The Social Media & Unhealthy Marketing Project

A Citizen Science Approach to Monitoring Unhealthy Industry Digital Marketing to Young People

By Monash University & The University of Queensland for VicHealth

VicHealth

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Final Report

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1   Executive summary

In this project we worked with 204 young Victorians to examine the promotion of alcohol, unhealthy food, sugary drinks, and gambling on social media. Our "citizen scientist" participants worked with us to collect 5,169 examples of advertising they saw on their own social media feeds over a two-week period. In addition to the collection of visual data, citizen scientists completed two surveys on their views and perceptions of unhealthy marketing on social media before and after the collection of screenshots, and were invited to download and share information Facebook created about them in its advertising model. They also offered insights and self-reflections on the data they were collecting via online chat and discussion forums.

This research establishes a considerable body of evidence of unhealthy marketing through digital channels, co-analysed with young people themselves. The evidence presented here can inform the development of monitoring and regulation of digital marketing by harmful industries. The project has also drawn attention to and developed young Victorians' critical literacies related to digital marketing by harmful industries. Our citizen science approach has enabled the active involvement of research participants in the data collection and analysis of findings, and engaged young people as advocates for change in the governance and accountability of marketers and digital platforms that cause harm and evade accountability.

Key findings in this study include:

1. The formats and tactics of unhealthy advertising on digital media are **sophisticated** and target diverse groups of young people (see Section 4.2; 4.2.6).
2. **81%** of young people in our study think the advertising of unhealthy industries they see on social media **should be reduced and more highly regulated** (see Section 4.1.12; 4.1.13; 5.2).
3. **Facebook** and **Instagram** are the leading platforms where young people are targeted by unhealthy advertising, accounting for **86%** of advertisements collected in this study (see Section 4.2; 4.1.7; 4.2.2).
4. **Facebook data** provided by participants indicates that on average, the young Victorians in our study had 194 advertisers upload data about them, and the advertising model had generated 787 interests about them (see Section 4.2.6). Facebook's ad model is tuned to "learn" predispositions toward the consumption of harmful and addictive commodities and reinforce them by assigning "interests" related to those products.
5. The volume of advertisements is concentrated among a **small number of major corporate industry advertisers**, particularly in unhealthy food, home delivery and alcohol categories, with **5% of all advertisers** (n=48) **accounting for 50% of all advertisements** (see Section 4.2.4).
6. Young people **under the age of 18** are being targeted by alcohol and gambling campaigns on social media. We had 54 underage (16- and 17-year-old) participants in our study. **67% of them saw alcohol ads** and **22% of them saw gambling ads** (see Section 4.2.6; 4.2.8; 5.5.5).
7. There are key **gender differences** in how unhealthy advertisers target young people. Young women sent us more alcohol advertising and young men sent us more sports betting advertising (see Section 5.1.1).
8. The targeted nature of advertising directed at social media users based on opaque algorithms was understood as **manipulative**, **creepy**, and **annoying**, but also potentially **helpful** and **creative** (see Section 4.1.14; 5.2).

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9. Only **3%** of advertising examples collected by citizen scientists can be **reliably monitored** demonstrating the extraordinary challenges to meaningful public accountability of unhealthy advertising on digital platforms (see Section 4.2.5).
10. Involvement in this study **increased awareness of unhealthy advertising** participants were being targeted by, indicating involvement in studies like this can have positive impacts on literacy, health promotion, and future advocacy work (see Section 4.1.6; 4.1.17; 5.4).

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2   Research in context

2.1   Background

Harmful industry advertisers leverage the data-processing power of digital media to target young people. Advertisers and digital platforms build and optimise custom audiences that target consumers based not only on demographic characteristics like age, gender, and location but also on our interests, movements, behaviours, and social networks. These models become more sophisticated over time as they monitor and learn which consumers engage with what kinds of ads in particular times, locations and settings. Unhealthy food, alcohol and gambling advertisers are innovative and sophisticated users of digital media (Atkinson et al. 2017, Boelsen-Robinson et al. 2015, Carah and Brodmerkel 2020, Critchlow et al. 2019, Griffin et al. 2018, Lobstein et al. 2017, Niland et al. 2017).

Despite the fact that these advertisers and digital platforms have detailed portraits of our interests, behaviours and social networks, digital advertising is difficult to monitor and study. The vast majority of advertising on digital platforms is only visible to the users being targeted. Unlike broadcast or print advertising, ads on digital platforms are not published or archived. While there are some social media ad libraries which claim to offer public access to all advertising content on their platforms, these are limited to "currently live" ads and provide no information on volume, reach and targeting. Young citizen scientists are therefore critical to documenting the rapidly evolving and sophisticated use of digital media by unhealthy advertisers.

2.2   Research Questions

Our study was designed around four key Research Questions (RQs), with some related sub-questions, which we return to and answer in Section Five.

1. What types of covert and overt digital marketing strategies are being used by the food and beverage, alcohol and gambling industries to target young people?
    a. Are there differences in the strategies used by different industries?
    b. Are there differences in strategies used across different platforms?
2. What are the perceptions of young people towards covert and explicit digital marketing activities by these industries?
    a. To what extent are young people aware of these activities?
    b. To what extent are these strategies perceived as problematic by young people?
    c. Are there differences in perceptions of marketing depending on the industry (e.g. food, alcohol, gambling), and/or on the strategies used (e.g. covert vs. explicit)
3. What are the impacts of covert and overt digital marketing activities on young people?
    a. How do these strategies influence young peoples' opinions of, or attitudes towards the product/brand?
    b. How do these strategies influence young people's emotions and/or behaviours (e.g. how does exposure to strategies make them feel, how have they acted as a result of exposure?)
4. What are the impacts of involvement on project participants, e.g. on their level of support for policy change?

These questions were provided by VicHealth and necessitated a mixed-methods research design, outlined in Section 3.

