcohol consumption in diverse geographic contexts.

6.6 Conclusions

This is the first study to investigate SNS-based alcohol marketing separately on Facebook, YouTube, and Twitter, among young people in different national contexts. Significant associations identified between alcohol marketing on SNS and youth drinking highlight the need to introduce effective regulations pertaining to alcohol marketing on social media platforms to minimize exposure among younger SNS users.

6.7 References

1. World Health Organization: Global Status Report on Alcohol and Health. In. Edited by Department of Mental Health and Substance Abuse WHO; 2014.
2. Bava S, Tapert SF: Adolescent Brain Development and the Risk for Alcohol and Other Drug Problems. *Neuropsychology Review* 2010, 20(4):398-413.
3. Babor TF, Robaina K, Noel JK, Ritson EB: Vulnerability to alcohol-related problems: a policy brief with implications for the regulation of alcohol marketing. *Addiction* 2017, 112(S1):94-101.
4. Gururaj G, Murthy P, Girish N, Vivek B: Alcohol related harm: Implications for public health and policy in India. In.: National Institute of Mental Health & Neuro Sciences; 2011.
5. Jones S, Pettigrew S, Biagioni N, Daube M, Chikritzhs T, Stafford J, Tran J: Young adults, alcohol and Facebook: a synergistic relationship. *Journal of Social Marketing* 2017, 7(2):172-187.
6. Atkinson AM, Ross-Houle KM, Begley E, Sumnall H: An exploration of alcohol advertising on social networking sites: an analysis of content, interactions and young people's perspectives. *Addiction Research & Theory* 2017, 25(2):91-102.
7. Gupta H, Pettigrew S, Lam T, Tait RJ: A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and alcoholism* 2016, 51(6):763-771.
8. Carah N: Like, Comment, Share Alcohol brand activity on Facebook. In.: Foundation for Alcohol Research and Education; 2014.
9. Niland P, McCreano, T., Lyons, A. C., & Griffin, C.: Alcohol marketing on social media: young adults engage with alcohol marketing on facebook. *Addiction Research & Theory* 2017, 25(4):273-284.

10. Carah N, Meurk C, Males M, Brown J: Emerging social media 'platform' approaches to alcohol marketing: a comparative analysis of the activity of the top 20 Australian alcohol brands on Facebook (2012-2014). *Critical Public Health* 2017;1-11.
11. Purves RI, Stead M, Eadie D: What are you meant to do when you see it everywhere?" Young people, alcohol packaging and digital media. In.: Alcohol Research UK; 2014.
12. Boyle SC, LaBrie JW, Froidevaux NM, Witkovic YD: Different digital paths to the keg? How exposure to peers' alcohol-related social media content influences drinking among male and female first-year college students. *Addictive Behaviors* 2016, 57(Supplement C):21-29.
13. Hoffman EW, Pinkleton BE, Weintraub Austin E, Reyes-Velázquez W: Exploring college students use of general and alcohol-related social media and their associations with alcohol-related behaviors. *J Am Coll Health* 2014, 62(5):328-335.
14. Critchlow N, Moodie C, Bauld L, Bonner A, Hastings G: Awareness of, and participation with, user-created alcohol promotion, and the association with higher-risk drinking in young adults. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 2017, 11(2).
15. Nesi J, Rothenberg WA, Hussong AM, Jackson KM: Friends' Alcohol-Related Social Networking Site Activity Predicts Escalations in Adolescent Drinking: Mediation by Peer Norms. *Journal of Adolescent Health* 2017, 60(6):641-647.
16. National drug strategy household survey detailed report 2013 (Drug statistics series no. 28. Cat. no. PHE 183) [<https://www.aihw.gov.au/getmedia/dc31e56a-24b8-41e2-908d-fd64c1fadc13/16835-12Feb2015.pdf.aspx>]
17. Carrotte ER, Dietze PM, Wright CJ, Lim MS: Who 'likes' alcohol? Young Australians' engagement with alcohol marketing via social media and related alcohol consumption patterns. *Australian and New Zealand Journal of Public Health* 2016, 40(5):474-479.

18. Lim MSC, Hare JD, Carrotte ER, Dietze PM: An investigation of strategies used in alcohol brand marketing and alcohol-related health promotion on Facebook Digital Health 2016, 2:1-7.
19. Jones, Robinson L, Barrie L, Francis K, Lee JK: Association Between Young Australian's Drinking Behaviours and Their Interactions With Alcohol Brands on Facebook: Results of an Online Survey. Alcohol and Alcoholism 2016, 51(4):474-480.
20. Jones S, Magee CA: Exposure to Alcohol Advertising and Alcohol Consumption among Australian Adolescents. Alcohol and Alcoholism 2011, 46(5):630-637.
21. Dobson C: Alcohol Marketing and Young People: Time for a new policy agenda. In.: Australian Medical Association; 2012.
22. Gupta H, Lam T, Pettigrew S, Tait RJ: A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia. Drugs: Education, Prevention and Policy 2017:1-9.
23. Gupta H, Pettigrew S, Lam T, Tait RJ: How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective. Critical Public Health 2017:1-10.
24. Gupta H, Lam T, Pettigrew S, Tait RJ: Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts. BMC Public Health 2018, 18:1-10.
25. Parasuraman S, Kishor S, Singh SK, Vaidehi Y: A Profile of Youth in India. In.: International Institute for Population Sciences; 2009.
26. National Drug Strategy Household Survey (NDSHS) 2016 key findings [<http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources/ndshs-2016/alcohol/>]

27. International Institute for Population Sciences and World Health Organization: Health system performance assessment. World Health Survey, 2003, India. Geneva: India-WR Office. 2006.
28. Murthy P: Culture and alcohol use in India. World Association of Cultural Psychiatry 2015:27-39.
29. Kermode M, Sono CZ, Songput CH, Devine A: Falling through the cracks: a qualitative study of HIV risks among women who use drugs and alcohol in Northeast India. BMC International Health and Human Rights 2013, 13(1):9.
30. C-1 Population By Religious Community [<http://www.censusindia.gov.in/2011census/C-01.html>]
31. Arora M, Dahiya P, Nazar G, Gupta H, Singh D, Sahoo P, Gamlin B, Chauhan K, Chatterjee M: Alcohol Marketing and Regulatory Policy Environment in India. A Report. In.: Public Health Foundation of India; 2013.
32. Arora M, Tewari A, Bassi S, Chauhan K, Bhasin S, Bakshi A-S, Andréasson S: Exploring perceptions of alcohol use in two Indian states: A qualitative study from Delhi and Haryana, India. International Journal of Alcohol and Drug Research 2017, 6(1):6.
33. Sharma HK, Tripathi BM, Pelto PJ: The Evolution of Alcohol Use in India. AIDS and Behavior 2010, 14(Suppl 1):8-17.
34. Benegal V: India: alcohol and public health. Addiction 2005, 100(8):1051-1056.
35. The Royal Australasian College of Physicians and The Royal Australian and New Zealand College of Psychiatrists: Alcohol Policy. In.; 2016.
36. Social Media Statistics Australia – December 2016 [<https://www.socialmedianews.com.au/social-media-statistics-australia-december-2016/>]

37. Number of Facebook users in India from 2015 to 2022 (in millions)
[<http://www.statista.com/statistics/304827/number-of-facebook-users-in-india/>]
38. Statista: Number of Facebook users in Australia from 2015 to 2022 (in millions). 2016.
39. Nayak V: 92 million Facebook users make India the second largest country. 2014.
40. 101 Latest Social Media Facts and Stats from India – 2016
[<http://www.soravjain.com/social-media-facts-and-stats-india-2016>]
41. Nielsen Online Ratings: Nielsen Online Ratings, annualised average for 2012 and 2013. 2013.
42. Sensis Social Media Report: How Australian people and businesses are using social media. In.; 2016.
43. [Twitter Stats] More than 80% Twitter Users in India are Males!
[<https://yourstory.com/2012/10/twitter-stats-more-than-80-twitter-users-in-india-are-males/>]
44. The Advertising Standards Council of India: The code for self-regulation in advertising. In.; 2013.
45. The Alcohol Beverages Advertising Code: ABAC Responsible Alcohol Marketing Code. In.; 2013.
46. Weaver ERN, Wright CJC, Dietze PM, Lim MSC: 'A Drink That Makes You Feel Happier, Relaxed and Loving': Young People's Perceptions of Alcohol Advertising on Facebook. Alcohol and Alcoholism 2016, 51(4):481-486.
47. World Health Organization: Recognizing adolescence. In.; 2014.
48. Sample size calculator [<http://www.raosoft.com/samplesize.html>]

49. The 2013 National Drug Strategy Household Survey

[<https://www.aihw.gov.au/getmedia/e1f0d168-cad3-476f-b388-5c5714755451/ndshs-2013-questionnaire.pdf.aspx>]

50. DeSouza PR, Kumar S, Shastri S: Indian Youth in a Transforming World: Attitudes and Perceptions. New Delhi, India: SAGE Publications India Pvt Ltd; 2009.

51. Alhabash S, McAlister AR, Quilliam ET, Richards JI, Lou C: Alcohol's Getting a Bit More Social: When Alcohol Marketing Messages on Facebook Increase Young Adults' Intentions to Imbibe. *Mass Commun Soc* 2015, 18(3):350-375.

52. The Alcohol Beverages Advertising Code: ABAC Responsible Alcohol Marketing Code. In.; 2017.

53. Office of the Registrar General & Census Commissioner: Census of India. In.: Government of India; 2001.

6.8 Tables

Table 6.8.1: Respondent demographics

Variable	India n (%)					Australia n (%)				
	Males 13 – 17 years	Males 18 – 25 years	Females 13 – 17 years	Females 18 – 25 years	Total	Males 13 – 17 years	Males 18 – 25 years	Females 13 – 17 years	Females 18 – 25 years	Total
Number of respondents	70 (21)	141 (43)	29 (9)	90 (27)	330 (100)	45 (15)	70 (23)	29 (10)	157 (52)	301 (100)
Citizenship of host country ‡	70 (100)	140 (99)	29 (100)	90 (100)	329 (100)	40 (89)	53 (76)	25 (86)	127 (81)	245 (82)
Education ‡										
Primary (up to yr 5)	1 (1)	-	1 (3)	-	2 (1)	9 (20)	-	5 (17)	-	14 (5)
Secondary (yr 6–10)	43 (61)	-	18 (62)	-	61 (20)	29 (64)	1 (1)	23 (79)	2 (1)	55 (18)
Secondary (yr 11–12)	26 (27)	34 (25)	10 (35)	11 (12)	81 (25)	7 (16)	42 (60)	1 (23)	71 (45)	121 (40)
University	-	106 (75)	-	79 (88)	185 (56)	-	27 (39)	-	84 (54)	110 (37)
Home Internet connection (yes)	67 (96) ^a	133 (95)	24 (83) ^{a,*}	87 (97) [*]	311 (94) [!]	45 (100)	70 (100)	28 (97)	153 (98)	296 (98) [!]
Internet hours/day	1.5 ^{***}	3.5 ^{***}	1.5 ^{**}	3.5 ^{**}	1.5 ^{†††}	3.5 [*]	6.5 ^{b, *}	3.5	3.5 ^b	3.5 ^{†††}
Median (IQR)	(0.5–2.0)	(1.5–3.5)	(1.5–1.5)	(1.5–3.5)	(1.5-3.5)	(3.5–5.0)	(3.5–6.5)	(3.5–6.5)	(3.5–6.5)	(3.5-6.5)
Lifetime consumption of alcohol (yes)	33 (47) ^{***}	115 (82) ^{***}	15 (52) [*]	70 (78) [*]	233 (71) ^{!!!}	37 (82) [*]	67 (96) [*]	20 (69) ^{**}	145 (92) ^{**}	269 (89) ^{!!!}
Any alcohol in the last 4 weeks (yes)	15 (21) [*]	79 (56) [*]	6 (21)	42 (47)	142 (43) ^{!!!}	30 (67) ^b	58 (83)	9 (31) ^{b,***}	123 (78) ^{***}	220 (86) ^{!!!}
Usual drinks Median (IQR)	3.5 ^{***} (2.0–4.5)	5.5 ^{b, ***} (3.5–7.5)	3.5 (1.75–5.5)	3.0 ^b (2.0–5.5)	4.5 ^{†††} (3.5-7.5)	3.5 (2.0–4.0)	3.5 ^c (2.0–7.5)	1.0 ^{***} (0.0–2.0)	2.0 ^{c, ***} (1.0–3.5)	2.75 ^{†††} (1.0-3.5)

‡ Age-group and gender differences not tested; IQR = inter-quartile range; usual drinks = standard (10g) drinks; yr = year
 Between country comparison (medians) ^{†††} Mann-Whitney U $p_{\leq .001}$: (frequencies) [!] Fisher's exact $p_{\leq .05}$ ^{!!!} Fisher's exact $p_{\leq .001}$:

(Within country and gender) Between age group comparison: * Mann-Whitney U $p < .05$; ** Mann-Whitney U $p \leq .01$; *** Mann-Whitney U $p \leq .001$
(Within country) Between gender comparisons: ^a Mann-Whitney U $p < .05$; ^b Mann-Whitney U $p < .01$; ^c Mann-Whitney U $p < .001$

