

# Through the looking glass: An alcohol advertisement every 3 minutes

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## Abstract

**Introduction:** There is growing concern over the lack of regulation of alcohol advertisements on social media platforms frequented by youths. This study aims to build upon existing literature by assessing the frequency with which young Australians (17–25) are shown advertisements promoting alcohol use and the themes utilised in these advertisements.

**Methods:** A total of 125 Australian youths (mean age 18.74 years; 74.40% female) were recruited in exchange for course credit to participate in an online study. Participants scrolled through Facebook or Instagram for a period of 30 min and screenshotted any alcohol advertisements encountered. Participants then identified the advertisement qualities (or ‘themes’) present in the advertisements, based on pre-identified categories. Demographic, social media usage and historical personal, peer or familial substance use behaviour data was also collected.

**Results:** Seventy-one university students were exposed to 796 alcohol advertisements across both platforms, and they encountered an advertisement every 2 min and 43 s on average. Most advertisements included call to action features on both Facebook (78.80%) and Instagram (71.17%). Advertisements relating to ease of access (promoting subscription/home delivery; 41.72% and 42.56%) and sales incentives (special offers, promotions, samples or bonuses with purchase; 43.70% and 46.84%) were most common across both platforms.

**Discussion and Conclusions:** Alcohol advertisements are highly prevalent online, particularly among Australian youth social media users. Future research should endeavour to identify whether temporal use of alcohol is a predictor of subsequent exposure to alcohol advertising on social media, and whether this exposure is likely to increase successive alcohol use behaviours.

## KEYWORDS

advertising, alcohol, Facebook, Instagram, social media

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**Key Points**

- Alcohol advertisements are highly prevalent online. Among those who were exposed to alcohol advertisements, they saw an alcohol advertisement every 2 min and 43 s on average.
- Most of the encountered advertisements included call to action features on both Facebook (78.80%) and Instagram (71.17%), which promotes use and ease of access to youth consumers.

**1 | INTRODUCTION**

Harmful use of alcohol is a leading causal factor for a variety of noncommunicable diseases and mental disorders worldwide, with 13.5% of all deaths globally in those aged 20 to 39 years associated with alcohol consumption [1]. These findings are echoed in the Australian context, with alcohol attributing to 13% of deaths annually in youths (aged 14 to 17 years) and 20% of deaths weekly in young adults (aged 15 to 24 years) [2]. While youths and young adults drink with less frequency than adults, this population is more likely to binge consume alcohol products [3]. Specifically, 3.2 million American youths (12 to 20 years) reported binge drinking at least once in the past month, with approximately 90% of all alcoholic beverages consumed by this population for the purpose of binge drinking [3]. Data from the Australian Bureau of Statistics similarly found that one in four Australians exceed alcohol use guidelines and engage in binge drinking behaviours [4].

Alcohol advertising plays a significant role in shaping consumer perceptions and behaviours [5]. In 2022, the prevalence of alcohol advertising increased by 5.3%, surpassing the overall advertising market's growth rate of 4.9% [6]. Alcohol marketing is self-regulated under the Alcohol Beverages Advertising Code [7]. This code suffers from major limitations in its deficient scope, ambiguity and lack of independent administration, all of which has led to interpretations favouring alcohol company interests [8]. This has resulted in an increase in alcohol advertisements which incorporate marketing practices that appeal to young people without consequence [8]. Such practices include use of youth-oriented genres (e.g., magic, fantasy, violence, humour) [9], reward appeals (e.g., good feelings, friendship, success) [10] and stylistic features (e.g., animation, graphic images, sound saturation) [9]. Products which are advertised using these elements are more likely to be consumed by youth and young adults than consumers over the legal drinking age [11, 12].

Frequency of exposure to traditional alcohol advertising among youths and young adults varies. Data from the United States in 2018 found that, on average, youths were exposed to three alcohol advertisements per day with

female, African American and Hispanic youths more likely to encounter these advertisements than their male or Caucasian counterparts [13]. Thirty-eight percent of the advertisements encountered were in outdoor settings, such as on billboards or other signage, with television commercials accounting for 26% [13]. An United Kingdom sample found 82% of youths (11–17 years) were exposed to alcohol advertising in the past month [14], with television commercials (59%) [14], billboards (49%) [14], sporting events (49%) [15] and streaming services (34%) [14] being the most common. Similar frequencies were observed in an Australian sample (12–17 years) with exposure most common through television (58%) and alcohol-branded merchandise (42%) [16]. It is important to note that most studies employ self-report questionnaires relying on participant recall to measure exposure, and participants may misreport their actual exposure. While traditional alcohol advertising continues to account for the majority of expenditure in Australian markets, advertisements in online and digital spaces have increased from 8% in 2011 [17] to 24% in 2020 (as a percentage of total industry alcohol advertising expenditure) [6]. This increase in funding of online and digital advertisements is cause for concern given that social media constitutes a primary information source for youth and young adults and paid industry advertising portrayals of alcohol products online may have a significant influence on youth alcohol use [18].