3   Our study

3.1   A Citizen Science Approach

A citizen science research approach involves working with everyday people (citizens who might not normally think of themselves as "scientists") in the collection and analysis of research data. Citizen scientists are more involved in the research process than traditional research participants or subjects. To track the marketing of unhealthy products through digital platforms we recruited a diverse group of 204 young Victorians (aged 16 to 25) to collect unhealthy ads from digital media platforms and apps they use.

We followed the 10 principles of citizen science mapped out by the Australian Citizen Science Association, incorporating participants into the data collection and analysis (CitizenScience.org.au. 2021). Our citizen science approach centres young people as knowledgeable and expert when it comes to their own social media use, digital media cultures, and their experiences of advertising. The young citizen scientists sent us screenshots of ads and helped us make sense of them with reference to their own identities and cultural practices. There is a growing interest in taking citizen science approaches to understanding harmful industries in public health contexts in Australia (see Thomas et al. 2021) and we anticipate our own study will contribute to this broader emerging body of work.

3.2   Design

The project was designed to progress through six steps:
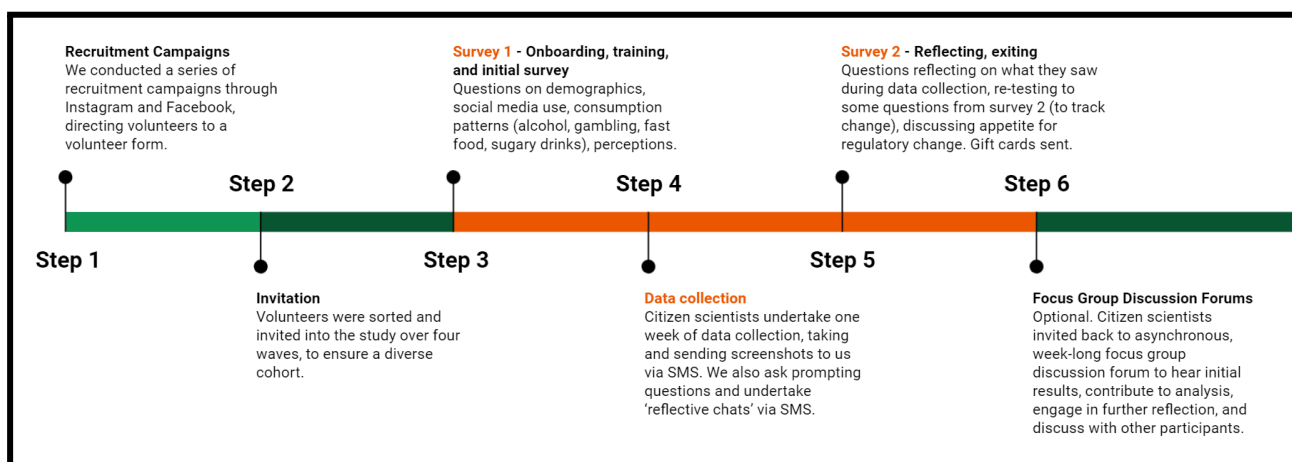
Step 1 - Recruitment
We ran six targeted, iterative research participant recruitment campaigns through Facebook and Instagram as the dominant social media platforms. The campaigns reached 14,593 users and attracted 398 volunteers. The multi-step recruitment process allowed us to target under-represented groups in our sample, to ensure we recruited a diverse group of participants into the study (see Section 3.3). All participants who completed the study were provided a $100 gift card to acknowledge the time, insight and expertise they contributed to the study. This incentive no doubt contributed to our success in recruiting.

Step 2 - Invitation

From February to May 2021, over four separate research waves, we invited 305 of these 398 volunteers to participate in the study. The invitation step involved detailed informed consent processes, so volunteers knew what they were signing up for: they were sent consent forms, but also needed to watch several training videos and answer a range of questions in our onboarding survey (Step 3) to progress.

We recruited participants across four waves because of the work involved in managing and engaging with participants over their week of data collection (Step 4). Multiple waves also allowed us to refine the methodology and to ensure our cohort was diverse by addressing gaps and over- or under-represented groups in subsequent waves.

Step 3 - Survey 1: Onboarding, training, and initial survey

Of the 305 volunteers invited to participate in the study, 221 completed the first key milestone in the project, the first survey. The survey was administered through the Qualtrics platform. In addition to training and onboarding steps, the survey asked 28 questions (covering demographics, phone and social media use, consumption practices related to alcohol, unhealthy food, sugary drinks and gambling, and perceptions of marketing).

Videos in the survey explained what we wanted participants to collect, how to "screenshot" it and send it to us. We outlined a wide range of content from display ads to influencer posts and sponsored filters that participants should look for. And, we provided examples of the products and services were interested in across gambling, alcohol, and unhealthy food categories. This included products, retailers and venues like restaurants and bars.

At the end of the onboarding process in survey one, participants were ready to begin their week of data collection. We concluded by asking them how confident they were with what they needed to capture and share with us: 97.5% were either confident (32.8%) or very confident (64.7%) that they knew what to do next, with four (2%) being neutral and just one participant unsure.

Step 4 - Data collection

Over four one week "waves", we invited our 221 "onboarded" participants to collect screenshots of unhealthy advertising they saw on social media, and to send these to us via SMS messages as they went. 204 fully completed this week of data collection, sending us a predetermined minimum number of screenshots (10). This was a 92% participant retention rate from Step 3 to 5.

These 204 participants sent us a total of 5,169 screenshots, an average of 25.6 screenshots each (well above the minimum of 10), with four participants sending us more than 100 screenshots. Lower numbers of screenshots sent from some participants was not necessarily an indicator of lower levels of engagement. Some participants reported that they did not see as many advertisements that fell into the criteria as others. This is unsurprising given the targeted nature of the advertising we are studying.

To receive the screenshots and discuss the material being collected with our participants, we used a web-based SMS platform called MessageMedia. This platform allowed our team to use a single phone number to chat with participants in real-time, in an environment (SMS) organic to and familiar for our participants. Asking them to download an additional app or navigating a more professional form of communication like email ran the risk of disengagement or lower participation

rates. SMS is standard to all default mobile phones, and most modern telephone plans include free SMS.