Table 6.8.2: Descriptive data on variables included in the multivariate analyses

	India n (%)					Australia n (%)				
	Males 13 – 17 years	Males 18 – 25 years	Females 13 – 17 years	Females 18 – 25 years	Total	Males 13 – 17 years	Males 18 – 25 years	Females ¹ 3 – 17 years	Females 18 – 25 years	Total
Trends (increased) in alcohol advertising	40 (57)	93 (66)	15 (52)	54 (60)	202 (63) †††	28 (62) ***	24 (34) ***	12 (41) **	39 (25) **	103 (37)
<i>Facebook</i>	34 (49) *	96 (68) *	15 (52)	58 (64)	203 (66) †††	28 (62) **	28 (40) **, b	12 (41) *	28 (18) *, b	†††
<i>YouTube</i>	16 (23) ***	70 (50) ***	5 (17) **	35 (39) **	126 (42) †††	11 (24) *	9 (13) *	4 (14)	8 (5)	96 (35) †††
<i>Twitter</i>										32 (12) †††
Alcohol brand logos on merchandise (very often or often)	67 (96)	130 (92)	26 (90)	74 (82)	297 (92) †††	27 (60)	35 (50)	15 (52)	85 (54)	162 (57) †††
Alcohol events attended (Yes)	27 (39)	46 (37)	11 (38)	29 (32)	113 (36) †††	20 (44)	35 (50)	8 (27) *	80 (51) *	143 (51) †††
Suggestions on SNS (less than once a week or weekly)	49 (70)	106 (75) ^b	18 (62)	49 (54) ^b	222 (69) †††	25 (55)	31 (44)	14 (48)	67 (43)	137 (49)
<i>Facebook</i>	33 (45) **	90 (71) **	17 (59)	52 (58)	202 (66) †††	23 (51)	25 (36)	12 (41)	47 (30)	†††
<i>YouTube</i>	25 (36) ***	88 (62) ***	15 (52)	41 (45)	169 (55) †††	8 (18)	10 (14)	6 (20)	17 (11)	107 (39) †††
<i>Twitter</i>										41 (15) †††
Sharing own alcohol-related										

content on SNS (very often or often)	46 (66)	90 (64) ^a	18 (62)	44 (49) ^a	198 (65) ⁺⁺⁺	3 (7)	7 (10)	2 (7)	17 (11)	29 (11) ⁺⁺⁺
<i>Facebook</i>	33 (47)	87 (62)	15 (52)	44 (49)	179 (65) ⁺⁺⁺	1 (2)	4 (6)	1 (3)	6 (4)	12 (8) ⁺⁺⁺
<i>YouTube</i>	38 (54)	84 (60)	16 (55)	45 (50)	183 (82) ⁺⁺⁺	0 (0)	3 (4)	0 (0)	1 (1)	4 (6) ⁺⁺⁺
<i>Twitter</i>										
Friends sharing alcohol-related content on SNS (very often or often)	55 (78)	97 (69)	19 (66)	53 (59)	224 (72) ⁺⁺⁺	15 (33)	31 (44)	7 (24)	81 (51)	134 (51) ⁺⁺⁺
<i>Facebook</i>	38 (53)	87 (62)	15 (52)	39 (43)	179 (60) ⁺⁺⁺	12 (27)	9 (13)	6 (21)	11 (7)	11 (7) ⁺⁺⁺
<i>YouTube</i>	36 (51)	81 (57)	15 (52)	42 (46)	174 (58) ⁺⁺⁺	1 (2)	4 (6)	0 (0)	9 (6)	15 (38) ⁺⁺⁺
<i>Twitter</i>										14 (5) ⁺⁺⁺
Noticing alcohol- related content on SNS (very often or often)	56 (80)	114 (74)	22 (76)	59 (66)	241 (75) ⁺⁺⁺	13 (29)	26 (37)	8 (28)	64 (41)	111 (40) ⁺⁺⁺
<i>Facebook</i>	43 (61)	91 (65)	19 (66)	56 (62)	209 (68) ⁺⁺⁺	12 (27)	29 (42)	8 (62)	44 (28)	44 (28) ⁺⁺⁺
<i>YouTube</i>	31 (34) [*]	86 (61) [*]	15 (52)	49 (54)	181 (59) ⁺⁺⁺	0 (0)	5 (7)	2 (7)	6 (4)	93 (33) ⁺⁺⁺
<i>Twitter</i>										13 (6) ⁺⁺⁺

Between country comparison⁺⁺⁺ Fisher's exact $p \leq .001$:

Fisher's exact (2 sided) between age group (within country and gender) significant difference: * $p < 0.05$; ** < 0.01 ; *** < 0.001

Fisher's exact (2 sided) between gender (within country and age group) significant difference: ^a $p < 0.05$; ^b < 0.01 ; ^c < 0.001

Table 6.8.3: Multivariate associations between select characteristics and usual consumption levels (number of drinks consumed on a typical day) for Indian participants ^a

Variable	Facebook n=217 B (s.e.) p		YouTube n=198 B (s.e.)p		Twitter n=168 B (s.e.) p	
<i>Model Statistics</i>	<i>F(11, 205) 8.896 p<.001, AR² .287</i>		<i>F(11, 185) 6.370 p<.001, AR² .232</i>		<i>F(11, 156) 5.434 p<.001, AR² .226</i>	
<i>Model variables</i>						
Age	.315 (.103)	.003*	-.326 (.110)	.004*	.367(.122)	.003*
Gender	-.851 (.405)	.037	-.757 (.444)	.090	-1.091 (.494)	.029
Education	.174 (.436)	.691	.247 (.488)	.613	-.086 (.531)	.871
Internet hours/day	.129 (.117)	.271	-.080 (.128)	.533	-.307 (.164)	.824
Alcohol brand logos on merchandise	.033 (1.227)	.979	1.723 (1.326)	.195	-.308(3.106)	.921
Attended alcohol events advertised on SNS	.778 (.407)	.057	1.163 (.455)	.011	.876 (.498)	.080
Sharing own alcohol-related content on SNS	1.201 (.680)	.079	1.453 (.854)	.803	3.138 (1.028)	.003*
Suggestions on SNS to like/follow alcohol-related content	-.126 (.229)	.581	.522 (.258)	.044	.191 (.270)	.480
Perceived increasing trends in alcohol advertising	.313 (.371)	.399	.696 (.528)	.189	.064 (.430)	.882
Friends sharing alcohol-related information on SNS	-1.343 (.325)	<.001*	-1.451 (.306)	<.001*	-.622 (.397)	.118
Noticing alcohol-related content on SNS	.221 (.278)	.428	.753 (.322)	.775	.098 (.341)	.020

* $p \leq .008$; ^a non-drinkers coded as 0 drinks; AR² = adjusted r square; B = unstandardized coefficient: s.e. = standard error

Table 6.8.4: Multivariate association between select characteristics and usual consumption levels (number of drinks consumed on a typical day) for Australian participants ^a

	Facebook n=246 B (s.e.) p	YouTube n=151 B (s.e.) p	Twitter n=65 B (s.e.) p
<i>Model Statistics</i>	<i>F(9, 237) 7.205 p<.001, AR² .185</i>	<i>F(9, 143) 3.597 p<.001, AR² .133</i>	<i>F(7, 63) 7.731 p<.001, AR² .402</i>
<i>Model variables</i>			
Age	-.096 (.097) .328	-.200 (.137) .146	-.128 (.180) .478
Gender	-1.76 (.387) <.001*	-1.821 (.478) <.001*	-2.957 (.672) <.001*
Education	.769 (.374) .041	1.220 (.512) .019	1.173 (.677) .092
Alcohol brand logos on merchandise	-.308 (.376) .919	.312 (.486) .522	.439 (.686) .824
Attended alcohol events advertised on SNS	.482 (.370) .194	.110 (.466) .814	-.237 (.677) .728
Sharing own alcohol-related content on SNS	2.448 (.573) <.001*	1.453 (.854) .091	4.484 (1.320) .001*
Suggestions on SNS to like/follow alcohol-related content	-.297 (.147) .044	-.356 (.206) .086	-
Perceived increasing trends in alcohol advertising	-	-.133 (.388) .732	-.808 (.437) .069
Friends sharing alcohol-related information on SNS	-.263 (.207) .205	-.231 (.265) .384	-
Noticing alcohol-related content on SNS	-.032 (.192) .869	-	-

* $p \leq .008$; ^a non-drinkers coded as 0 drinks; AR² = adjusted r square; B = unstandardized coefficient: s.e. = standard error

Chapter 7: Discussion

7.1 Main findings

It is well known that SNS alcohol marketing is associated with alcohol use among young people. However, cross-national comparisons of 1) the strategies alcohol companies utilise on their official SNS pages to engage SNS users and 2) the relationship between such marketing and young people' alcohol use, in substantially dissimilar national contexts and over different SNS appeared to be lacking. To address this gap, the present study was conducted using a mixed methods approach and provides a substantial, original, and significant contribution to the existing knowledge in this area.

The choice to conduct a systematic review was informed by a lack of published work that had investigated the relationship between exposure to alcohol marketing on SNS and alcohol use among young people. The review comprised studies on both active and passive exposure to online alcohol-related content. This included studies that had explored young people's exposure to/interaction with both user-generated online alcohol-related content and content posted by alcohol companies on SNS. Consistent with previous literature (Atkinson et al, 2017; Cavazos-Rehg et al, 2015; Jones et al., 2015; Purves et al., 2014), relationships between engagement with alcohol-related SNS postings (i.e., brand- and user-generated content, with the former demonstrating marketing techniques used by alcohol companies) and alcohol use were identified in this study. The findings are discussed at length in Chapters 2-6 and summarised in this Chapter.

7.1.1 SNS strategies used

The alcohol marketing strategies identified in this study were largely consistent with those previously described in the literature. These included references to time- and event-specific drinking (Atkinson et al., 2017; Carah, 2014; Nicholls, 2012); brand sponsorship of sporting,

music, and fashion events (Nicholls, 2012; Winpenny et al., 2014); food and drink recipes' suggestions (Carah, 2014; Winpenny et al., 2014); competitions and brand-related giveaways (Atkinson et al., 2014; Lim et al., 2016; Nicholls, 2012); references to camaraderie (Carah, 2014), celebrity endorsement (Atkinson et al., 2017; Lim et al., 2016); sexually suggestive content (Lim et al., 2016; Weaver, Wright, Dietze, & Lim, 2016); and the use of memes (Atkinson et al., 2014; Carah, 2014; Lim et al., 2016). A combination of common marketing strategies and those that differed by country were identified in this study. The strategies employed were largely consistent across SNS.

Prompts to engage in time-and event-specific drinking and references to event-based brand sponsorship were extensively posted across SNS in both countries. However, the content used within these strategies differed by country and appeared to be created based on users' socio-cultural practices and popular everyday activities. For example, Indian alcohol companies associated their brands primarily with cricket, in contrast to their Australian equivalents who promoted their brands at football, cricket, cycling, and surfing events. Similarly, brand sponsorship at sporting, music, and fashion events, and references to food and cocktail recipes varied by country and culture as well (Gupta et al., 2017; Gupta, Lam, et al., 2018a; Gupta, Pettigrew, et al., 2018).

Strategies that differed by country were identified. Consistent with previous Australian studies, there was evidence of sexually suggestive content and/or content linking alcohol to sexual success on Australian Facebook pages (Carah, 2014; Lim et al., 2016; Weaver et al., 2016) albeit to a lesser extent than on Indian Facebook pages. An example was a Budweiser Facebook (Australia) video where a football coach suggested that the team members dress up nicely before going to an event where alcohol would be served, as they were likely to meet a potential sexual partner. This type of content was not found on Australian Twitter and YouTube pages; however, there was still some level of gender targeting on Australian SNS pages. An instance of this was a Bundaberg post explicitly relating alcohol to masculinity on its YouTube channel (Gupta, Lam, et al., 2018a). Although

Australian alcohol advertising regulations do not allow the portrayal of alcohol contributing to sexual success on SNS (The Alcohol Beverages Advertising Code, 2017), the presence of such content suggests that alcohol companies do not fully comply with these regulations. Further examples that appear to breach the existing regulatory Code include inspirational talks and references to entrepreneurship relating success and hard work to drinking, and celebrities discussing their success in the presence of an alcoholic beverage on Australian SNS pages.

As noted earlier, the Indian advertising regulatory Code imposes a complete ban on alcohol advertising in traditional media; however, alcohol companies manage to promote their products via a technique called 'brand stretching or surrogate advertising', thus breaching the Code. Examples include using alcohol brand logos on non-alcoholic products such as music CDs, packaged drinking water, watches (time pieces), and an airline (Kingfisher). Brand sponsorship at sporting, music, and fashion events and celebrity endorsement are other examples (Arora et al., 2013). As this Code is applicable exclusively to traditional forms of advertising, SNS alcohol marketing remains unfettered in India.

Different SNS are likely to have different user demographic profiles, so the common types of strategies the brands used (e.g., competitions and giveaways, links to brand-sponsored events, celebrity endorsement) are likely to be tailored to target brand-specific demographic groups. Overall, the strategies used were consistent with previous studies' observations that young people engage more with such strategies compared with other age groups, and marketers may use these strategies to deliberately target young people (Atkinson et al., 2017; Chester, 2010; Mart, 2011).

7.1.2 User engagement with SNS strategies

Considerable user engagement with marketing content across SNS in both countries was identified. Although India has many more SNS users in absolute numbers, greater user engagement was observed with Australian SNS alcohol-brand pages (except Twitter), both

as an absolute number of likes/views and as a proportion of the total population. This could be attributed to a much lower prevalence of Internet use (31% in India versus 87% in Australia), and hence lower levels of SNS use in India. Additionally, as discussed in previous chapters, socio-cultural factors that proscribe alcohol use in India might explain a further lower level of user engagement with Indian alcohol-related SNS pages (e.g., drinkers and/or non-drinkers may not engage with alcohol SNS pages due to these cultural prohibitions). Further, as an estimated 50% of the alcohol consumed in India is home-made and remains unrecorded (Gururaj et al., 2011), and is thus not advertised. The consumers of this type of alcohol may not engage with SNS alcohol marketing and thus this could be another reason for lower user engagement with Indian SNS pages. However, this does not necessarily mean that this group of alcohol users are not targeted by alcohol marketers and that they do not engage with SNS alcohol marketing, especially given the large number of Internet users in India (about 432 million, 31% of the population). Hence, it is difficult to determine who is being specifically targeted on SNS in India. and this is a gap in our present knowledge of alcohol marketing in India.

Because of the vast cultural and linguistic diversity in India, another potential reason for the lower levels of user engagement with the Indian SNS pages could be the varying alcohol market structures in different parts of India. This may result in different marketing agencies being utilised to cater for different language groups, rather than a single agency for the entire country. While tailored or targeted messages may seem preferable, if these were not adequately resourced that may result in less engagement. This is another area that could be explored in future studies.

Further, there is the possibility that brands pay marketing agencies to increase the number of their SNS page followers. There is also the possibility of brands using “Internet influencers” who have a huge fan base and thus help the brands to reach their target market. However, it was not possible to determine the degree to which this occurred and

subsequently increased the level of engagement and the nature of comments made on a given site.

As discussed earlier, digital divides, both between and within countries, might have also influenced SNS use, and hence user engagement with SNS (Gupta et al., 2017; Gupta, Lam, et al., 2018a). These divides are projected to increase further, for example, there is expected to be an increase in younger SNS users in both countries, and an anticipated increase of 33% and 8% in the number of Facebook users in India and Australia, respectively, between 2017 and 2022 (Statista, 2016a, 2016b). Such an increase would be advantageous for brands as there would be many more SNS users in the target groups for alcohol promotion and thus potentially more sales.