As the most active consumers of digital media, youth and young adults are highly susceptible to online depictions of alcohol use [19]. Digital media platforms such as Facebook and Instagram provide alcohol advertisers with innovative and economical avenues to connect products and consumers [20] through sponsored advertisements [7], brand engagement [7] and social media 'influencers' [21–23] or user-generated content [20, 24] which promotes alcohol use. With a single Facebook advertisement expected to reach up to 931 million viewers [25], it is not surprising that 42% of UK youths (11–17 years) [14] and 39% of Australian youths (12–17 years) [16] reported social media exposure to alcohol advertising in a single month. Recent thematic analyses of social media advertisements have also noted an increase in content which promotes supporting local [26], ease of access [26, 27] and sales incentives [26] following the COVID-19

pandemic in which lockdowns and restrictions made each of these themes more important to consumers [28, 29]. However, these themes pose the risk of increased problem use, greater frequency of use and increased high-risk behaviours by increasing the availability of alcohol to consumers [26].

The relationship between alcohol advertising exposure on traditional platforms and earlier initiation, increased frequency and quantity of alcohol consumption among youth and young adults has been extensively established in literature [30, 31]. Similar associations have begun to be observed between online exposure to alcohol marketing and increased youth consumption [32], increased likelihood of initiation at a younger age [31], as well as riskier drinking patterns among Australian youth [33]. Accordingly, there is growing concern over the presence of alcohol advertisements on social media platforms frequented by youths and young adults given the lack of online advertising regulations [34] and likely behavioural influence. This study aims to build upon existing research assessing the frequency with which young Australians (17–25 years) are shown alcohol advertisements on popular social media platforms, Facebook and Instagram, using real-time data as opposed to recall.

## 2 | METHODS

### 2.1 | Participant recruitment

Australian university students, aged between 17 and 24 years of age, at The University of Queensland were recruited to participate in an online study about alcohol advertisements on Facebook or Instagram. Eligibility required social media use of either Facebook or Instagram. Participants were first-year students enrolled in the School of Psychology, who participated in the study in exchange for course credit. The study was completed online at The University of Queensland and all activities were approved by The University of Queensland's Human Research Ethics Committee (Ethics Clearance ID: 2022/HE001949).

### 2.2 | Procedure and design

Data were collected from 125 Australian university students (mean age 18.74 years; 74.40% female) using an online survey platform, Qualtrics, between February and April 2023. The study was conducted online using personal devices. A series of demographic, social media usage, and historical personal, peer and familial substance use

behaviour questions were completed before participants spent 30-min scrolling their personal Facebook or Instagram feeds. Participants were instructed to scroll through their feeds in their usual manner and screenshot any alcohol advertisements they encountered during this period. Advertisements were defined as content which promoted the consumption of alcohol and/or non-alcohol alternatives such as low or no alcohol (0%) drinks or syrups intended to be mixed with alcohol. After 30-min, participants indicated their platform of choice (being Facebook or Instagram) and the quantity of alcohol advertisements they had encountered. Participants independently elected whether to collect data from Facebook or Instagram and were not assigned to a particular platform. Participants uploaded the screenshots to the Qualtrics platform and used a provided codebook to identify whether a series of prominent non mutually exclusive themes (as identified by existing literature [26, 27, 35]) existed in the identified advertisements, using a dichotomous ('yes' or 'no') scale. Researchers reviewed each advertisement to ensure it related to alcohol and each was double coded for consistency, with discrepancies resolved in discussion among researchers. A copy of the codebook can be found in the Data S1, Supporting Information. Participants also indicated the presence of call to action (CTA) features using a dichotomous ('yes' or 'no') scale. A CTA was defined as any banner or button which led the viewer to an online retailer or the product manufacturer. After completion of the survey, participants were informed of the risks of alcohol misuse and provided support numbers for various mental health and alcohol and other drug use counselling services.