During the four data collection weeks, our team would monitor the "SMS chat line" for the project throughout business hours (Mon-Fri 9-5PM) along with some checking after hours and on weekends for any urgent enquiries or questions. Three team members monitored the "chat" regularly, ensuring timely responses to messages, and the opportunity to chat and co-analyse images and screenshots as they came in. This became a kind of interview, albeit sometimes asynchronous and limited, but provided an excellent opportunity to engage in co-analysis, invite participants to interpret, explain, and theorise what they were seeing and sending us.

Most participants sent us screenshots and chatted with us over multiple days. We discouraged single "image dumps" at the end of the week, preferring more frequent contact so we could ask questions about images, follow-up, and reflect on the material collected in close to real-time. We used the SMS platform to check-in with participants over the course of their data collection week, especially if we had not heard much from them. This allowed us to remind them, keep them on track, and link them into the next step.

Step 5 - Survey 2: Reflecting and exiting the study
After their week of data collection, having sent at least 10 screenshots (although most sent many more), we sent participants a link to the second and final survey. The two surveys, screenshots, and SMS chat logs were linked together by a phone number. Participants were asked to provide phone numbers in each of the two surveys to allow us to link the data together. Phone numbers were then deleted at the data cleaning stage, once unique identifiers were assigned to each data source.

In this survey we asked 18 questions, inviting participants to reflect on what they had seen and collected, asking some of the same questions from survey one to see if their week of data collection had an impact on their perceptions, and finally asking them to provide us with their Facebook ad interests and advertiser data. Facebook allows users to download a copy of the automatically-generated "interests" the platform has assigned to them and uses to target advertisements to them across its apps and advertising networks (Facebook, Instagram, Messenger and many other websites and apps) along with a list of all the advertisers who have uploaded data about them into Facebook's ad model. This "data donation" enabled us to explore (a) how Facebook's ad model automatically generates and assigns "interests" related to alcohol, gambling and unhealthy food to our participants based on their online activity, (b) which unhealthy advertisers are uploading data about young Victorians into Facebook's ad model and (c) whether the advertisements that our participants correlate with their ad preferences.

This was the last step in the study for participants to formally exit and receive their $100 gift card. There was one final optional step which participants could opt into.

Step 6 - Focus group discussion forum
One of the key principles in citizen science approaches is "closing the loop", and involving participants in the analysis and outcomes of the research. While the SMS chat went most of the way to engaging in co-analysis with our participants, as we asked them to explain, interpret, theorise, and reflect on what they were seeing as we went, we also wanted to provide a final opportunity to reflect and engage. Because of the number of participants and the timeline of the project, we were unable to undertake synchronous video or telephone focus groups, so instead we

opted for an asynchronous online discussion forum. We used a platform called FocusGroupIT, where participants could join to see an initial analysis and a summary of key findings from the project team. We then asked participants to engage with, and reflect on, a range of key themes we had identified in the screenshots. This both "tested" our own analysis to see if we were "on the right track" and extended and deepened our interpretation of the data.

Of the 204 fully completed participants, 38 (19%) registered to take part in the focus group discussion forum, and 26 of them (68% of those registered, 13% of the wider cohort) commented on and contributed to the forum. This is a relatively low uptake, which can probably be attributed to the absence of a remuneration for this step and participants feeling they had already "closed the loop" with us in reflective SMS chats and in the second survey. That 13% did come back a month or more after completing their second survey with us (we did this in two groups, combining waves one and two for group one, and three and four for group two) is an indication of those participants' keen interest in the study.

3.3   Participant demographics

3.3.1   Age
Our participants ranged in age from 16 to 25, with an average age of 19.52.

3.3.2   Gender
We had a well-balanced cohort in terms of gender, with 47% identifying as male, 46% as female, 6% as non-binary, and one participant preferring not to say.

3.3.3   Sexuality
We had a diverse cohort in terms of sexuality, with 68% identifying as straight or heterosexual, 14% as bisexual, 7% as lesbian, gay or homosexual, 3% as queer, and 3% opting to choose another identity category such as asexual (n=2), pansexual (n=2), questioning, or rather not say.

3.3.4   Location
85% of our participants were based in Melbourne, 8% in large regional towns such as Ballarat, Bendigo, Geelong, or Albury-Wodonga, and 7% elsewhere in regional Victoria.

3.3.5   Education
For 53% of our participants, their highest level of education was completing year 12, 18% had completed year 11, and 8% had completed year 10 or below. The remainder had completed a higher degree, with 14% having completed a Bachelor's degree or Graduate Diploma, 2% had completed a Certificate-level qualification, 3% a diploma, and 2% a postgraduate qualification.

3.3.6   Birth country
76% of our participants were born in Australia, and 24% were born overseas. The countries of birth most represented outside Australia were India (n=11), England (n=5), Malaysia (n=3), New Zealand (n=3), Singapore (n=2), Vietnam (n=2), and Sri Lanka (n=2).

3.3.7   Aboriginal and Torres Strait Islander participants
Nine of our participants (4.4%) identified as Aboriginal or Torres Strait Islander.