Brands posted content displaying selective alcohol-related material based on users' preferences, individual identities, and socio-cultural backgrounds on their SNS accounts. For example, English is the main language for the Internet in India and thus the official Indian alcohol brand SNS pages were all in English. However, as India is a multilingual country, instances were seen where users and companies delivered content in multiple languages on their SNS pages (e.g., YouTube), to increase user engagement. In contrast, in Australia, as 73% of people only speak English at home (Australian Bureau of Statistics, 2016), companies delivered their content exclusively in English, on the Australian SNS pages examined in this study.

Together with existing evidence, these within and between country differences in content suggest that alcohol marketers are skilled at adapting, producing, and delivering SNS content based on users' socio-cultural practices, identities, and lifestyles (Atkinson et al., 2017; Carah, 2015; Spies Shapiro & Margolin, 2014). This may help brands in initiating brand-related conversations among users and stimulating the creation of user-generated content. The content generated by users along with the original brand-generated content keeps flowing through users' online networks and provides data for future content creation

and delivery (Atkinson et al., 2017; Nicholls, 2012; Purves et al., 2014). This process may allow normalisation of drinking behaviour among SNS users and co-creation of 'intoxicogenic online spaces' in which they learn about alcohol (Atkinson et al., 2017; Griffiths & Casswell, 2010; Lyons et al., 2015; McCreanor, Barnes, Kaiwai, Borell, & Gregory, 2008). There are other mediating factors that potentially affect the relationship between engagement with SNS alcohol marketing and drinking behaviours (Westgate & Holliday, 2016). For example, although younger SNS users find online alcohol marketing useful and informative (Lyons et al., 2015), their online networks could also influence their exposure to online alcohol-related content (e.g., through online representations of peer drinking) and thus potentially alcohol use (Atkinson et al., 2017; Nicholls, 2012; Ridout et al., 2012).

As mentioned in Chapters 3-5, brands' official websites were accessed to locate and confirm the links to their official country-specific pages for each SNS. However, it is still possible that data reported may represent global figures and thus require further investigation. Further, there is the possibility that brands pay marketing agencies to increase the number of their SNS page followers. There is also the possibility of brands using "Internet influencers" who have a huge fan base and thus help the brands to reach their target market. However, it was not possible to determine the degree to which this occurred and subsequently increased the level of engagement and the nature of comments made on a given site. Further, to gain insights into the engagement rates on the Indian SNS pages compared to the 'Australian' SNS pages, it would be useful to report the extent of engagement generated.

SNS such as Facebook, YouTube, and Twitter are algorithmically-curated platforms.

Therefore, medium-specific analyses in terms of how the algorithms are designed and used as a medium to engage users with alcohol-related content posted, is worthy of investigation in future studies." per follower per page per SNS, in future research.

7.1.3 Relationship between exposure to SNS alcohol marketing and alcohol use

It has also been demonstrated that involvement with online/SNS alcohol content influences youth alcohol use. Consistent with previous research (Alhabash et al., 2015; Hoffman et al., 2014; Jones et al., 2016), this study found significant associations between respondents' alcohol use and involvement with SNS alcohol content.

Further, in line with existing research (Parasuraman, Kishor, Singh, & Vaidehi, 2009), statistically significant gender differences were identified in the quantity consumed per drinking session in India, with Indian females drinking less than males. However, although a gender difference was expected, there was no significant difference in the prevalence of drinking. This is likely due to the greater tendency for drinkers to self-select to complete a survey about alcohol use, and perhaps reflective of rapidly changing attitudes towards female alcohol use in India, especially among affluent groups (Arora et al., 2017). In contrast and as expected, the results for alcohol consumption among the Australian sample were consistent with those of national surveys (Australian Institute of Health and Welfare, 2017), where females reported drinking significantly less (in terms of both prevalence and quantity) than males (Gupta, Lam, Pettigrew, & Tait, 2018b).

Engagement with SNS alcohol postings was significantly related to alcohol use in both countries. While exposure to peers' online alcohol-related representations was associated with alcohol use in the Indian context, posting own alcohol-related content was related to alcohol use for Australian respondents. The latter was consistent with the results of previous studies that identified significant associations between participants' engagement with alcohol advertising on Facebook and alcohol consumption (Jones et al., 2016) and between alcohol advertising on the Internet and alcohol initiation and drinking in the past four weeks (Jones & Magee, 2011). As this study is the first in the Indian context, no comparisons could be made with the relevant Indian literature.

The national differences mentioned above are likely due to the socio-cultural norms towards alcohol use in India (Kermode et al., 2013; Murthy, 2015; Office of the Registrar General & Census Commissioner Government of India, 2011a) that would have inhibited SNS users in posting their own alcohol-related content on their SNS profiles. Given this argument, it is assumed that such socio-cultural norms are still followed in India. However, there was also the suggestion of changing attitudes (e.g., social acceptance of alcohol, especially among online peers) towards alcohol as evident by respondents' interaction with such content online. In contrast, there exist no such general proscriptive norms in Australia (although young people carefully curate their online identit(ies) (Ridout et al., 2012), thus greater posting of such content was reported by the Australian respondents. The high level of respondents' exposure to SNS alcohol marketing reported in this study was attributed to 1) a lack of Indian alcohol advertising regulations pertaining to digital media and 2) the deficiencies in the existing Australian regulatory Code, further discussed in section 7.3.

7.2 Strengths & limitations of the study

This appears to be the first cross-national comparison of alcohol marketing on SNS. The regions contrasted have substantially different socio-cultural alcohol norms, and variation in their SNS marketing was compared across multiple popular SNS. This study used a mixed-method approach (that allowed for triangulation) to investigate the strategies used by alcohol marketers to engage users on their official SNS pages, as well as the reports of the young people themselves on how they perceived the influence of such marketing efforts.

A critical aspect of social media is the interactive element (Hansen & Gunter, 2007) and that to examine its impact on alcohol use, a preliminary investigation of social media content was deemed vital. Therefore, the strategies alcohol marketers utilise to facilitate user engagement with SNS content were qualitatively investigated. Further, to enhance the rich and detailed understanding from the qualitative analysis, a survey was conducted in the later phase of the study. The survey results strengthen the argument and existing evidence

(Atkinson et al., 2017; Nicholls, 2012) that alcohol companies target young people for alcohol promotion by utilising techniques popular among those groups. For example, the survey respondents reported having been exposed to and interacted with this kind of content posted on SNS, with outcomes varying by demographic groups, SNS type, and country (survey items such as ‘have you attended any of these events or parties sponsored by alcohol companies via advertising on Facebook/YouTube/Twitter?’ and ‘have you ever received any promotional items ... from an alcohol brand that you have seen advertised on Facebook/YouTube/Twitter?’). These results also support the results of the qualitative study that identified strategies popular among younger age groups but could not be definitively ascertained because demographic information was not identifiable.

No common brand was found among the top ten brands identified for the two countries across the analysed SNS. This prevented direct comparison of marketing across countries, for example, marketing of the same brand in both India and Australia, which would have enabled a more precise exploration of differences and similarities in the strategies used in different cultural settings. Although several brands within each country shared a common parent company, only a few brands had common producers across the two countries (e.g., Pernod Ricard and Bacardi owned multiple Indian and Australian brands represented in the top 10 on YouTube). Potential reasons for this observation are the popularity of local brands in each country and the preferred type of beverage consumed within an individual country. For example, the popularity of spirits in India versus beer in Australia helps to explain the greater spirit and beer brand presence on Indian and Australian SNS pages, respectively.

In terms of across-SNS observations, six brands (Foster’s, Kingfisher, McDowell’s No. 1, White Mischief, Breezer, and Blenders Pride) were common across Indian SNS pages and the strategies used by those brands were largely consistent across SNS. This suggests that brands were likely aware of SNS user demographics and thus tailored strategies to cater to those groups across SNS. In contrast, no common brand was identified across Australian SNS pages analysed in this study. However, four brands (Corona Extra, Jack Daniel’s,

Absolut, and Carlton Draught) had their official SNS pages on at least two of the examined SNS. For example, Corona Extra had official Facebook and YouTube pages. Interestingly, all four brands had a YouTube presence. This suggests that brands recognised the popularity of YouTube among Australians compared with other SNS or at least Twitter, which was also demonstrated by higher user engagement with brands' YouTube pages than Twitter accounts (85,013 YouTube subscriptions versus 40,350 Twitter followers).

Although a convenience sampling approach in the survey-based study was used, the findings were largely consistent with existing literature in terms of country-specific drinking levels and the relationship between SNS alcohol marketing and alcohol use among young people (Australian Institute of Health and Welfare, 2017; Carrotte et al., 2016; Parasuraman et al., 2009). Furthermore, the investigation of alcohol advertising via SNS is a burgeoning area, with few previous studies to date being sufficiently resourced to utilise the time and resource-intensive techniques required to recruit large-scale representative samples (de Bruijn et al., 2016; McClure et al., 2016). Hence, future studies would require large-scale representative samples to evaluate the reliability of this study. Further, longitudinal work is also required to establish the temporal ordering between exposure and alcohol use.

It is difficult to externally verify self-reported survey information. However, young people are most likely to respond honestly to online surveys compared with traditional paper-and-pencil measures, especially for studies of alcohol and other drugs (Bost, 2005; Davies et al., 2000; Ramo et al., 2012). It was also logically consistent in that the focus of the survey was on exposure to online alcohol promotion. Hence, an online survey method was used in this study. Self-report measures have several other limitations such as response and recall bias (Rosenman, Tennekoon, & Hill, 2011; Short et al., 2009). Although the survey was anonymous, the reliability of the responses to survey items could not be ascertained. There is the potential for socially desirable responding which could increase or decrease reports of alcohol consumption and/or involvement with SNS alcohol-related content. Also, there is possibility that respondents could not correctly recall the number of standard drinks they had

on a typical drinking day. Although the survey was pilot-tested and underwent a test-retest procedure with a small number of respondents to reduce the probability of occurrence of these issues, there still remains the possibility of under-reporting of responses to such items.

7.3 Recommendations

Overall, evidence from this study suggests that young people are commonly exposed to alcohol-related content on SNS, and that this content may reflect deficiencies in the current Australian Code and the absence of an Indian alcohol advertising regulatory Code. In the Indian context, the absence of a regulatory Code for online/SNS alcohol marketing highlights the need to formulate and implement such a Code to prevent exposure of SNS users (especially younger users) to such content and thus potentially minimise alcohol use and associated harms.

As ABAC is a self-regulated Code, and given that self-regulated Codes for alcohol marketing in traditional media are largely ineffective (Noel & Babor, 2017), it is unlikely that the same type of Code would be effective in digital media. Hence, a substantial revision of the current regulatory Code in Australia may be needed to prevent the integration of brand-generated content into users' SNS content, which circumvents the existing Code (Rossen et al., 2017). Furthermore, the existing Code appears to be breached by messages and techniques (e.g., cartoon characters) that appeal to young people.

Another concern is that because of the self-regulated nature of the Code, SNS users have the responsibility of reporting problematic content to regulatory bodies. However, the content is tactically posted by marketers such that by the time the content goes viral into users' online networks, the original content may already have been replaced with new content. Moreover, the content is strategically linked to users' socio-cultural practices and leisure activities and thus they may not even identify it as advertising or regard it as inappropriate and hence do not report it (Brodmerkel & Carah, 2013; Dobson, 2012).

The ABAC was recently expanded wherein somewhat tighter age controls towards content placement in digital media were introduced. For example, in the context of placement rules in digital media (including SNS), the Code advises that “a Marketing Communication may only be placed where the audience is reasonably expected to comprise at least 75% adults (based on reliable, up-to-date audience composition data, if such data is available)” (The Alcohol Beverages Advertising Code, 2017, p. 4). The 75% adult criterion would, in fact, mean no restriction at all on SNS, as SNS would struggle to have more than one-fourth of their audience being in the younger age groups. Overall, the Code needs further strengthening in terms of 1) preventing younger SNS users having access to SNS marketing content (i.e., issues around age-gating to content deemed inappropriate for minors); 2) the type of marketing content (e.g., celebrity endorsement for online alcohol promotion, associating success to alcohol, and real-world tie-ins); and 3) preventing the integration of marketing content into users’ SNS content. This is especially pertinent in relation to addressing younger SNS users’ exposure to such content, and potentially, subsequent alcohol consumption (Rossen et al., 2017). The consultation draft Australian National Alcohol Strategy 2018-2026 recognises the challenges posed by social media and digital marketing by alcohol companies and their likely growth over the period of the strategy (Commonwealth of Australia, 2018).

7.4 Future study suggestions

Further cross-national comparisons across varying SNS are warranted to understand how alcohol companies use social media for content adaptation in populations with diverse socio-cultural practices and alcohol use patterns. Although longitudinal studies can help determine the temporal ordering between engagement with SNS alcohol marketing and alcohol use, there is a possibility that associations identified in longitudinal studies are not unidirectional. For example, it is difficult to establish whether exposure leads to drinking or vice-versa. This warrants the need to employ complex modelling methods and a diverse set of measures to establish a causal relationship between these behaviours in future work.

Previous studies have utilised either quantitative or qualitative methods. However, as discussed in section 1.8, a mixed methods approach allows for methodological triangulation and enhances the validity of findings and increases our understanding of the studied phenomenon. In the present study, the quantitative results complemented and clarified the qualitative findings in the context of the strategies used by alcohol companies on SNS, which (strategies) are deemed more popular among the younger age groups. This highlights the potential value of mixed methods approaches in future studies seeking to better understand digital marketing techniques and their relationship with alcohol use.

As identified in this study, Facebook accrued the highest amount of interaction with both user- and brand-generated content, followed by YouTube and then Twitter. Although the demographic characteristics of users who interacted with SNS could not be established, our survey respondents from both countries reported greater interaction with Facebook SNS pages followed by YouTube. This suggests that Facebook and YouTube are comparatively more popular in these countries among young people than Twitter.

The dynamic nature of the Internet and user engagement with SNS means that continuing research is required to investigate strategies used on relatively new (and popular) SNS such as Instagram, given there is evidence that they are being used by alcohol marketers for brand promotion. Further, the content posted on SNS is dynamic and is tactically posted by marketers such that by the time the content goes viral into users' online networks, the original content may already have been replaced with new content. The ephemeral content on some SNS means that it is becoming increasingly difficult to study trends over time. To overcome this methodological problem, there is a need to use novel approaches, for example, 'follow-back'/ 'go-along interviews', where participants can show their SNS profiles and discuss their everyday online drinking and social networking practices, such as their exposure to peers' alcohol-related content posted on SNS (Purves et al., 2014).