### 2.3 | Measures

#### 2.3.1 | Demographics

We assessed the participants' sex, ethnicity, age, personal education, parental education, marital status, employment status and weekly net income. The demographic measures and responses were adapted from the Australian Census of Population and Housing survey [36].

#### 2.3.2 | Social media usage

Participants used 'Screen Time' data from their personal mobile phone devices to record their total time spent on Facebook and Instagram in minutes on the day they completed the study. Both Android [37] and Apple [38] devices have 'Screen Time' monitoring features accessible to phone users.

### 2.3.3 | Historical substance use

Personal substance use history was measured using items 1 to 3 of the World Health Organization Alcohol, Smoking and Substance Involvement Screening Test v3 [39]. The first of these items required participants to indicate which substances they had used within their lifetimes using a dichotomous ('yes' or 'no') scale. The substances surveyed were tobacco products, alcoholic beverages, cannabis, cocaine, amphetamine type stimulants, inhalants, sedatives or sleeping pills, hallucinogens, opioids, e-cigarettes or vaping devices and 'other'. Participants were also able to indicate use of any additional unlisted substances by indicating 'yes' to the 'other' category. This triggered an additional question which prompted participants to specify the substance in a text-entry item. Item 2 required participants to indicate how often they had used a particular substance within the past 3 months using a five-point Likert scale ('never' to 'daily or almost daily'). The final item used in this study required participants to indicate how often they have a strong urge or desire to use a particular substance in the past 3 months using a five-point Likert scale ('never' to 'daily or almost daily').

### 2.3.4 | Advertisement qualities

A set of six themes were identified from existing thematic analyses of alcohol content on social media. These

themes included 'Healthier' Alternatives [35], Supporting Local [26], Ease of Access [26, 27], Sales Incentives [26], Binge Culture and Luxury. Participants were also asked to indicate the presence of CTA features which could facilitate alcohol purchasing. Definitions of these themes and an example advertisement for each can be found in Data S1, Supporting Information, within the codebook.

## 3 | RESULTS

Table 1 shows the key sample characteristics by exposure to alcohol advertisements. Of the 125 Australian university students sampled, a total of 71 participants (56.80% of the final sample; mean age 18.78; 78.87% female) were exposed to alcohol advertising. Five of these participants were under the legal drinking age in Australia, being 18 years of age. Exposed participants spent an average of 12 min ( $\pm 19$ ) on Facebook and 77 min ( $\pm 72$ ) on Instagram per day. Non-exposed participants spent an average of 25 ( $\pm 54$ ) min on Facebook and 62 ( $\pm 60$ ) min on Instagram per day. Frequency of alcohol use and desire to use alcohol were relatively similar for both populations between those who were and were not exposed to advertising. Complete participant characteristics can be found in Table S1, Supporting Information.

A total of 796 alcohol advertisements were identified on Facebook or Instagram. Of those exposed, an alcohol

**TABLE 1** Exposure to advertisements by participant characteristics.

Characteristic	Total (N = 125)				<sup>a</sup> p	Number of advertisements (among exposed) <sup>b</sup>		
	Exposed		Non exposed			M	SD	p
	n	%	n	%				
Sex								
Male	16	51.6	15	48.4	0.466	7.29	12.24	0.025
Female	41	44.1	52	55.9		2.16	4.75	
Income								
\$0	24	44.4	30	55.6	0.711	4.85	9.37	0.157
\$1-\$299	16	42.1	22	57.9		4.84	11.26	
\$300 +	17	51.5	16	48.5		9.15	12.84	
Alcohol use frequency								
Never	14	53.8	12	46.2	0.579	4.35	10.62	0.405
Once or twice/monthly	25	41.7	35	58.3		7.35	12.77	
Weekly/daily	18	46.2	21	53.8		4.97	7.96	
Alcohol use desire								
Never	26	45.6	31	54.4	0.946	4.70	9.95	0.343
Once or twice/monthly	18	47.4	20	52.6		8.08	14.32	
Weekly/daily	13	43.3	17	56.7		5.77	7.59	

<sup>a</sup>Analyses of exposure were conducted using chi-square tests.