3.3.8 Employment

Our participants were engaged in a range of different forms of employment. 41% were working casually, 9% were employed part-time, and 8% full-time. 15% combined different forms of employment. 27% were unemployed, with 17% looking and 10% not looking for work

4   Findings

As outlined above, the data collected in this project is extensive. To answer our Research Questions (see Section 2.2), we draw on survey responses, files provided in those surveys (screen time screenshots, and Facebook ad interest and advertiser files), SMS chats including screenshots (n=5169), and the focus group discussion forums (see Figure 2). In order to provide an accurate summary of this data, in this section we first provide a "findings overview", before moving on to discussing the most salient data in Section 5.
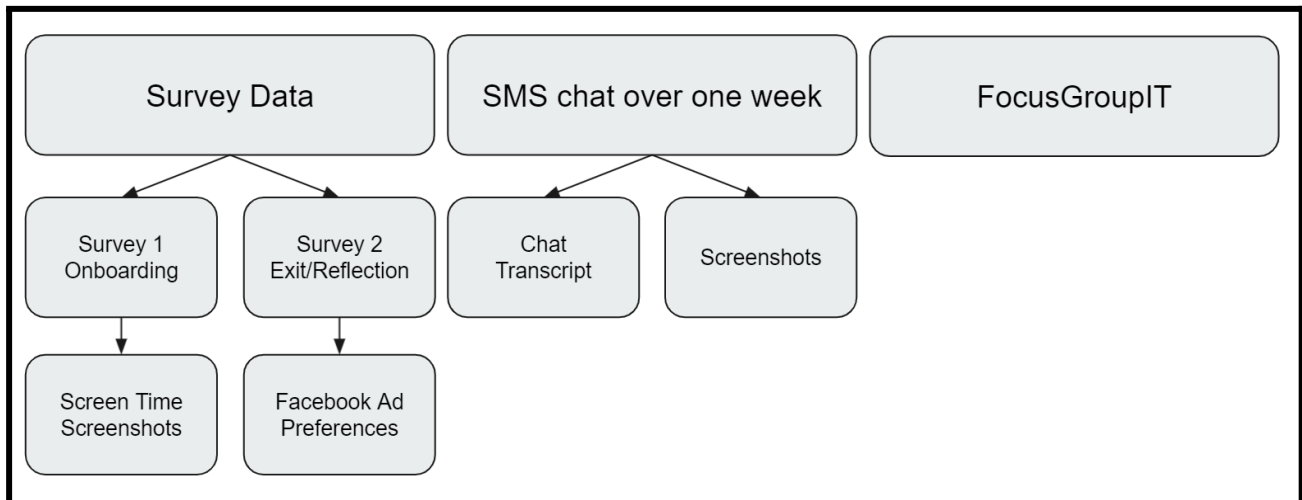
Figure 2: A summary of data sources in this study.

4.1   Survey data

4.1.1   Social media use
Facebook, YouTube, Instagram, Snapchat, and TikTok were the most popular social media platforms used by our participants (see Figure 3):

- 92% reported using Facebook.
- 92% reported using YouTube.
- 91% reported using Instagram.
- 67% reported using Snapchat.
- 51% reported using TikTok.

We note that, while our recruitment strategy was centred on Facebook and Instagram recruitment posts and this would have biased the results here, our participants - consistent with broader patterns in young people's social media use (Madianou & Miller 2012, Robards & Lincoln 2020) - tended to use multiple different social media platforms concurrently.
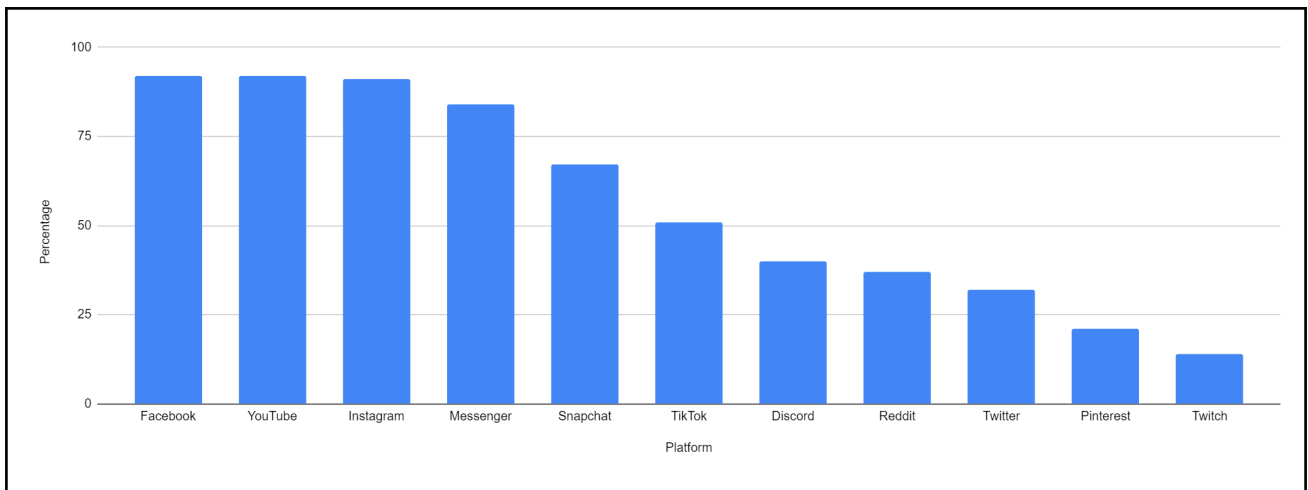
Figure 3: Social media platforms used by participants.

Because of our interest in sports betting, and the Victorian context, we also asked about the use of AFL apps. 39 participants (19%) used the AFL official app, and 76% of those who used that app were men.

4.1.2   Screen time

We asked participants to upload a screenshot of their smartphone "screen time" reports, to give us some indication of how much time they were spending on their phones. This was imperfect and not all participants provided this information (n=160 valid responses, 78% of our cohort) but was useful to get a sense of the spectrum of use practices.

On average our participants spent 4 hours 31 minutes per day on their phones with their screens active (this would not include Spotify being played with the screen off, for instance, or other passive monitoring applications that work with the screen off), with some participants being heavy users (10-11hrs of screen time per day) and others being light users (less than an hour per day), (see Figure 4). It is worth noting that screen time use here is limited only to mobile phones, and it's likely that most participants were also engaging in "screen time" on other devices like laptops, desktop computers, tablets, and televisions. Global research suggests on average, people spend 'a total of 6 hours and 55 minutes looking at a screen each day' ([Moody 2021](#)).