Viewed from a public health lens, we tend to focus more on the negative health impacts of alcohol use, over the social benefits of alcohol use (i.e., social desirability among peers). However, social benefits might also fit under the public health banner via global measures of wellbeing, but our public health lens might prioritise physical health. Therefore, future work is needed to broaden our understanding of these concepts in studying exposure to alcohol-related content on SNS. To harness the tools SNS may offer in the public health arena, integration of observational learning, health behaviour theory, and intervention possibilities may help.

References

Alhabash, S., McAlister, A. R., Quilliam, E. T., Richards, J. I., & Lou, C. (2015). Alcohol's Getting a Bit More Social: When Alcohol Marketing Messages on Facebook Increase Young Adults' Intentions to Imbibe. *Mass Communication and Society*, 18(3), 350-375.
doi:10.1080/15205436.2014.945651

Arora, M., Dahiya, P., Nazar, G., Gupta, H., Singh, D., Sahoo, P., . . . Chatterjee, M. (2013). *Alcohol Marketing and Regulatory Policy Environment in India. A Report*. Retrieved from <http://www.add-resources.org/alcohol-marketing-and-regulatory-policy-environment-in-india.5435861-79090.html>

Arora, M., Tewari, A., Bassi, S., Chauhan, K., Bhasin, S., Bakshi, A.-S., & Andréasson, S. (2017). Exploring perceptions of alcohol use in two Indian states: A qualitative study from Delhi and Haryana, India. *International Journal of Alcohol and Drug Research*, 6(1), 6.
doi:10.7895/ijadr.v6i1.238

Atkinson, A. M., Ross-Houle, K. M., Begley, E., & Sumnall, H. (2017). An exploration of alcohol advertising on social networking sites: an analysis of content, interactions and young people's perspectives. *Addiction Research & Theory*, 25(2), 91-102.
doi:10.1080/16066359.2016.1202241

Atkinson, A. M., Ross, K. M., Begley, E., & Sumnall, H. (2014). *Constructing alcohol identities: the role of Social Network Sites (SNS) in young peoples' drinking cultures*. Retrieved from http://alcoholresearchuk.org/downloads/insights/AlcoholInsight_0119.pdf

Australian Bureau of Statistics. (2014). 4307.0.55.001 - Apparent Consumption of Alcohol, Australia, 2013-14 Commonwealth of Australia. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4307.0.55.001/>

Australian Bureau of Statistics. (2016). 2016 Census QuickStats. Retrieved from http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/0?opendocument&navpos=220

Australian Bureau of Statistics. (2017). Population clock. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/0/1647509ef7e25faaca2568a900154b63?OpenDocument>

Australian Institute of Health and Welfare. (2014). National drug strategy household survey detailed report 2013 (Drug statistics series no. 28. Cat. no. PHE 183). Retrieved from <https://www.aihw.gov.au/getmedia/dc31e56a-24b8-41e2-908d-fd64c1fadc13/16835-12Feb2015.pdf.aspx>

Australian Institute of Health and Welfare. (2017). National Drug Strategy Household Survey (NDSHS) 2016 key findings. Retrieved from <http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources/ndshs-2016/alcohol/>

Babor, T. F., Robaina, K., Noel, J. K., & Ritson, E. B. (2017). Vulnerability to alcohol-related problems: a policy brief with implications for the regulation of alcohol marketing. *Addiction*, 112(S1), 94-101. doi:10.1111/add.13626

Barnes, H. M., McCreanor, T., Goodwin, I., Lyons, A., Griffin, C., & Hutton, F. (2016). Alcohol and social media: drinking and drunkenness while online. *Critical Public Health*, 26(1), 62-76 15p. doi:10.1080/09581596.2015.1058921

Bava, S., & Tapert, S. F. (2010). Adolescent Brain Development and the Risk for Alcohol and Other Drug Problems. *Neuropsychology Review*, 20(4), 398-413. doi:10.1007/s11065-010-9146-6

Bekhet, A. K., & Zauszniewski, J. A. (2012). Methodological triangulation: an approach to understanding data. *Nurse Res*, 20(2), 40-43. doi:10.7748/nr2012.11.20.2.40.c9442

- Benegal, V. (2005). India: alcohol and public health. *Addiction*, 100(8), 1051-1056.
doi:10.1111/j.1360-0443.2005.01176.x
- Bost, M. L. (2005). A Descriptive Study of Barriers to Enrollment in a Collegiate Health Assessment Program. *Journal of Community Health Nursing*, 22(1), 15-22.
doi:https://doi.org/10.1207/s15327655jchn2201_2
- Boyatzis, R. (1998). *Transforming qualitative information: thematic analysis and code development*. London (UK): Sage.
- Boyle, S. C., LaBrie, J. W., Froidevaux, N. M., & Witkovic, Y. D. (2016). Different digital paths to the keg? How exposure to peers' alcohol-related social media content influences drinking among male and female first-year college students. *Addictive Behaviors*, 57(Supplement C), 21-29. doi:<https://doi.org/10.1016/j.addbeh.2016.01.011>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Brodmerkel, S., & Carah, N. (2013). Alcohol brands on Facebook: the challenges of regulating brands on social media. *Journal of Public Affairs*, 13(3), 272-281.
doi:10.1002/pa.1466
- Carah, N. (2014). *Like, Comment, Share Alcohol brand activity on Facebook*. Retrieved from http://alcoholireland.ie/download/reports/alcohol_marketing/Facebook-and-alcohol-advertising-report.pdf
- Carah, N., Brodmerkel, S., & Shaul, M. . (2015). *Breaching the code: Alcohol, Facebook and self-regulation*. Retrieved from https://espace.library.uq.edu.au/data/UQ_360313/UQ360313_OA.pdf?Expires=1514033771&Signature=KbdJnKxby72WviShn4ra0RavqWi2AwU2lsUkv8zRKqXy-bfmflxv~FlhYA0YLuy4p1fQa4KgW9hZ3e4uX4Cje-jgThtRECfPfNu73J5J8WS9jeHjZDhb17tBWloofwtYQQ6O1JjSluGOUIRN~0GCOI51hAATF

V63NRO~VVBZyLexHr0eaO1moBWkpuZZJ95zkikTGk2d5oVJUyuAs3Vs3yEqNy0a63QVM
3zzoEn6EdOETInEfFmqq3cZFUzhCH8mU3I4Rafr2klG8ZqMU52Sb3Bmt-
8pLFAuoE78OHfOzAPm4xXrwNEWfow2LRKAnsmR2IYZS8MDS3s9iBFp1bfZRg__&Key-
Pair-Id=APKAJKNBJ4MJBjNC6NLQ

Carah, N., Meurk, C., Males, M., & Brown, J. (2017). Emerging social media 'platform' approaches to alcohol marketing: a comparative analysis of the activity of the top 20 Australian alcohol brands on Facebook (2012-2014). *Critical Public Health*, 1-11.
doi:10.1080/09581596.2017.1282154

Carrotte, E. R., Dietze, P. M., Wright, C. J., & Lim, M. S. (2016). Who 'likes' alcohol? Young Australians' engagement with alcohol marketing via social media and related alcohol consumption patterns. *Australian and New Zealand Journal of Public Health*, 40(5), 474-479.
doi:10.1111/1753-6405.12572

Casswell, S. (2004). *Alcohol brands in young peoples' everyday lives: New developments in marketing* (Vol. 39).

Chester, J., Montgomery, K. & Dorfman, L. (2010). *Alcohol marketing in the digital age*. Retrieved from <http://www.digitalads.org/documents/BMSG-CDDDigital-Alcohol->

Commonwealth of Australia. (2018). *Consultation Draft National Alcohol Strategy 2018–2026*. (12045).

Cooper, M. L. (1994). *Motivations for alcohol use among adolescents: Development and validation of a four-factor model*. *Psychological Assessment*, 6, 117–128.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. CA: Sage Publications.

Creswell, J. W. (2003). *RESEARCH DESIGN Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Critchlow, N., Moodie, C., Bauld, L., Bonner, A., & Hastings, G. (2017). Awareness of, and participation with, user-created alcohol promotion, and the association with higher-risk drinking in young adults. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 11(2).

Cronin, P., Ryan, F., & Coughlan, M. (2008). Undertaking a literature review: a step-by-step approach. *British Journal of Nursing*, 17(1), 38-43. doi:10.12968/bjon.2008.17.1.28059

Davies, J., McCrae, B. P., Frank, J., Dochnahl, A., Pickering, T., Harrison, B., . . . Wilson, K. (2000). Identifying Male College Students' Perceived Health Needs, Barriers to Seeking Help, and Recommendations to Help Men Adopt Healthier Lifestyles. *Journal of American College Health*, 48(6), 259-267. doi:10.1080/07448480009596267

de Bruijn, A., Engels, R., Anderson, P., Bujalski, M., Gosselt, J., Schreckenber, D., . . . de Leeuw, R. (2016). Exposure to Online Alcohol Marketing and Adolescents' Drinking: A Cross-sectional Study in Four European Countries. *Alcohol and Alcoholism*, 51(5), 615-621. doi:10.1093/alcalc/agw020

Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE handbook of qualitative research*. Thousand Oaks: Sage Publications.

Dobson, C. (2012). *Alcohol Marketing and Young People: Time for a new policy agenda*.

Retrieved from

https://ama.com.au/sites/default/files/documents/alcohol_marketing_young_people.pdf

El-Amir, A., & Burt, S. (2010). A critical account of the process of branding: towards a synthesis. *The Marketing Review*. *The Marketing Review*, 10(1), 69–86.

Fogarty, A. S., & Chapman, S. (2013). What should be done about policy on alcohol pricing and promotions? Australian experts' views of policy priorities: a qualitative interview study. *BMC Public Health*, 13(1), 610. doi:10.1186/1471-2458-13-610

Geusens, F., & Beullens, K. (2017). The reciprocal associations between sharing alcohol references on social networking sites and binge drinking: A longitudinal study among late adolescents. *Computers in Human Behavior*, 73(Supplement C), 499-506.

doi:<https://doi.org/10.1016/j.chb.2017.03.062>

Gordon, R. (2011). Alcohol Marketing and Youth Drinking: a Rejoinder to the Alcohol Industry. *Alcohol & Alcoholism*, 46(4), 369-370. doi:10.1093/alcalc/agr043

Government of Western Australia. (2018). End in sight for alcohol advertising on public transport [Press release]. Retrieved from

<https://www.mediastatements.wa.gov.au/Pages/McGowan/2018/06/End-in-sight-for-alcohol-advertising-on-public-transport.aspx>

Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the national longitudinal alcohol epidemiologic survey. *Journal of Substance Abuse*, 9(Supplement C), 103-110.

doi:[https://doi.org/10.1016/S0899-3289\(97\)90009-2](https://doi.org/10.1016/S0899-3289(97)90009-2)

Grant, B. F., Stinson, F. S., & Harford, T. C. (2001). Age at onset of alcohol use and DSM-IV alcohol abuse and dependence: A 12-year follow-up. *Journal of Substance Abuse*, 13(4), 493-504. doi:[https://doi.org/10.1016/S0899-3289\(01\)00096-7](https://doi.org/10.1016/S0899-3289(01)00096-7)

Greene, J. C., & Caracelli, V. J. (1997). Defining and describing the paradigm issue in mixed-method evaluation. *New Directions for Evaluation*, 1997(74), 5-17.

doi:10.1002/ev.1068

Griffiths, R., & Casswell, S. (2010). Intoxicogenic digital spaces? Youth, social networking sites and alcohol marketing. *Drug & Alcohol Review*, 29(5), 525-530. doi:10.1111/j.1465-3362.2010.00178.x

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2017). A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia. *Drugs: Education, Prevention and Policy*, 1-9. doi:doi.org/10.1080/09687637.2017.14118866

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018a). Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts. *BMC Public Health*, 18, 1-10. doi:10.1186/s12889-018-5035-3

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018b). The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia. *BMC Public Health*, 18:726, 1-11. doi:https://doi.org/10.1186/s12889-018-5645-9

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2016). A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and Alcoholism*, 51(6), 763-771. doi:https://doi.org/10.1093/alcalc/agw050

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2018). How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective. *Critical Public Health*, 28(4), 402-411. doi:http://dx.doi.org/10.1080/09581596.2017.1318203

Gururaj, G., Murthy, P., Girish, N., & Vivek, B. (2011). *Alcohol related harm: Implications for public health and policy in India*. Retrieved from <http://nimhans.ac.in/cam/sites/default/files/Publications/39.pdf>

Hansen, A., & Gunter, B. (2007). CONSTRUCTING PUBLIC AND POLITICAL DISCOURSE ON ALCOHOL ISSUES: TOWARDS A FRAMEWORK FOR ANALYSIS. *Alcohol and Alcoholism*, 42(2), 150-157. doi:10.1093/alcalc/agl114

Hardey, M. (2011). Generation C: Content, Creation, Connections and Choice. *International Journal of Market Research*, 53(6), 749-770. doi:10.2501/ijmr-53-6-749-770

- Hoffman, E. W., Pinkleton, B. E., Weintraub Austin, E., & Reyes-Velázquez, W. (2014). Exploring college students use of general and alcohol-related social media and their associations with alcohol-related behaviors. *Journal of American College Health, 62*(5), 328-335. doi:10.1080/07448481.2014.902837
- Howard, S. J., Gordon, R., & Jones, S. C. (2014). Australian alcohol policy 2001–2013 and implications for public health. *BMC Public Health, 14*, 848. doi:10.1186/1471-2458-14-848
- Huang, G. C., Soto, D., Fujimoto, K., & Valente, T. W. (2014). The Interplay of Friendship Networks and Social Networking Sites: Longitudinal Analysis of Selection and Influence Effects on Adolescent Smoking and Alcohol Use. *American Journal of Public Health, 104*(8), e51-e59. doi:10.2105/AJPH.2014.302038
- IAMAI and Kantar IMRB. (2016). *Internet in India - 2016 An IAMAI & KANTAR IMRB Report*. Retrieved from <http://bestmediainfo.com/wpcontent/uploads/2017/03/Internet-in-India-2016.pdf>
- International Institute for Population Sciences and World Health Organization. (2006). Health system performance assessment. World Health Survey, 2003, India. Geneva: India-WR Office. Retrieved from http://www.who.int/healthinfo/survey/whs_hspa_book.pdf
- Javadi, M., & Zarea, K. (2016). Understanding Thematic Analysis and its Pitfall. *Journal of Client Care, 1*(1), 33-39.
- Jernigan, D., Noel, J., Landon, J., Thornton, N., & Lobstein, T. (2017). Alcohol marketing and youth alcohol consumption: a systematic review of longitudinal studies published since 2008. *Addiction, 112*(S1), 7-20. doi:10.1111/add.13591
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher, 33*(7), 14-26. doi:10.3102/0013189x033007014

Jones, S. C., & Magee, C. A. (2011). Exposure to Alcohol Advertising and Alcohol Consumption among Australian Adolescents. *Alcohol and Alcoholism*, 46(5), 630-637. doi:10.1093/alcalc/agr080

Jones, S. C., Pettigrew, S., Biagioni, N., Daube, M., Chikritzhs, T., Stafford, J., & Tran, J. (2017). Young adults, alcohol and Facebook: a synergistic relationship. *Journal of Social Marketing*, 7(2), 172-187. doi:10.1108/JSOCM-09-2016-0046

Jones, S. C., Robinson, L., Barrie, L., Francis, K., & Lee, J. K. (2016). Association Between Young Australian's Drinking Behaviours and Their Interactions With Alcohol Brands on Facebook: Results of an Online Survey. *Alcohol and Alcoholism*, 51(4), 474-480. doi:10.1093/alcalc/agv113

Kermode, M., Sono, C. Z., Songput, C. H., & Devine, A. (2013). Falling through the cracks: a qualitative study of HIV risks among women who use drugs and alcohol in Northeast India. *BMC International Health and Human Rights*, 13(1), 9. doi:10.1186/1472-698x-13-9

Kmet, L., Lee, R., & Cook, L. (2004). Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields. *The Alberta Heritage Foundation for Medical Research*. Retrieved from <http://www.ahfmr.ab.ca/frames3.html>

Kuntsche, E., von Fischer, M., & Gmel, G. (2008). *Personality factors and alcohol use: A mediator analysis of drinking motives*. *Personality and Individual Differences*, 45, 796–800.