<sup>b</sup>Analyses of number of advertisements among those exposed were conducted using analysis of variance.



advertisement was encountered every 2 min and 43 s with 11.21 advertisements recorded per participant on average (SD = 13.06; min = 1 and max = 78) in the 30-min window. Most advertisements included CTA features on both Facebook (78.80%) and Instagram (71.17%).

### 3.1 | Advertisement qualities

Similar frequencies in theme prominence were observed in both the Instagram (n = 557) and Facebook (n = 239) samples (see Table 2 for examples of extracted advertisements). Advertisements on both Instagram (46.84%) and Facebook (43.70%) featured Sales Incentives themes most predominantly. These advertisements included references to bonus samples, promotional codes, or other special offers to incentivise viewers to complete a purchase of the depicted product. Advertisements promoting the Ease of Access to depicted products were also common in the sample on both Instagram (42.56%) and Facebook (41.72%). Existing literature has seen an increase in advertisements touting home delivery or subscription services throughout and following the COVID-19 pandemic [26, 27] and, with the increase in flexible or remote working arrangements [40], it is likely Ease of Access will remain a prominent theme in alcohol advertising.

Supporting Local was the next most common theme depicted in alcohol advertising (Instagram = 35.13%; Facebook = 31.78%), with this content including slogans or descriptions that indicated the product was Australian owned or sourced. Advertisements which presented their products as high-end or exclusive were also common, with 27.92% of Instagram and 26.49% of Facebook alcohol advertisements categorised under the Luxury theme. Healthier Alternatives included advertisements depicting low or no alcohol substitutes, or alcohol products with lower calories, sugars or carbs. A total of 63.15% of participants who reported exposure to alcohol advertisements indicated that some of those advertisements had touted

the benefits of low or no alcohol products. Overall, 24.50% of Facebook advertisements and 18.91% of Instagram advertisements were coded as Healthier Alternatives. Binge Culture was the least prominent theme on both Facebook and Instagram, with advertisements encouraging bulk purchases only observed in 26.49% and 12.61% of the Facebook and Instagram samples, respectively.

## 4 | DISCUSSION

This study examined the content of alcohol advertisements and the frequency with which Australian university students (mean age 18.74 years; 74.40% female) are exposed to alcohol advertising on social media platforms, Facebook and Instagram. Our analysis included six advertising themes of interest, ‘Healthier’ Alternatives, Supporting Local, Ease of Access, Sales Incentive, Binge Culture and Luxury. Most advertisements included some form of Sales Incentive to encourage viewers to purchase the alcohol product advertised. Advertisements which promoted Ease of Access and Supporting Local were also prominent in the current sample.

The World Health Organization recommends the effective regulation of alcohol advertising by governments to aid the reduction of alcohol harm [41]. However, Australian regulations permit alcohol companies to self-regulate their advertising behaviours. To date, there is no evidence that this regulation successfully protects vulnerable populations, such as youth viewers, from exposure to alcohol advertisement or effectively prevents promotion of potentially harmful messages regarding alcohol consumption [42, 43]. This is exemplified by the results of the current study, which indicate that there is a portion of Australian youth social media users (some of whom are under the Australian legal drinking age) who are being exposed to an average of one alcohol advertisement every 2 min and 43 s. Effective restriction of alcohol advertising has been linked to reduced alcohol

TABLE 2 Advertisement examples for each theme.

“Healthier” alternatives	Supporting local	Ease of access	Sales incentive	Binge culture	Luxury

consumption and decreased risk of harms associated with increased consumption [44, 45]. These findings are further substantiated by evidence of lower alcohol consumption and associated harms in countries with increased advertising restrictions regarding the marketing of alcohol products [46].

The two most prevalent themes were Sales Incentives and Ease of Access, and most advertisements identified on both Facebook and Instagram included CTA features. Advertisements which utilise these themes or features may promote purchase of alcohol products by integrating the intangible promotion with a retail shopfront, which significantly expands alcohol availability [20]. The opportunity for almost instantaneous access means these advertisements have the capacity to result in increased problem use, greater frequency of use, and increased chances of high-risk use or behaviours. The Foundation for Alcohol Research and Education has noted that advertisements regarding Ease of Access via delivery services may prompt more impulse purchases by reducing the time and effort between the emotional stimulus (the advertisement) and the rational response (whether to purchase) [34].