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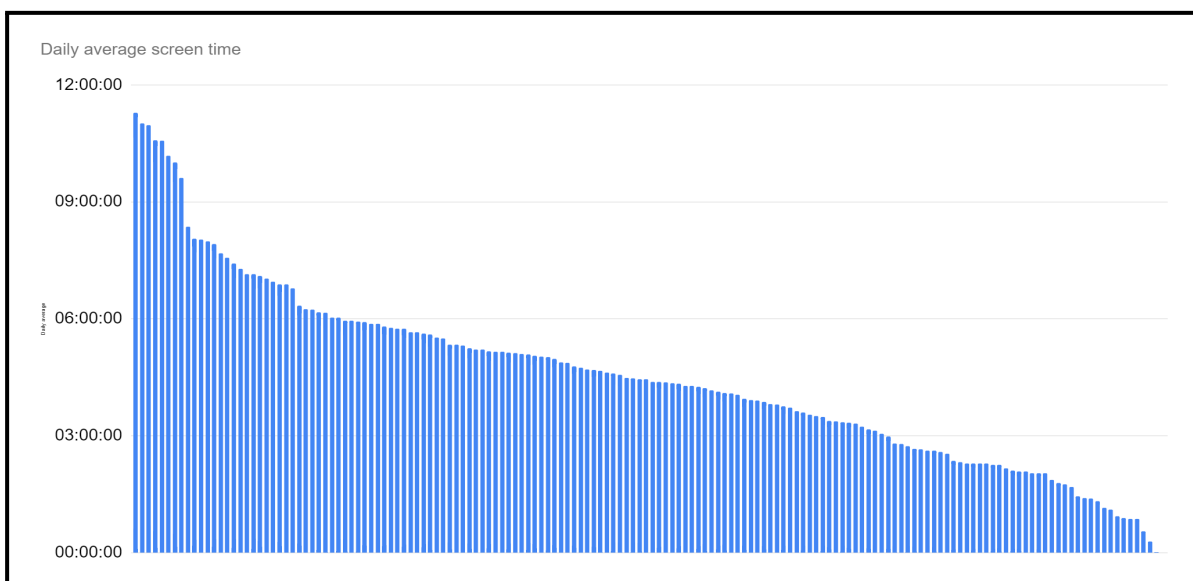
4.1.3   Alcohol consumption and purchasing

In relation to our participants' alcohol consumption practices (see Table 1), just under a third drank weekly (30.8%), about a third drank monthly (32.8%), and the remaining third drank less than monthly (16.6%) or never (18.6%). Two participants (0.9%) drank daily or almost daily. This data is broadly comparable to the data on young people's drinking practices identified in nationally representative surveys such as the National Drug Strategy Household Survey 2019 (Australian Institute of Health and Welfare 2020).

With regard to consumption of standard drinks per session, just over a quarter (27.4%) of our participants had five or more standard drinks per session less than monthly, a fifth (20.5%) monthly, 12.7% were having five or more standard drinks in a session weekly, while 39.2% never had five or more standard drinks in a single session.

At a higher level of consumption, eleven or more standard drinks in a session, 21.1% did this less than monthly, 12.2% monthly, and 2.4% weekly. Most (64.2%) never had eleven or more drinks in a session. This data is again broadly consistent with national level data.

In terms of where our participants were getting alcohol, 55.4% were buying alcohol at licensed venues like pubs or nightclubs and 10.3% were going out weekly. This does include a number of 16- and 17-year-olds so these results will be skewed down for our cohort. 8.8% used an online alcohol home delivery service. It is worth noting here that this study took place during a pandemic, between lockdowns which saw bars and nightclubs shut, and likely had an impact on these practices.

In the last 3 months, how often did you…	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Have an alcoholic drink?	38 (18.6%)	34 (16.6%)	**67 (32.8%)**	**63 (30.8%)**	2 (0.9%)
Drink five or more standard drinks in a session?	**80 (39.2%)**	56 (27.4%)	42 (20.5%)	26 (12.7%)	0 (0%)
Drink eleven or more standard drinks in a session?	**131 (64.2%)**	43 (21.1%)	25 (12.2%)	5 (2.4%)	0 (0%)
Purchase alcohol from a licensed venue such as a pub, hotel or nightclub?	**91 (44.6%)**	45 (22.1%)	47 (23.0%)	21 (10.3%)	0 (0%)
Order alcohol online for home delivery?	**186 (91.2%)**	12 (5.9%)	5 (2.5%)	1 (0.5%)	0 (0%)

Table 1: Alcohol consumption practices, self-reported.

4.1.4   Unhealthy food consumption

Consumption of "unhealthy food" - which we defined as fast food, soft drink, or junk food - was pervasive across our sample (see Table 2). The vast majority consumed unhealthy food at least weekly (27% daily, 51.5% weekly), and only 2% never. Delivery services like UberEats or Deliveroo

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were a popular mechanism for sourcing these foods and drinks, use of which has increased during the pandemic (Ritter et al. 2020; see also Section 5.5.4 of this report for detailed discussion of alcohol delivery services). Almost half of the sample used such services at least monthly, and over a fifth at least weekly.

In the last 3 months, how often did you...	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Have unhealthy food (like fast food, soft drink or junk food)?	2 (1%)	9 (4.4%)	33 (16.2%)	**105 (51.5%)**	55 (27.0%)
Use a delivery service like UberEats or Deliveroo to order "unhealthy" food (like fast food, soft drink or junk food)?	54 (26.5%)	52 (25.5%)	**56 (27.5%)**	39 (19.1%)	3 (1.5%)

Table 2: Food consumption practices, self-reported.

4.1.5   Gambling practices

Our participants were generally not gamblers or betters. Most had never gambled, either in a venue like a casino or pub (89.2%), online (86.8%) or via a smartphone app (86.3%). Two participants (1%) were daily gamblers through a smartphone app, 4.4% gambled weekly through an app, 3.4% online through a website, 1% weekly at a club or pub (see Table 3).