Lam, T., Lenton, S., Ogeil, R., Burns, L., Aiken, A., Chikritzhs, T., . . . Allsop, S. (2017). Most recent risky drinking session with Australian teenagers. *Australian and New Zealand Journal of Public Health*, 41(1), 105-110. doi:10.1111/1753-6405.12598

Lenhart, A., & Madden, M. (2007). *Pew internet and American life project. Social Networking Sites and Teens: An Overview*. Retrieved from http://www.pewinternet.org/files/old-media/Files/Reports/2007/PIP_SNS_Data_Memo_Jan_2007.pdf.pdf

Leyshon, M. (2011). *New Media, New Problem? Alcohol, Young People and the Internet*. London, England: Alcohol Concern.

Lim, M. S. C., Hare, J. D., Carrotte, E. R., & Dietze, P. M. (2016). An investigation of strategies used in alcohol brand marketing and alcohol-related health promotion on Facebook. *DIGITAL HEALTH*, 2, 1-7. doi:10.1177/2055207616647305

Lyons, A. C., Goodwin, I., McCreanor, T., & Griffin, C. (2015). Social Networking and Young Adults' Drinking Practices: Innovative Qualitative Methods for Health Behavior Research. *Health Psychology*, 34(4), 293-302.

Mart, S., Mergendoller, J., & Simon, M. (2009). Alcohol Promotion on Facebook. *Journal of Global Drug Policy and Practice*, 3(3).

Mart, S. M. (2011). Alcohol marketing in the 21st century: new methods, old problems. *Substance Use & Misuse*, 46(7), 889-892.

doi:<http://dx.doi.org/10.3109/10826084.2011.570622>

McClure, A. C., Tanski, S. E., Li, Z., Jackson, K., Morgenstern, M., Li, Z., & Sargent, J. D. (2016). Internet Alcohol Marketing and Underage Alcohol Use. *Pediatrics*, 137(2), e20152149-e20152149. doi:10.1542/peds.2015-2149

McCreanor, T., Barnes, H. M., Kaiwai, H., Borell, S., & Gregory, A. (2008). Creating intoxicogenic environments: marketing alcohol to young people in Aotearoa New Zealand. *Social Science & Medicine*, 67(6), 938-946.

doi:<http://dx.doi.org/10.1016/j.socscimed.2008.05.027>

McCreanor, T., Lyons, A. C., Griffin, C., Goodwin, I., Moewaka Barnes, H., & Hutton, F. (2013). Youth drinking cultures, social networking and alcohol marketing: Implications for public health. *Critical Public Health*, 23(1), 110-120.

doi:<http://dx.doi.org/10.1080/09581596.2012.748883>

Mohr, C. D., Armeli, S., Tennen, H., Temple, M., Todd, M., Clark, J., & Carney, M. A. (2005). *Moving beyond the keg party: A daily process study of college student drinking motivations*. *Psychology of Addictive Behaviors*, 19, 392–403.

Moreno, M. A., Cox, E. D., Young, H. N., & Haaland, W. (2015). Underage College Students' Alcohol Displays on Facebook and Real-Time Alcohol Behaviors. *Journal of Adolescent Health*, 56(6), 646-651. doi:<https://doi.org/10.1016/j.jadohealth.2015.02.020>

Mosher, J. F. (2012). Joe Camel in a Bottle: Diageo, the Smirnoff Brand, and the Transformation of the Youth Alcohol Market. *American Journal of Public Health*, 102(1), 56-63. doi:10.2105/AJPH.2011.300387

Murthy, P. (2015). Culture and alcohol use in India. *World Association of Cultural Psychiatry*, 27-39.

National Health and Medical Research Council. (2009). *Australian guidelines to reduce health risks from drinking alcohol*. Retrieved from <https://www.nhmrc.gov.au/health-topics/alcohol-guidelines>

Nesi, J., Rothenberg, W. A., Hussong, A. M., & Jackson, K. M. (2017). Friends' Alcohol-Related Social Networking Site Activity Predicts Escalations in Adolescent Drinking: Mediation by Peer Norms. *Journal of Adolescent Health*, 60(6), 641-647. doi:10.1016/j.jadohealth.2017.01.009

Nicholls, J. (2012). Everyday, everywhere: Alcohol marketing and social media-current trends. *Alcohol and Alcoholism*, 47(4), 486-493. doi:10.1093/alcalc/ags043

Niland, P., Lyons, A. C., Goodwin, I., & Hutton, F. (2014). 'See it doesn't look pretty does it?' Young adults' airbrushed drinking practices on Facebook. *Psychology & Health*, 29(8), 877-895. doi:10.1080/08870446.2014.893345

Niland, P., McCreanor, T., Lyons, A. C., & Griffin, C. (2017). Alcohol marketing on social media: young adults engage with alcohol marketing on facebook. *Addiction Research & Theory*, 25(4), 273-284. doi:10.1080/16066359.2016.1245293

Noel, J. K., & Babor, T. F. (2017). Does industry self-regulation protect young people from exposure to alcohol marketing? A review of compliance and complaint studies. *Addiction*, 112(S1), 51-56. doi:doi:10.1111/add.13432

Office of the Registrar General & Census Commissioner Government of India. (2011a). C-1 Population By Religious Community. Retrieved from <http://www.censusindia.gov.in/2011census/C-01.html>

Office of the Registrar General & Census Commissioner Government of India. (2011b). C-13 SINGLE YEAR AGE RETURNS BY RESIDENCE AND SEX. Retrieved from <http://www.censusindia.gov.in/2011census/C-series/C-13.html>

Ogeil, R. P., Gao, C. X., Rehm, J. r., Gmel, G., & Lloyd, B. (2016). Temporal changes in alcohol-related mortality and morbidity in Australia. *Addiction*, 111(4), 626-634. doi:0.1111/add.13213

Parasuraman, S., Kishor, S., Singh, S. K., & Vaidehi, Y. (2009). *A Profile of Youth in India*. Retrieved from http://www.rchiips.org/NFHS/youth_report_for_website_18sep09.pdf

Perpitch, N. (2017). Explainer: What is a floor price on alcohol and what would it achieve? *ABC News*. Retrieved from <http://www.abc.net.au/news/2017-09-20/will-a-minimum-alcohol-price-make-any-difference/8964158>

Press Council of India. (2002). Press Release: Press Council norm advises Press to refrain from carrying advertisements of tobacco products and other intoxicants [Press release]. Retrieved from http://presscouncil.nic.in/press_Releases/pr2.htm

Pumper, M. A., & Moreno, M. A. (2013). Identifying High-Risk Alcohol Users in First-Year College Students: Attitude, Intention, and Facebook. *Journal of Alcohol Drug Dependence*, 1(5), 1-5. doi:10.4172/2329-6488.1000128

Purves, R. I., Stead, M., & Eadie, D. (2014). *What are you meant to do when you see it everywhere?" Young people, alcohol packaging and digital media*. Retrieved from http://alcoholresearchuk.org/downloads/finalReports/FinalReport_0120.pdf

Ramo, D. E., Liu, H., & Prochaska, J. J. (2012). Reliability and validity of young adults' anonymous online reports of marijuana use and thoughts about use. *Psychology of addictive behaviors : journal of the Society of Psychologists in Addictive Behaviors*, 26(4), 801-811. doi:10.1037/a0026201

Rathod, S. D., Nadkarni, A., Bhana, A., & Shidhaye, R. (2015). Epidemiological features of alcohol use in rural India: a population-based cross-sectional study. *BMJ Open*, 5(12). doi:10.1136/bmjopen-2015-009802

Rhoades, E., & Jernigan, D. H. (2013). Risky Messages in Alcohol Advertising, 2003–2007: Results From Content Analysis. *Journal of Adolescent Health*, 52(1), 116-121. doi:<http://dx.doi.org/10.1016/j.jadohealth.2012.04.013>

Ridout, B., Campbell, A., & Ellis, L. (2012). 'Off your Face(book)': Alcohol in online social identity construction and its relation to problem drinking in university students. *Drug and Alcohol Review*, 31(1), 20-26. doi:10.1111/j.1465-3362.2010.00277.x

Roche, A. M., Bywood, P., Freeman, T., Pidd, K., Borlagdan, J., & Trifonoff, A. (2009). The Social Context of Alcohol Use in Australia. *National Centre for Education and Training on Addiction*.

Rosenman, R., Tennekoon, V., & Hill, L. G. (2011). Measuring bias in self-reported data. *International journal of behavioural & healthcare research*, 2(4), 320-332. doi:10.1504/IJBHR.2011.043414

Rossen, I., Pettigrew, S., Jongenelis, M., Stafford, J., Wakefield, M., & Chikritzhs, T. (2017). Evidence on the nature and extent of alcohol promotion and the consequences for young people's alcohol consumption. *WA Cancer Prevention Research Unit, Curtin University School of Psychology and Speech Pathology*.

Sensis Social Media Report. (2016). *How Australian people and businesses are using social media*. Retrieved from

https://www.sensis.com.au/asset/PDFdirectory/Sensis_Social_Media_Report_2016.PDF

Sharma, H. K., Tripathi, B. M., & Pelto, P. J. (2010). The Evolution of Alcohol Use in India. *AIDS and Behavior, 14*(Suppl 1), 8-17. doi:<https://doi.org/10.1007/s10461-010-9727-7>

Short, M. E., Goetzel, R. Z., Pei, X., Tabrizi, M. J., Ozminkowski, R. J., Gibson, T. B., . . .

Wilson, M. G. (2009). How Accurate are Self-Reports? An Analysis of Self-Reported Healthcare Utilization and Absence When Compared to Administrative Data. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine, 51*(7), 786-796. doi:10.1097/JOM.0b013e3181a86671

Singh, G., & Lal, B. (1979). Alcohol in India: a review of cultural traditions and drinking practices. *Indian Journal of Psychiatry, 21*(21), 39–45.

Speziale, H., Streubert, H., & Carpenter, D. (2011). *Qualitative research in nursing: Advancing the humanistic imperative*. China: Lippincott Williams & Wilkins.

Spies Shapiro, L. A., & Margolin, G. (2014). Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical Child and Family Psychology Review, 17*, 1-18. doi:10.1007/s10567-013-0135-1

Statista. (2016a). Number of Facebook users in Australia from 2015 to 2022 (in millions). doi:<https://www.statista.com/statistics/304862/number-of-facebook-users-in-australia/>

- Statista. (2016b). Number of Facebook users in India from 2015 to 2022 (in millions). Retrieved from <http://www.statista.com/statistics/304827/number-of-facebook-users-in-india/>
- Tashakkori, A., & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches* (Vol. 46). Thousand Oaks, CA: Sage Publications.
- The Advertising Standards Council of India. (2013). *The code for self-regulation in advertising*. Retrieved from http://www.ascionline.org/images/pdf/asci_code1new.pdf
- The Alcohol Beverages Advertising Code. (2013). *ABAC Responsible Alcohol Marketing Code*. Retrieved from <http://www.abac.org.au/wp-content/uploads/2014/06/ABAC-Responsible-Alcohol-Marketing-Code-30-4-14.pdf>
- The Alcohol Beverages Advertising Code. (2017). *ABAC Responsible Alcohol Marketing Code*. Retrieved from http://www.abac.org.au/wp-content/uploads/2017/07/ABAC_CodeofConduct_2017_web.pdf
- The Foundation for Alcohol Research and Education. (2017). *The Price is Right: Setting a Minimum Unit Price on Alcohol in the Northern Territory. FARE: Canberra.*
- The Ministry of Information and Broadcasting Government of India. (2009). *Cable Television Networks (Amendment) Rules, 2009*. Retrieved from <http://www.rctfi.org/notification/29.pdf>
- The Royal Australasian College of Physicians and The Royal Australian and New Zealand College of Psychiatrists. (2016). *Alcohol Policy*. Retrieved from <https://www.racp.edu.au/docs/default-source/advocacy-library/pa-racp-ranzcp-alcohol-policy.pdf>
- Valkenburg, P. M., Peter, J., & Walther, J. B. (2016). Media Effects: Theory and Research. *Annual Review of Psychology*, 67(1), 315-338. doi:10.1146/annurev-psych-122414-03360

Van Bellegham, S. (2011). *How Diageo's digital strategy came to life. The Conversation Manager*. Retrieved from <http://www.theconversationmanager.com/2011/06/14/how-diageos-digital-strategycame-tolife/http://www.webcitation.org/64Ywf8u12>

Weaver, E. R. N., Wright, C. J. C., Dietze, P. M., & Lim, M. S. C. (2016). 'A Drink That Makes You Feel Happier, Relaxed and Loving': Young People's Perceptions of Alcohol Advertising on Facebook. *Alcohol and Alcoholism*, 51(4), 481-486.

doi:10.1093/alcalc/agt134

Westgate, E. C., & Holliday, J. (2016). Identity, influence, and intervention: The roles of social media in alcohol use. *Current Opinion in Psychology*, 9, 27-32.

doi:10.1016/j.copsyc.2015.10.014

Westgate, E. C., Neighbors, C., Heppner, H., Jahn, S., & Lindgren, K. P. (2014). "I Will Take a Shot for Every 'Like' I Get on This Status": Posting Alcohol-Related Facebook Content Is Linked to Drinking Outcomes. *Journal of Studies on Alcohol and Drugs*, 75(3), 390-398.

Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4002853/>

Winpenny, E. M., Marteau, T. M., & Nolte, E. (2014). Exposure of Children and Adolescents to Alcohol Marketing on Social Media Websites. *Alcohol and Alcoholism*, 49(2), 154-159.

doi:10.1093/alcalc/agt174

World Health Organization. (2014). *Global Status Report on Alcohol and Health*. Retrieved from http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf

Zulli, C., Federico, A., Gaeta, L., Del Prete, A., Iadevaia, M., Gravina, A., . . . Loguercio, C. (2014). A facebook survey to obtain alcohol-related information by young people and adolescents. An Italian study. *Acta Gastro-Enterologica Belgica*, 77(1), 18-24.

Note: Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

Appendices

Appendix 1: The statement of primary contribution of the first author



To Whom It May Concern

I, Himanshu Gupta, am the primary contributor to the conception, design, execution, processing, analysis, and manuscript writing of the following publications:

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2016). A systematic review of the impact of exposure to internet-based alcohol-related content on young people's alcohol use behaviours. *Alcohol and Alcoholism*, 51(6), 763-771. <https://doi.org/10.1093/alcalc/agw050>.

Gupta, H., Pettigrew, S., Lam, T., & Tait, R. J. (2018). How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective. *Critical Public Health*, 28(4), 402-411. <http://dx.doi.org/10.1080/09581596.2017.1318203>

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2017). A cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia. *Drugs: Education, Prevention and Policy*, 1-9. <https://doi.org/10.1080/09687637.2017.1411886>

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018). Alcohol marketing on YouTube: Exploratory analysis of content adaptation to enhance user engagement in different national contexts. *BMC Public Health*, 18:141, 1-10. doi:10.1186/s12889-018-5035-3

Gupta, H., Lam, T., Pettigrew, S., & Tait, R. J. (2018). The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia. *BMC Public Health*, 18:726, 1-11. doi: <https://doi.org/10.1186/s12889-018-5645-9>

A handwritten signature in blue ink that reads "Himanshu".

Himanshu Gupta

I, as Co-Author, endorse that this level of contribution by the candidate indicated above is appropriate.

Simone Pettigrew
[Full name of Co-Author 1]

A handwritten signature in black ink that reads "Simone".

[Signature of Co-Author 1]

Tina Lam
[Full name of Co-Author 2]

A handwritten signature in black ink that reads "Tina".

[Signature of Co-Author 2]

Robert J Tait
[Full name of Co-Author 3]

A handwritten signature in black ink that reads "Robert".

[Signature of Co-Author 3]

Appendix 2: Permission to reproduce the material

2.1 Systematic review paper (Chapter 1)

OXFORD UNIVERSITY PRESS LICENSE TERMS AND CONDITIONS

Oct 30, 2017

This Agreement between Mr. Himanshu Gupta ("You") and Oxford University Press ("Oxford University Press") consists of your license details and the terms and conditions provided by Oxford University Press and Copyright Clearance Center.

License Number	4215130035405
License date	Oct 23, 2017
Licensed content publisher	Oxford University Press
Licensed content publication	Alcohol and Alcoholism
Licensed content title	A Systematic Review of the Impact of Exposure to Internet-Based Alcohol-Related Content on Young People's Alcohol Use Behaviours
Licensed content author	Gupta, Himanshu; Pettigrew, Simone
Licensed content date	Oct 26, 2016
Type of Use	Thesis/Dissertation
Institution name	
Title of your work	THE INFLUENCE OF SOCIAL MEDIA ON YOUNG PEOPLE'S ALCOHOL CONSUMPTION BEHAVIOURS: A COMPARISON OF FACTORS BETWEEN AUSTRALIA AND INDIA
Publisher of your work	n/a
Expected publication date	May 2018
Permissions cost	0.00 USD
Value added tax	0.00 USD
Total	0.00 USD
Requestor Location	Mr. Himanshu Gupta 2/413 Canning Hwy Como Perth, 6152 Australia Attn: Mr. Himanshu Gupta
Publisher Tax ID	GB125506730
Billing Type	Invoice
Billing Address	Mr. Himanshu Gupta 2/413 Canning Hwy

Como
Perth, Australia 6152
Attn: Mr. Himanshu Gupta

Total 0.00 USD

Terms and Conditions

STANDARD TERMS AND CONDITIONS FOR REPRODUCTION OF MATERIAL FROM AN OXFORD UNIVERSITY PRESS JOURNAL

1. Use of the material is restricted to the type of use specified in your order details.
2. This permission covers the use of the material in the English language in the following territory: world. If you have requested additional permission to translate this material, the terms and conditions of this reuse will be set out in clause 12.
3. This permission is limited to the particular use authorized in (1) above and does not allow you to sanction its use elsewhere in any other format other than specified above, nor does it apply to quotations, images, artistic works etc that have been reproduced from other sources which may be part of the material to be used.
4. No alteration, omission or addition is made to the material without our written consent. Permission must be re-cleared with Oxford University Press if/when you decide to reprint.
5. The following credit line appears wherever the material is used: author, title, journal, year, volume, issue number, pagination, by permission of Oxford University Press or the sponsoring society if the journal is a society journal. Where a journal is being published on behalf of a learned society, the details of that society must be included in the credit line.
6. For the reproduction of a full article from an Oxford University Press journal for whatever purpose, the corresponding author of the material concerned should be informed of the proposed use. Contact details for the corresponding authors of all Oxford University Press journal contact can be found alongside either the abstract or full text of the article concerned, accessible from www.oxfordjournals.org Should there be a problem clearing these rights, please contact journals.permissions@oup.com
7. If the credit line or acknowledgement in our publication indicates that any of the figures, images or photos was reproduced, drawn or modified from an earlier source it will be necessary for you to clear this permission with the original publisher as well. If this permission has not been obtained, please note that this material cannot be included in your publication/photocopies.
8. While you may exercise the rights licensed immediately upon issuance of the license at the end of the licensing process for the transaction, provided that you have disclosed complete and accurate details of your proposed use, no license is finally effective unless and until full payment is received from you (either by Oxford University Press or by Copyright Clearance Center (CCC)) as provided in CCC's Billing and Payment terms and conditions. If full payment is not received on a timely basis, then any license preliminarily granted shall be deemed automatically revoked and shall be void as if never granted. Further, in the event that you breach any of these terms and conditions or any of CCC's Billing and Payment terms and conditions, the license is automatically revoked and shall be void as if never granted. Use of materials as described in a revoked license, as well as any use of the materials beyond the scope of an unrevoked license, may constitute

copyright infringement and Oxford University Press reserves the right to take any and all action to protect its copyright in the materials.

9. This license is personal to you and may not be sublicensed, assigned or transferred by you to any other person without Oxford University Press's written permission.

10. Oxford University Press reserves all rights not specifically granted in the combination of (i) the license details provided by you and accepted in the course of this licensing transaction, (ii) these terms and conditions and (iii) CCC's Billing and Payment terms and conditions.

11. You hereby indemnify and agree to hold harmless Oxford University Press and CCC, and their respective officers, directors, employees and agents, from and against any and all claims arising out of your use of the licensed material other than as specifically authorized pursuant to this license.

12. Other Terms and Conditions:

v1.4

2.2 Facebook Paper (Chapter 3)



Our Ref: KA/CCPH/P17/1668

27 October 2017

Dear Himanshu Gupta,

Material requested: Himanshu Gupta, Simone Pettigrew, Tina Lam & Robert J. Tait (2017): How alcohol marketing engages users with alcohol brand content on Facebook: an Indian and Australian perspective, Critical Public Health.

Thank you for your correspondence requesting permission to reproduce the above mentioned material from our Journal in your printed thesis to be posted in the university's repository – Curtin University.

We will be pleased to grant permission on the sole condition that you acknowledge the original source of publication and insert a reference to the article on the Journals website: <http://www.tandfonline.com>

This is the authors accepted manuscript of an article published as the version of record in Critical Public Health © 21 Apr 2017 <http://tandfonline.com/10.1080/09581596.2017.1318203>

This permission does not cover any third party copyrighted work which may appear in the material requested.

Please note that this license does not allow you to post our content on any third party websites or repositories.

Thank you for your interest in our Journal.

Yours sincerely

Kendyl

Kendyl Anderson – Permissions Administrator, Journals

Taylor & Francis Group

3 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN, UK.

Tel: +44 (0)20 7017 7617

Fax:+44 (0)20 7017 6336

Web: www.tandfonline.com

e-mail: kendyl.anderson@tandf.co.uk



Taylor & Francis is a trading name of Informa UK Limited,

registered in England under no. 1072954

2.3 Twitter Paper (Chapter 4)



Our Ref: KA/IDEP/P17/1931

13 December 2017

Dear Himanshu Gupta,

Material requested: Himanshu Gupta, Tina Lam, Simone Pettigrew & Robert J. Tait (2017): A

cross-national comparison of the Twitter feeds of popular alcohol brands in India and Australia,

Drugs: Education, Prevention and Policy.

Thank you for your correspondence requesting permission to reproduce the above mentioned material from our Journal in your printed thesis to be posted in the university's repository – Curtin University

We will be pleased to grant permission on the sole condition that you acknowledge the original source of publication and insert a reference to the article on the Journals website: <http://www.tandfonline.com>

This is an **Author's Original Manuscript** of an article published by Taylor & Francis Group in Drugs: Education, Prevention and Policy © 12 Dec 2017 - <http://tandfonline.com/10.1080/09687637.2017.1411886>

Please note we are unable to grant you permission to include the final published version within the 12 month embargo period.

This permission does not cover any third party copyrighted work which may appear in the material requested.

Please note that this license does not allow you to post our content on any third party websites or repositories.

Thank you for your interest in our Journal.

Yours sincerely

Kendyl

Kendyl Anderson – Permissions Administrator, Journals

Taylor & Francis Group

3 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN, UK.

Tel: +44 (0)20 7017 7617

Fax:+44 (0)20 7017 6336

Web: www.tandfonline.com

e-mail: kendyl.anderson@tandf.co.uk



Taylor & Francis is a trading name of Informa UK Limited,

registered in England under no. 1072954

2.4 YouTube Paper (Chapter 5)

As BMC Public Health is an open access Journal, it gives the authors the copyright of the published paper. This precluded the need to obtain permission to reproduce the published material.

2.5 Survey Paper (Chapter 6)

As BMC Public Health is an open access Journal, it gives the authors the copyright of the published paper. This precluded the need to obtain permission to reproduce the published material.

Appendix 3: Ethics approval letter and amendments

MEMORANDUM

To:	Dr Robert Tait National Drug Research Institute (NDRI)
CC:	Himanshu Gupta
From:	Dr Catherine Gangell, Manager Research Integrity
Subject	Ethics approval Approval number: RDHS-239-15
Date:	16-Oct-15



Office of Research and
Development
Human Research Ethics Office
TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for your application submitted to the Human Research Ethics Office for the project: 6472
The influence of social media on young people's alcohol consumption behaviors: A comparison of factors
between Australia and India: Qualitative Analysis of Public Information

Your application has been approved through the low risk ethics approvals process at Curtin University.

Please note the following conditions of approval:

1. Approval is granted for a period of four years from **16-Oct-15** to **16-Oct-19**
2. Research must be conducted as stated in the approved protocol.
3. Any amendments to the approved protocol must be approved by the Ethics Office.
4. An annual progress report must be submitted to the Ethics Office annually, on the anniversary of approval.
5. All adverse events must be reported to the Ethics Office.
6. A completion report must be submitted to the Ethics Office on completion of the project.
7. Data must be stored in accordance with WAUSDA and Curtin University policy.
8. The Ethics Office may conduct a randomly identified audit of a proportion of research projects approved by the HREC.

Should you have any queries about the consideration of your project please contact the Ethics Support Officer for your faculty, or the Ethics Office at hrec@curtin.edu.au or on 9266 2784. All human research ethics forms and guidelines are available on the ethics website.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

MEMORANDUM



To:	Dr Robert Tait National Drug Research Institute (NDRI)
CC:	Himanshu Gupta
From:	Dr Catherine Gangell, Manager, Research Integrity
Subject	Amendment approval Approval number: RDHS-239-15
Date:	16-Feb-16

Office of Research and Development
Human Research Ethics Office
TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for submitting an amendment to the Human Research Ethics Office for the project:
RDHS-239-15 The influence of social media on young people's alcohol consumption behaviors:
A comparison of factors between Australia and India: Qualitative Analysis of Public Information

The Human Research Ethics Office approves the amendment to the project.

Amendment number: RDHS-239-15/AR01
Approval date: 16-Feb-16

The following amendments were approved:

Inclusion of an online survey method.

Change of title from 'The influence of social media on young people's alcohol consumption behaviors: A comparison of factors between Australia and India: Qualitative Analysis of Public Information' to 'The influence of social media on young people's alcohol consumption behaviors: A comparison of factors between Australia and India'

Please ensure that all data are stored in accordance with WAUSDA and Curtin University Policy.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

MEMORANDUM



To:	Dr Robert Tait National Drug Research Institute (NDRI)
CC:	Himanshu Gupta
From:	Dr Catherine Gangell, Manager, Research Integrity
Subject	Amendment approval Approval number: RDHS-239-15
Date:	17-Mar-16

Office of Research and Development
Human Research Ethics Office
TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for submitting an amendment to the Human Research Ethics Office for the project:
RDHS-239-15 The influence of social media on young people's alcohol consumption behaviors:
A comparison of factors between Australia and India: Qualitative Analysis of Public Information

The Human Research Ethics Office approves the amendment to the project.

Amendment number: RDHS-239-15/AR02
Approval date: 17-Mar-16

The following amendments were approved:

Revision of the Participant Information and Consent form.

Please ensure that all data are stored in accordance with WAUSDA and Curtin University Policy.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

MEMORANDUM



To:	Dr Robert Tait National Drug Research Institute (NDRI)
CC:	Himanshu Gupta
From:	Dr Catherine Gangell, Manager, Research Integrity
Subject	Amendment approval Approval number: RDHS-239-15
Date:	07-Apr-16

Office of Research and
Development
Human Research Ethics Office
TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for submitting an amendment to the Human Research Ethics Office for the project:
RDHS-239-15 The influence of social media on young people's alcohol consumption behaviors:
A comparison of factors between Australia and India

The Human Research Ethics Office approves the amendment to the project.