Limited advertising regulation regarding alcohol and other substances on social media has resulted in unrestricted access to pro-use imagery by youths, who are the primary users of social media platforms [47], without consideration for the potential risks of misuse [41]. A recent systematic review compiled the findings of 30 cross-sectional and prospective cohort studies to determine whether there was an association between exposure to alcohol content and subsequent use behaviours [48]. The findings of this meta-analysis indicated that self-posting of alcohol imagery and other exposure to alcohol content was associated with greater alcohol consumption [48]. A narrative review also highlighted an association between exposure and increased problem drinking and drinking frequency [48]. Given that early onset of drinking is a key predictive factor of a variety of problematic outcomes in later life, including subsequent illicit or prescription substance misuse or engaging in other high-risk behaviours [49], addressing the availability of alcohol advertisements on social media and susceptibility of vulnerable populations, such as young adults, should be a primary public health concern.

#### 4.1 | Limitations

A limitation of the current study is that it was not designed for participants to identify further themes outside of the six provided by researchers. While researchers generated this set of themes from existing literature and through their own review of a series of alcohol advertisements on

social media, this was not an exhaustive practice. It is likely that participants may have encountered advertisements which did not meet the assigned themes and would more appropriately fit an alternate theme. This means there may be further thematic categories which are not captured by the present study.

Participants were also aware that the study aimed to investigate alcohol advertisements on social media prior to their participation and may have used search engines to investigate this topic online. It is no secret that social media platforms track the online behaviours of its users in order to provide targeted advertisements which may be of interest to them [50]. It is possible that if participants had conducted independent research on alcohol advertisements, they may have been recommended more alcohol advertisements on social media thereby making the effect observed seem more prominent than it truly is.

This study did not include provisions to assess subsequent changes to personal alcohol use behaviours following identified exposure to alcohol advertising on social media. It would be of interest to assess not only temporal substance use behaviours prior to exposure, but also successive behaviours to determine whether there is a cyclical relationship between these variables. Specifically, investigating whether historical use predisposes individuals to exposure to alcohol advertising on social media which affects subsequent substance use behaviours. Lastly, our sample may not be representative of Australian youth at large, thereby minimising the generalisability of the findings, as our participants were solely university students of psychology.

A further limitation of the study is in terms of the timing of participants, which may affect both the social media usage statistics and the frequency of exposure to the alcohol advertisements. Depending on when participants completed the study, the reported social media statistics may not be comparable between participants nor provide an accurate insight into average daily use within this population. Similarly, participants may have been more or less likely to encounter alcohol advertisements depending on when participants accessed their chosen platform. For example, a similar frequency study conducted by the Foundation for Alcohol Research and Education in 2020 identified 107 alcohol advertisements in a 1-h period on a Friday night for a single participant, equating to an average of one advertisement every 35 s [26]. This indicates that the number of advertisements shown may fluctuate depending on the day of the week in line with alcohol consumption patterns. Potential differences in exposure as a function of alcohol use frequency or desire may be better captured in future studies which control for timing effects.

Given the study was conducted online, we cannot be certain that participants actively scrolled their chosen

social media platform, and only that platform, for the entire 30-min period as instructed. The Qualtrics platform was coded to prevent progressing to the next stage of the survey until 30 min had elapsed from the time the instructions to begin scrolling were provided. Additionally, if participants indicated they had encountered an alcohol advertisement, the Qualtrics platform was coded to not allow participants to progress on to subsequent coding questions unless a screenshot of the advertisement had been uploaded for researchers to review. This was to ensure that participants had encountered as many advertisements as they had indicated and to allow researchers to double code advertisements for reliability.

## 5 | CONCLUSIONS

Alcohol advertisements are highly prevalent online, particularly among Australian youth social media users. These advertisements provide consumers with the opportunity to purchase products and promote use through Sales Incentives and Ease of Access. The current lack of regulation regarding advertisements on social media should be a public health focus. Future research should endeavour to identify whether temporal use of alcohol is a predictor of subsequent exposure to alcohol advertising on social media, and whether this exposure is likely to increase successive substance use behaviours.

### AUTHOR CONTRIBUTIONS

BNR drafted the initial manuscript. BR and GCKC contributed to the methodology and study conception. BNR designed the study materials and collected participant data. All authors (BNR, JL, DS and GCKC) contributed to statistical analysis. JL, DS and GCKC assisted with manuscript editing. All authors reviewed the final manuscript.

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### CONFLICT OF INTEREST STATEMENT

The authors have no competing interests to declare.

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### SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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