In the last three months, how often did you...	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
At a licensed venue like a casino, pub or club?	**182 (89.2%)**	17 (8.3%)	3 (1.5%)	2 (1%)	0 (0%)
Online through a website?	**177 (86.8%)**	17 (8.3%)	3 (1.5%)	7 (3.4%)	0 (0%)
Using an app on your phone?	**176 (86.3%)**	12 (5.9%)	5 (2.5%)	9 (4.4%)	2 (1%)

Table 3: Gambling practices, self-reported

4.1.6   Perceptions of advertising on social media

We asked our participants about their own perceptions of how often they saw different kinds of advertising on social media (see Table 4). We asked both before their week of data collection (in survey one) and also after (in survey two).

The ads our participants reported seeing most often were for unhealthy food and drink brands (initially 69.1% reported seeing these regularly or almost always, increasing to 82.4% a week later) fast food restaurants (79.4% regularly or almost always, increasing to 81.3%), food delivery services (80.4% regularly or almost always, which dropped to 75.5%). This mapped to the concentration of ads participants sent us (see Section 4.2.2). Interestingly, and in contrast, the sense of prevalence of food delivery service ads did drop off slightly in survey two, perhaps reflecting stronger attention to unhealthy food and drink brands as a result of project participation.

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Most of our participants also reported seeing a lot of alcohol ads, either for specific brands, retailers, or delivery services. About one third (35.8%) reported that they saw ads for alcohol brands regularly (27%) or almost always (8.8%), over a third saw them sometimes (39.7%), and only around one quarter reported never (5.4%) or barely ever (19.1%). The patterns were similar for alcohol retailers and pubs, clubs and bars. After a week of data collection, this intensified, with more participants reporting seeing alcohol advertising more frequently, for instance the percentage of people seeing alcohol ads on social media "almost always" increased to 14.2% (from 8.8%) and "regularly" increased to 30.4% (from 27%).

Ads for alcohol delivery services did not seem as common, with our participants initially reporting seeing these less (24.5% never, 25.5% barely ever, 27% sometimes) than other kinds of alcohol advertising. In the second survey, the percentage of participants never seeing alcohol delivery ads dropped to 13.7%, with "barely ever" (26.5%) and "sometimes" (28.9%) remaining around the same. However, the number reporting regularly seeing alcohol delivery services after a week of data collection increased to 25% (from 17.6%). The number who saw these ads regularly remained very similar across the two survey points, 5.4% initially and 5.9% after one week.

Gambling and sports betting ads were not perceived to have been seen as much as unhealthy food and alcohol, and this perception solidified after their week of data collection. Our participants were more likely to report seeing sports betting ads than gambling venue ads: 69.1% of participants reported seeing gambling venue ads barely ever or never initially, and that increased further to 76.9% in the second survey. For sports betting ads, we had similar numbers of participants seeing sports betting ads "barely ever" (22.1%) as those who saw them "regularly" (23.5%) with another quarter seeing them sometimes (25.5%), and as with other industries this seemed to intensify at the second data collection point (20.1% never, 26.5% barely ever, 26% sometimes, 20.6% regularly, and 6.9% almost always).

When we break the sports betting ad perceptions down by gender, there is a clear and statistically significant difference between men and women: 51% of women initially said they saw sports betting ads barely ever or never (18.1% regularly, 6.4% almost always, 24.5% sometimes) compared to men, 82% of whom said they saw sports betting ads sometimes (27.1%), regularly (30.2%) or almost always (25%).

In the last 3 months, how often did you see the following kinds of ads when using social media...	Survey	Never	Barely ever	Sometimes	Regularly	Almost always
Alcohol brands	Survey 1	5.4%	19.1%	**39.7%**	27%	8.8%
	Survey 2	5.9%	20.6% ^	28.9% --	**30.4% ^**	14.2% ^^
Alcohol retailers	Survey 1	6.7%	20.1%	**41.7%**	25%	6.4%
	Survey 2	6.9%	18.1%	**38.2%**	27.9% ^	8.8% ^
Alcohol delivery	Survey 1	24.5%	25.5%	**27%**	17.6%	5.4%
	Survey 2	13.7%	26.5% ^	**28.9% ^**	25% ^	5.9%
Pubs, clubs and bars	Survey 1	12.7%	27.9%	**33.3%**	19.1%	6.9%
	Survey 2	6.9% -	23.5% -	**32.8% -**	24.5% ^	12.3% ^
Sports betting	Survey 1	14.2%	22.1%	**25.5%**	23.5%	14.7%
	Survey 2	20.1% ^	**26.5% ^**	26% -	20.6% -	6.9% -
Gambling venues	Survey 1	34.3%	**34.8%**	19.6%	8.8%	2.5%
	Survey 2	28.9% -	**48% ^**	18.6%	2.9% -	1.5%
Unhealthy food and drink brands	Survey 1	1%	5.9%	24%	**38.2%**	30.9%
	Survey 2	0% -	2%	15.7% -	37.3% -	**45.1% ^**
Fast food restaurants and retailers	Survey 1	1%	5.9%	13.7%	**42.6%**	36.8%
	Survey 2	0% -	1.5% -	17.2% ^	38.2% -	**43.1% ^**
Food delivery services	Survey 1	0.5%	2.5%	16.7%	**40.7%**	39.7%
	Survey 2	0%	4.9% ^	19.6% ^	37.3% -	**38.2%**

Table 4: Self-reported frequency of kinds of ads seen on social media, comparing first and second survey.

4.1.7 Perceptions of frequency of advertising for each platform

We asked which platforms they saw the most advertising on (see Table 5). The top platforms here were Instagram, Facebook, and YouTube, which aligns with the patterns in the ads participants sent us (see Section 4.2.2).