Amendment number: RDHS-239-15/AR03
Approval date: 07-Apr-16

The following amendments were approved:

Provision of online advert and recruitment flyer.

Please ensure that all data are stored in accordance with WAUSDA and Curtin University Policy.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

Appendix 4: Participation Information Sheet and Survey

4.1 Survey for those based in Australia

ALCOHOL ADVERTISING ON SOCIAL MEDIA AND YOUNG PEOPLE

Participant Information Statement

Thank you for thinking about completing this survey!

This survey:

- Is being run by Himanshu Gupta at Curtin University towards a Doctor of Philosophy (PhD) degree
- Is about exploring the influence of Facebook/YouTube/Twitter on young people's alcohol consumption behaviours in India and Australia
- Is looking for people who:-
 - are aged 13-25 years old
 - have lived in Australia for at least 12 months
 - understand written English
 - drink alcohol, or
 - don't drink alcohol
- Will ask you about yourself, your awareness about alcohol advertisements and promotions on Facebook/YouTube/Twitter and your alcohol drinking habits
- Should take about 15 minutes
- Is anonymous, so we do not ask for your name, address, or other information that will tell us who you are.
- The results of this study will be presented in group form (such as by age and gender)
- Is voluntary - you do not have to answer any questions you do not wish to, and you are free to stop the survey at any time
- Has been approved by the Curtin University Human Research Ethics Committee (approval RDHS-239-15). If you have any ethical concerns about the conduct of the

research, you can contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or by emailing hrec@curtin.edu.au.

- Any information you provide will be kept safely and securely. Answers can only be accessed by our university research staff
- For more information, email the researchers at robert.tait@curtin.edu.au or himanshu.gupta@postgrad.curtin.edu.au or call Dr Robert Tait at the National Drug Research Institute, Curtin University, on +61 8 9266 1610

When you do this survey, it is important to be honest – we are interested in what you really think!

CONSENT TO PARTICIPATE

- I have received information regarding this study and had an opportunity to ask questions. I believe I understand the purpose, extent and possible risks of my involvement in this study and I voluntarily consent to take part. (Please “tick the click button” on the left to indicate your voluntary participation in the study). (1)

Demographic Information

Q1 How old are you? (age in completed years)

Q2 What is your gender?

- Male (1)
- Female (2)

Q3 What is your nationality?

- Australian (1)
- Other (3) _____

Q4 Where did you spend the majority of your time in the last 12 months?

- Australia (1)
- Other (3) _____

Q5 Please write the postcode of the place you are currently living in.

Q6 Which level of education have you completed?

- Primary school (up to year 5) (1)
- Secondary school (year 6 – year 10) (2)
- Senior secondary school (year 11 – year 12) (3)
- University (4)

Q7 Which of the following devices do you use? (Mark ALL that apply)

- Basic mobile phone (1)
- Smart phone (2)
- Tablets (3)
- Personal computer (Desktop) (4)
- Laptop (5)

Q8 Do you have an Internet connection at home?

- Yes (1)
- No (2)

Information on Alcohol Consumption Patterns

Q9 Have you ever tried alcohol?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To How much time do you spend on interne...

Q10 Have you ever had a full serve of alcohol, not a just a sip or taste, but finishing a full drink on your own (e.g. a glass of wine, a glass of beer, etc.)

- Yes (1)
- No (2)

Answer If Have you ever had a full serve of alcohol? (e.g. a glass of wine, a glass of beer, etc.) Yes Is Selected

Q11 About what age were you when you had your first full serve of alcohol?

Q12 Have you had an alcoholic drink of any kind in the last 12 months?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To What type of alcohol do you usually d...

Q13 Have you had an alcoholic drink of any kind in the last 4 weeks?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To What type of alcohol do you usually d...

Q14 Have you had an alcoholic drink of any kind in the last 7 days?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To What type of alcohol do you usually d...

Q15 What type of alcohol do you usually drink? (Mark ALL that apply)

- Cask Wine (1)
- Bottled Wine (2)
- Regular strength beer (greater than 4% Alc/Vol) (3)
- Mid strength beer (3 to 3.9% Alc/Vol) (4)
- Low alcohol beer (1 to 2.9% Alc/Vol) (5)
- Home-brewed beer (6)
- Pre-mixed spirits in a can (e.g. UDL, Jim Beam & Cola, Woodstock) (7)
- Bottled spirits and liqueurs (e.g. scotch, brandy, vodka, rum, Kahlua, Midori, Baileys, etc.) (8)
- Pre-mixed spirits in a bottle (e.g. Bacardi Breezer, Vodka Cruiser, Smirnoff Ice) (9)
- Cider (10)
- Fortified wine, port, vermouth, sherry, etc. (11)
- Other pre-mixed drinks (e.g. beer and wine based) (12)
- Other (13) _____

Q16 On a day that you have an alcoholic drink, how many standard drinks do you usually have?

(A standard drink is any drink that contains 10 grams of alcohol)



- 20 or more drinks (1)
- 16 – 19 drinks (2)
- 13 – 15 drinks (3)
- 11 – 12 drinks (4)
- 9 – 10 drinks (5)
- 7 – 8 drinks (6)
- 5 – 6 drinks (7)
- 3 – 4 drinks (8)
- 2 drinks (9)
- 1 drink (10)
- Half a drink (11)

Q17 How many standard alcoholic drinks did you drink in the last 12 months? (Mark ONE response only against each given day)

	Everyday (1)	5-6 days a week (2)	3-4 days a week (3)	1-2 days a week (4)	2-3 days a month (5)	About 1 day a month (6)	Less often (7)	Never (8)
20 or more standard drinks a day (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 – 19 standard drinks a day (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 – 10 standard drinks a day (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 – 6 standard drinks a day (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 – 4 standard drinks a day (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1 – 2 standard drinks a day (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less than 1 standard drink per day (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information on Perceived Exposure to Alcohol Marketing on Social Networking Sites

Q18 How much time do you spend on the Internet every day?

- No Time (1)
- Less than 1 hour (2)
- 1 to 2 hours (3)
- 3 to 4 hours (4)
- 5 to 8 hours (5)
- More than 8 hours (6)

Q19 How often do you notice alcohol advertising (such as alcohol brand logos, banners, sports/music information, comedy videos, competitions, demonstration of cocktail recipes, fashion events, and so forth) occurring on the following social networking sites?

	Facebook (1)	YouTube (2)	Twitter (3)
Very Often (at least once a day) (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely (once a month or less often) (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q20 How do you see trends in alcohol advertising and other alcohol-related marketing efforts within the following social networking sites in the last 12 months?

	Facebook (1)	YouTube (2)	Twitter (3)
Increased (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unchanged, no difference (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decreased (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q21 How often do you notice alcohol brand logos being used on the following items?

	Very Often (1)	Often (2)	Sometimes (3)	Rarely (4)	Never (5)
Clothing (1)	<input type="radio"/>				
Caps/ Hats (2)	<input type="radio"/>				
Water Bottles (3)	<input type="radio"/>				
Soda Bottles (4)	<input type="radio"/>				
Music CDs (5)	<input type="radio"/>				
Other (6)	<input type="radio"/>				

Q22 Have you attended any of these events or parties sponsored by alcohol companies via advertising on Facebook/YouTube/Twitter?

	Yes (1)	No (2)
Social events (1)	<input type="radio"/>	<input type="radio"/>
Music events (2)	<input type="radio"/>	<input type="radio"/>
Sports events (3)	<input type="radio"/>	<input type="radio"/>
Any other entertainment events (4)	<input type="radio"/>	<input type="radio"/>

Q23 Have you ever received any promotional items (such as a hat) from an alcohol brand that you have seen advertised on Facebook/YouTube/Twitter?

- Yes (1)
- No (2)

Q24 How often do you get suggestions on the following social networking sites to like or to follow pages or to participate in events with alcohol-related content?

	Facebook (1)	YouTube (2)	Twitter (3)
Less than once a week (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weekly (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Every Fortnight (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information on Perceived Influence of Alcohol Marketing Strategies on Choice to Buy Alcohol on Social Networking Sites

Q25 Within the last twelve months, did you buy an alcohol brand as a result of seeing alcohol adverts on Facebook/YouTube/Twitter?

- Yes, several times (1)
- Yes, once (2)
- No (3)

Q26 How do alcohol advertising and other alcohol-related marketing efforts within Facebook/YouTube/Twitter affect your action? (Mark ALL that apply)

- I take an extra look at these products when I get the chance (1)
- I buy/consume more of the specific brand that is marketed when I am shopping (2)
- I buy/consume more of the marketed brand which gives special offer/ discount on the alcoholic beverage/ gives goodies with the alcoholic beverage (such as glasses, shirts) (5)
- I buy/consume more of the marketed brand which has an attractive packaging (how it looks) (6)

Q27 To what extent do you use the following ways to search for information on alcoholic beverages, on Facebook/YouTube/Twitter?

	Very Often (1)	Often (2)	Sometimes (3)	Rarely (4)	Never (5)
Alcohol adverts (1)	<input type="radio"/>				
Ask friends via these sites (2)	<input type="radio"/>				
Links to alcohol adverts (3)	<input type="radio"/>				
Alcohol-related apps (4)	<input type="radio"/>				
Alcohol manufacturers' presence on these sites (5)	<input type="radio"/>				
Blogs on these sites that focus primarily on alcoholic beverages (6)	<input type="radio"/>				

Q28 If you think of alcohol advertising on Facebook/YouTube/Twitter in general, do you feel that this kind of advertising affects your and others' alcohol consumption in any way? For example, to try something new or drink something similar.

	Mine (1)	Others' (2)
Yes (1)	<input type="checkbox"/>	<input type="checkbox"/>
A lot (2)	<input type="checkbox"/>	<input type="checkbox"/>
A little (3)	<input type="checkbox"/>	<input type="checkbox"/>
No (4)	<input type="checkbox"/>	<input type="checkbox"/>

Information on the Degree to Which Participants Post and View Alcohol-Related Content on Social Networking Sites

Q29a How often do YOU share the following alcohol-related information with your friends or contacts on Facebook?

	Post pictures of yourself and/or of others using alcohol (1)	Mention alcohol-related information in your status updates (2)	Mention alcohol-related information in your comments (3)	Mention alcohol-related information in your wall posts (4)	Depict alcohol-related information in the videos you upload (5)
Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Never (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q29b How often do YOU share the following alcohol-related information with your friends or contacts on YouTube?

	Mention alcohol in your comments (1)	Depict alcohol in the videos you upload (2)	Subscribe to the channels depicting alcohol-related content (3)
Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q29c How often do YOU share the following alcohol-related information with your friends or contacts on Twitter?

	Post alcohol-related Tweets on your wall (1)	Re-tweet alcohol-related Tweets (2)	Use alcohol-related hashtags on your wall (3)	Subscribe to other users' alcohol-related tweets (4)
Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q30 How often do YOUR FRIENDS OR CONTACTS share alcohol-related information (e.g. posting pictures of themselves and of others drinking alcohol, mentioning alcohol in their status updates, comments, wall posts, video sharing, tweets and retweets) with you on the following social networking sites? (Mark your response against each option)

	Facebook (1)	YouTube (2)	Twitter (3)
Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q31 How do you perceive alcohol-related content (e.g. photos, videos, adverts, competitions, sexually explicit content etc.) that your friends or contacts post on Facebook/YouTube/Twitter?

- Sometimes positive (1)
- Doesn't matter (2)
- Sometimes negative (3)
- Can't say (4)
- Not applicable (5)

Q32 Please indicate which of the following words might describe alcohol advertising on Facebook/YouTube/Twitter. Alcohol advertising on social networking sites is..... (Mark ALL that apply)

- Unnecessary (1)
- Promotes alcohol consumption (2)
- Glamorising (3)
- Disturbing (4)
- Misleading (5)
- Dangerous (6)
- Powerful (7)
- Useful (8)
- Informative (9)
- Entertaining (10)

Information on Alcohol Marketing Regulation

Q33 Please indicate how much do you agree or disagree with the following statements?

	Strongly Agree (1)	Agree (2)	Neither Agree nor Disagree (3)	Disagree (4)	Strongly Disagree (5)
Alcohol advertising should not be targeted at young people (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All alcohol advertisements should carry health warnings (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol advertisements influence youth perceptions of alcohol (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public awareness campaigns would be effective to prevent/reduce underage drinking in the community (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Server/seller training programs for places that sell alcohol would be effective to prevent/reduce underage drinking in the community (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presenting proof of age to the server/seller while purchasing alcohol beverages would be an effective measure to control underage drinking (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>Specific provisions (e.g. toll free numbers) should be made for public to report stores/bars that sell alcohol to minors to control underage drinking (7)</p>	○	○	○	○	○
--	---	---	---	---	---

Q34 Is there anything else you would like to tell us about your experience of alcohol marketing on the Internet?

4.2 Survey for those based in India

ALCOHOL ADVERTISING ON SOCIAL MEDIA AND YOUNG PEOPLE

Participant Information Statement

Thank you for thinking about completing this survey!

This survey:

- Is being run by Himanshu Gupta at Curtin University towards a Doctor of Philosophy (PhD) degree
- Is about exploring the influence of Facebook/YouTube/Twitter on young people's alcohol consumption behaviours in India and Australia
- Is looking for people who:-
 - are aged 13-25 years old
 - have lived in India for at least 12 months
 - understand written English
 - drink alcohol, or
 - don't drink alcohol
- Will ask you about yourself, your awareness about alcohol advertisements and promotions on Facebook/YouTube/Twitter and your alcohol drinking habits
- Should take about 15 minutes
- Is anonymous, so we do not ask for your name, address, or other information that will tell us who you are.
- The results of this study will be presented in group form (such as by age and gender)
- Is voluntary - you do not have to answer any questions you do not wish to, and you are free to stop the survey at any time
- Has been approved by the Curtin University Human Research Ethics Committee (approval RDHS-239-15). If you have any ethical concerns about the conduct of the

research, you can contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or by emailing hrec@curtin.edu.au.

- Any information you provide will be kept safely and securely. Answers can only be accessed by our university research staff
- For more information, email the researchers at robert.tait@curtin.edu.au or himanshu.gupta@postgrad.curtin.edu.au or call Dr Robert Tait at the National Drug Research Institute, Curtin University, on +61 8 9266 1610

When you do this survey, it is important to be honest – we are interested in what you really think!

CONSENT TO PARTICIPATE

- I have received information regarding this study and had an opportunity to ask questions. I believe I understand the purpose, extent and possible risks of my involvement in this study and I voluntarily consent to take part. (Please “tick the click button” on the left to indicate your voluntary participation in the study). (1)

Demographic Information

Q1 How old are you? (age in completed years)

Q2 What is your gender?

- Male (1)
- Female (2)

Q3 What is your nationality?

- Indian (1)
- Other (3) _____

Q4 Where did you spend the majority of your time in the last 12 months?

- India (1)
- Other (3) _____

Q5 Please write the postcode of the place you are currently living in.

Q6 Which level of education have you completed?

- Primary school (up to class 5) (1)
- Secondary school (class 6 – class10) (2)
- Senior secondary school (class11 – class12) (3)
- University (4)

Q7 Which of the following devices do you use? (Mark ALL that apply)

- Basic mobile phone (1)
 - Smart phone (2)
 - Tablets (3)
 - Personal computer (Desktop) (4)
 - Laptop (5)
-

Q8 Do you have an Internet connection at home?

- Yes (1)
- No (2)

Information on Alcohol Consumption Patterns

Q9 Have you ever tried alcohol?

- Yes (1)
- No (2)

Skip To: Q18 If Q9 = 2

Q10 Have you ever had a full serve of alcohol, not a just a sip or taste, but finishing a full drink on your own (e.g. a glass of wine, a glass of beer, etc.)

- Yes (1)
- No (2)

Display This Question:
If Q10 = 1

Q11 About what age were you when you had your first full serve of alcohol?

Q12 Have you had an alcoholic drink of any kind in the last 12 months?

- Yes (1)
- No (2)

Skip To: Q15 If Q12 = 2

Q13 Have you had an alcoholic drink of any kind in the last 4 weeks?

- Yes (1)
- No (2)

Skip To: Q15 If Q13 = 2

Q14 Have you had an alcoholic drink of any kind in the last 7 days?

- Yes (1)
- No (2)

Skip To: Q15 If Q14 = 2

Q15 What type of alcohol do you usually drink? (Mark ALL that apply)

- Bottled Wine (2)
 - Regular strength beer (greater than 4% Alc/Vol) (3)
 - Mid strength beer (3 to 3.9% Alc/Vol) (4)
 - Low alcohol beer (1 to 2.9% Alc/Vol) (5)
 - Home-brewed beer/toddy/arrack (6)
 - Bottled spirits and liqueurs (e.g. scotch, brandy, vodka, rum, etc.) (8)
 - Pre-mixed spirits in a bottle (e.g. Bacardi Breezer, Smirnoff, etc.) (9)
 - Other (13) _____
-

Q16

On a day that you have an alcoholic drink, how many standard drinks do you usually have? (A

standard drink is any drink that contains 10 grams of alcohol)



- 20 or more drinks (1)
 - 16 – 19 drinks (2)
 - 13 – 15 drinks (3)
 - 11 – 12 drinks (4)
 - 9 – 10 drinks (5)
 - 7 – 8 drinks (6)
 - 5 – 6 drinks (7)
 - 3 – 4 drinks (8)
 - 2 drinks (9)
 - 1 drink (10)
 - Half a drink (11)
-

Q17 How many standard alcoholic drinks did you drink in the last 12 months? (Mark ONE response only against each given day)

	Everyday (1)	5-6 days a week (2)	3-4 days a week (3)	1-2 days a week (4)	2-3 days a month (5)	About 1 day a month (6)	Less often (7)	Never (8)
<input checked="" type="checkbox"/> 20 or more standard drinks a day (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> 11 – 19 standard drinks a day (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> 7 – 10 standard drinks a day (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> 5 – 6 standard drinks a day (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> 3 – 4 standard drinks a day (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> 1 – 2 standard drinks a day (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Less than 1 standard drink per day (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> None (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information on Perceived Exposure to Alcohol Marketing on Social Networking Sites

Q18 How much time do you spend on the Internet every day?

- No Time (1)
- Less than 1 hour (2)
- 1 to 2 hours (3)
- 3 to 4 hours (4)
- 5 to 8 hours (5)
- More than 8 hours (6)

Q19 How often do you notice alcohol advertising (such as alcohol brand logos, banners, sports/music information, comedy videos, competitions, demonstration of cocktail recipes, fashion events, and so forth) occurring on the following social networking sites?

	Facebook (1)	YouTube (2)	Twitter (3)
<input checked="" type="radio"/> Very Often (at least once a day) (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Rarely (once a month or less often) (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q20 How do you see trends in alcohol advertising and other alcohol-related marketing efforts within the following social networking sites in the last 12 months?

	Facebook (1)	YouTube (2)	Twitter (3)
<input checked="" type="checkbox"/> Increased (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Unchanged, no difference (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Decreased (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I don't use this channel (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q21 How often do you notice alcohol brand logos being used on the following items?

	Very Often (1)	Often (2)	Sometimes (3)	Rarely (4)	Never (5)
Clothing (1)	<input type="radio"/>				
Caps/ Hats (2)	<input type="radio"/>				
Water Bottles (3)	<input type="radio"/>				
Soda Bottles (4)	<input type="radio"/>				
Music CDs (5)	<input type="radio"/>				
<input checked="" type="checkbox"/> Other (6)	<input type="radio"/>				

Q22 Have you attended any of these events or parties sponsored by alcohol companies via advertising on Facebook/YouTube/Twitter?

	Yes (1)	No (2)
Social events (1)	<input type="radio"/>	<input type="radio"/>
Music events (2)	<input type="radio"/>	<input type="radio"/>
Sports events (3)	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> Any other entertainment events (4)	<input type="radio"/>	<input type="radio"/>

Q23 Have you ever received any promotional items (such as a hat) from an alcohol brand that you have seen advertised on Facebook/YouTube/Twitter?

- Yes (1)
- No (2)

Q24 How often do you get suggestions on the following social networking sites to like or to follow pages or to participate in events with alcohol-related content?

	Facebook (1)	YouTube (2)	Twitter (3)
<input checked="" type="checkbox"/> Less than once a week (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Weekly (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Every Fortnight (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Monthly (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information on Perceived Influence of Alcohol Marketing Strategies on Choice to Buy

Alcohol on Social Networking Sites

Q25 Within the last twelve months, did you buy an alcohol brand as a result of seeing alcohol adverts on Facebook/YouTube/Twitter?

- Yes, several times (1)
 - Yes, once (2)
 - No (3)
-

Q26 How do alcohol advertising and other alcohol-related marketing efforts within Facebook/YouTube/Twitter affect your action? (Mark ALL that apply)

- I take an extra look at these products when I get the chance (1)
 - I buy/consume more of the specific brand that is marketed when I am shopping (2)
 - I buy/consume more of the marketed brand which gives special offer/ discount on the alcoholic beverage/ gives goodies with the alcoholic beverage (such as glasses, shirts) (5)
 - I buy/consume more of the marketed brand which has an attractive packaging (how it looks) (6)
-

Q27 To what extent do you use the following ways to search for information on alcoholic beverages, on Facebook/YouTube/Twitter?

	Very Often (1)	Often (2)	Sometimes (3)	Rarely (4)	Never (5)
Alcohol adverts (1)	<input type="radio"/>				
Ask friends via these sites (2)	<input type="radio"/>				
Links to alcohol adverts (3)	<input type="radio"/>				
Alcohol-related apps (4)	<input type="radio"/>				
Alcohol manufacturers' presence on these sites (5)	<input type="radio"/>				
Blogs on these sites that focus primarily on alcoholic beverages (6)	<input type="radio"/>				

Q28 If you think of alcohol advertising on Facebook/YouTube/Twitter in general, do you feel that this kind of advertising affects your and others' alcohol consumption in any way? For example, to try something new or drink something similar.

	Mine (1)	Others' (2)
<input checked="" type="checkbox"/> Yes (1)	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> A lot (2)	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> A little (3)	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> No (4)	<input type="checkbox"/>	<input type="checkbox"/>

Information on the Degree to Which Participants Post and View Alcohol-Related Content on Social Networking Sites

Q29a How often do YOU share the following alcohol-related information with your friends or contacts on **Facebook**?

	Post pictures of yourself and/or of others using alcohol (1)	Mention alcohol-related information in your status updates (2)	Mention alcohol-related information in your comments (3)	Mention alcohol-related information in your wall posts (4)	Depict alcohol-related information in the videos you upload (5)
<input checked="" type="radio"/> Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Never (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> I don't use this channel (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Q29b How often do YOU share the following alcohol-related information with your friends or contacts on **YouTube**?

	Mention alcohol in your comments (1)	Depict alcohol in the videos you upload (2)	Subscribe to the channels depicting alcohol-related content (3)
<input checked="" type="checkbox"/> Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q29c How often do YOU share the following alcohol-related information with your friends or contacts on **Twitter**?

	Post alcohol-related Tweets on your wall (1)	Re-tweet alcohol-related Tweets (2)	Use alcohol-related hashtags on your wall (3)	Subscribe to other users' alcohol-related tweets (4)
<input checked="" type="checkbox"/> Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q30 How often do YOUR FRIENDS OR CONTACTS share alcohol-related information (e.g. posting pictures of themselves and of others drinking alcohol, mentioning alcohol in their status updates, comments, wall posts, video sharing, tweets and retweets) with you on the following social networking sites? (Mark your response against each option)

	Facebook (1)	YouTube (2)	Twitter (3)
<input checked="" type="radio"/> Very Often (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Often (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Sometimes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> Rarely (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="radio"/> I don't use this channel (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q31 How do you perceive alcohol-related content (e.g. photos, videos, adverts, competitions, sexually explicit content etc.) that your friends or contacts post on Facebook/YouTube/Twitter?

- Sometimes positive (1)
- Doesn't matter (2)
- Sometimes negative (3)
- Can't say (4)
- Not applicable (5)

Q32 Please indicate which of the following words might describe alcohol advertising on Facebook/YouTube/Twitter. Alcohol advertising on social networking sites is..... (Mark ALL that apply)

- Unnecessary (1)
- Promotes alcohol consumption (2)
- Glamorising (3)
- Disturbing (4)
- Misleading (5)
- Dangerous (6)
- Powerful (7)
- Useful (8)
- Informative (9)
- Entertaining (10)

Information on Alcohol Marketing Regulation

Q33 Please indicate how much do you agree or disagree with the following statements?

	Strongly Agree (1)	Agree (2)	Neither Agree nor Disagree (3)	Disagree (4)	Strongly Disagree (5)
Alcohol advertising should not be targeted at young people (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All alcohol advertisements should carry health warnings (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol advertisements influence youth perceptions of alcohol (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public awareness campaigns would be effective to prevent/reduce underage drinking in the community (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Server/seller training programs for places that sell alcohol would be effective to prevent/reduce underage drinking in the community (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presenting proof of age to the server/seller while purchasing alcohol beverages would be an effective measure to control underage drinking (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>Specific provisions (e.g. toll free numbers) should be made for public to report stores/bars that sell alcohol to minors to control underage drinking (7)</p>	○	○	○	○	○
--	---	---	---	---	---

Q34 Is there anything else you would like to tell us about your experience of alcohol marketing on the Internet?

Appendix 5: Conference/Seminar presentations made as part of this study

- Poster presentation entitled “‘I do my best [work] when I’m drinking’: young people, alcohol, and social media”, at the 2018 Conference on Adolescent Health, organized by Adolescent Health Initiative, Michigan Medicine, University of Michigan, USA, 2018
- Poster presentation entitled “Alcohol marketing, social media, and young people”, at the National Drug Research Institute 30th Anniversary Symposium, NDRI, Curtin University, Australia, 2017
- Oral presentation entitled “Do You “Like” To Drink? Online Alcohol Promotion in India and Australia”, at the Global Alcohol Policy Conference, Melbourne, Australia, 2017
- Oral presentation entitled “A Systematic Review of the Impact of Exposure to Internet-Based Alcohol-Related Content on Young People’s Alcohol Use Behaviours”, at the Mark Liveris Research Student Seminar, Curtin University, Australia, 2016
- Poster presentation entitled “Alcohol Use and Gaps in its Existing Regulatory Provisions in India: A Review”, at the Australasian Professional Society on Alcohol and other Drugs (APSAD) Annual Scientific Alcohol and Drug Conference, Perth, Australia, 2015

Appendix 6: Survey advertisements

ALCOHOL-RELATED ADVERTS ON SOCIAL MEDIA: IS THAT OKAY?

- Are you 13-25 years old?
- Do you use social media: Facebook, YouTube or Twitter?
- Have you lived in India/Australia for at least 12 months?

If you say **YES** to all of the above, tell us what you think about alcohol-related advertising on social media platforms. Click on the following link(s), and have your say:

For India-https://curtin.asia.qualtrics.com/SE/?SID=SV_eVsvvBjfeVi7qOp

For Australia-https://curtin.asia.qualtrics.com/SE/?SID=SV_bc18oSdPMHqzlgI

For more info:
log on <https://www.facebook.com/alcoholadvertisingandsocialmediahg>, or email Himanshu at himanshu.gupta@postgrad.curtin.edu.au




Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC Approval Number: RDHS-239-15).

Alcohol Advertising and Social Media

Himanshu Home

Page Inbox Notifications 2 Insights Publishing Tools Ad Tools Settings Help



Alcohol Advertising and Social Media
@alcoholadvertisingandsocialmediahg

Home About Photos Events Reviews Videos Posts Community

Liked Following Share ... Send Message

Write a post... Photo Album Live Video

Write a post...

Photo/Video Feeling/Activity Write Note ...

Community

Alcohol Advertising and Social Media
@alcoholadvertisingandsocialmediahg

Home About Photos Events Reviews Videos Posts Community Info and Ads Promote Manage Promotions

Liked Following Share ... Send Message

Alcohol Advertising and Social Media updated their website address.

20 people reached Boost Post

Like Comment Share ...

Alcohol Advertising and Social Media
June 13 ·

Yoo-hooing...
Got our survey results published!!!
The full-text of the article can be accessed at... See More



The association between exposure to social media alcohol marketing and youth alcohol use behaviors in India and Australia
Alcohol marketing on social networking sites...
BMCPUBLICHEALTH.BIOMEDCENTRAL.COM

Community
See All
Saloni Bansal and 47 other friends like this
Invite Friends
97 people like this
96 people follow this

About
See All
Send Message
Add Website
Community
Impressum
Suggest Edits

English (US) · 中文(简体) · 한국어 · Español · Português (Brasil)

Privacy · Terms · Advertising · Ad Choices · Cookies · More

Facebook © 2018