For the following platforms and apps, how much advertising did you see? S2 Q7

Platform	N/A (don't use)	Never	Barely ever	Sometimes	Regularly	Most of the time I'm on
Facebook	7.83%	1.38%	6.45%	11.98%	**33.64%**	**38.71%**
Facebook messenger	11.06%	**50.69%**	**27.65%**	5.99%	3.23%	1.38%
Instagram	6.91%	1.84%	2.76%	11.52%	**29.95%**	**47.00%**
YouTube	6.91%	4.15%	6.91%	16.59%	**31.34%**	**34.10%**
Snapchat	25.81%	2.30%	14.75%	21.20%	22.58%	13.36%
Reddit	55.30%	11.52%	17.97%	11.98%	2.30%	0.92%
TikTok	44.70%	4.15%	11.52%	18.89%	16.13%	4.61%
Twitter	61.29%	9.68%	12.90%	9.68%	5.07%	1.38%
Twitch	78.80%	5.07%	5.99%	6.45%	2.30%	1.38%
Tumblr	89.40%	3.69%	2.76%	2.76%	0.92%	0.46%
Pinterest	72.35%	5.53%	8.29%	9.22%	4.15%	0.46%
Tinder	87.56%	3.23%	4.15%	4.15%	0.92%	0.00%
Discord	56.68%	35.48%	5.07%	0.92%	1.84%	0.00%

Table 5: Perceptions of frequency advertising is seen on different social media platforms.

4.1.8   Influencer content

We asked our participants whether or not they saw influencers promoting alcohol, gambling or unhealthy food and drinks. We also included celebrities and sports stars in this category for convenience, but acknowledge important differences in these public personas. While participants reported that influencer content was not as common as display ads and sponsored posts from brands and retailers, a perception replicated in the mix of ads participants sent us, influencers were perceived to be more involved in unhealthy food and drinks promotion (see Figure 5). About a quarter (25.37%) of our participants reported seeing influencers promote unhealthy food and drinks, and a third (33.66%) saw this content sometimes. Participants reported seeing influencers promoting alcohol at lower rates: 15.12% reported seeing this regularly, 29.76% sometimes. Participants reported that they saw influencers promoting gambling less than the other two industries of interest, with a striking 35.61% of the sample indicating they never saw this, and a further 32.68% saying they barely ever saw this. While gambling advertisers may not use influencers, the ads sent by participants illustrate consistent use of celebrities and professional sportspeople.
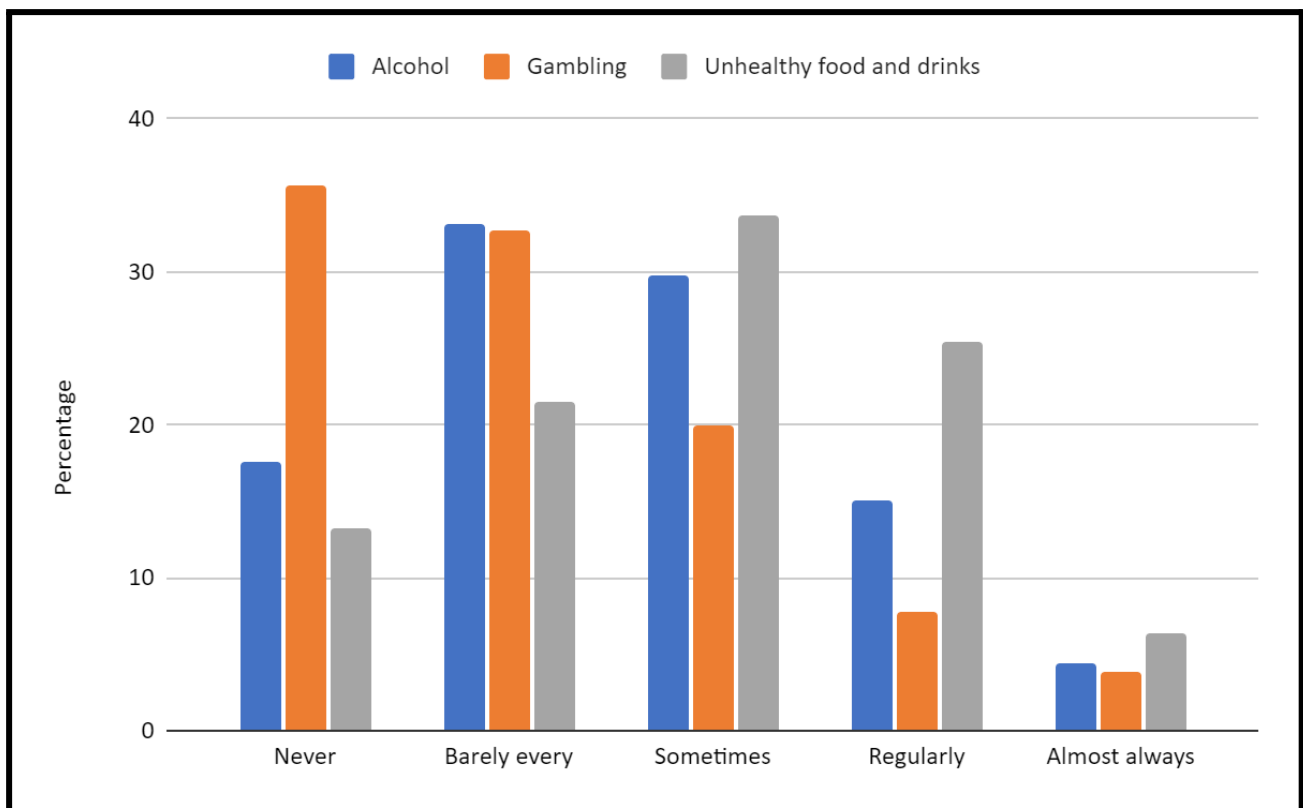
Figure 5: Frequencies of how often participants thought they saw influencer content.

The overarching relative lack of influencer content could be interpreted in three ways, though these are somewhat speculative. First, it might be that participants do not perceive such content as advertising, and accordingly did not send screenshots of such activity (despite us prompting them to include this kind of material in the training videos). Secondly, influencer content is not always clearly disclosed and easily distinguishable as advertising, so participants might not have recognised it in their feeds. Thirdly, it might be that influencer content that involves unhealthy industries might be less prevalent than we might intuitively assume. Or, to put it another way, influencer content is given outsized attention in discussions of advertising and promotion on social media platforms. The vast majority of advertising is not user-generated or influencer content, but paid display advertising and sponsored posts from brands and retailers.

4.1.9   Participants liking, sharing, and posting about advertising from unhealthy industries
A key feature of advertising on social media platforms is that individual users participate in liking and sharing commercial content. In doing so, they incorporate promotional messages into their own profiles and stories, distributing them in their own peer networks - enabling advertisers to leverage the social capital of consumers. Interacting with ads by liking, sharing and commenting also generates data about the interests and social networks of consumers. While sharing is more direct, "liking" can have a similar effect as other users can sometimes see material that is "liked into their timeline" by the people they follow. In this way, everyday social media users become relays in marketing networks, acting as influencers in their own social networks.

We asked our participants how often they had liked, shared, or posted about unhealthy advertising on their own social media accounts over the past month. We found that a minority of our own participants did engage in this practice of liking and sharing some forms of marketing and advertising. Most commonly this was unhealthy food and drinks brands (20.66%), fast food restaurants (19.25%), bars, pubs and clubs (15.26%) alcohol brands and producers (12.91%), and

food delivery services (11.97%). Sharing and liking other kinds of advertising was less common among our cohort, including sharing content from breweries, wineries and distilleries (6.34%), sports betting (5.63%), alcohol retailers (4.23%), casinos or other gambling venues (1.88%) and alcohol delivery services (1.88%).

4.1.10 The impacts of promotions on alcohol and unhealthy food/drinks orders

Interested in the impact of advertising on consumption practices (RQ3), we also asked about whether seeing a promotion for alcohol or unhealthy food/drinks resulted in participants ordering those products. Our participants reported they were more likely to order unhealthy food/drinks after seeing a promotion, with 35.3% saying promotions sometimes had resulted in an order, and 16.2% saying promotions frequently had an impact. Promotions on alcohol tended to be less impactful for our cohort, aligning with their overall consumption practices (see Section 4.1.3 above). Most (58.8%) never ordered alcohol after seeing a promotion, less than a third (29.4%) rarely did, and a small number sometimes (10.3%) or frequently (1.5%) did so (see Figure 6).
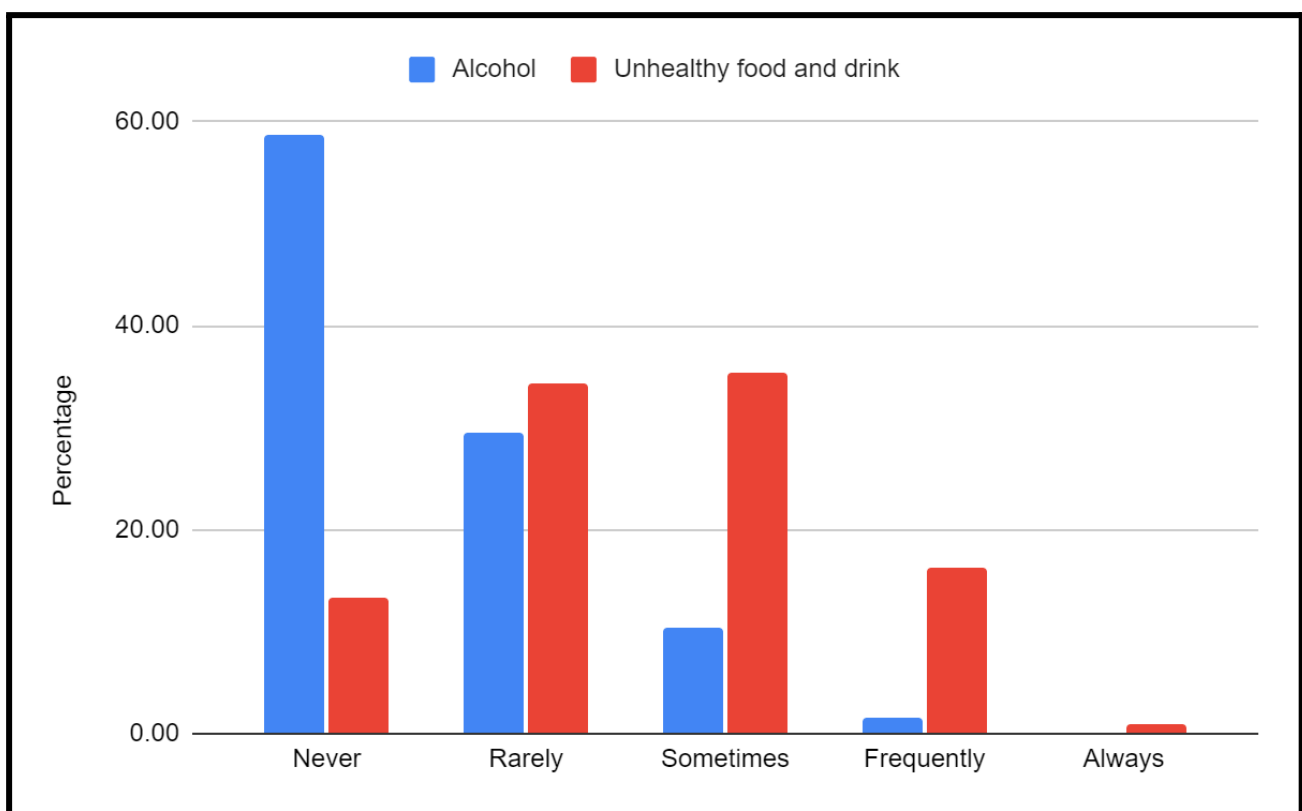
Figure 6: Impact of promotions on consumption practices of alcohol and unhealthy food.

4.1.11 Impact of marketing on perceptions of brands and products

In an open ended question, we asked 'How do you think the marketing you see on digital and social media influences your perceptions of brands and/or products (if at all)? Tell us about an example and/or why this marketing does or doesn't influence your perception of brands and/or products'.

The vast majority of the sample (95.6%) responded to this question, with 62% said the marketing they saw did have an impact on their perceptions of brands and products, 16% saying it did not, and 22% saying the impact was more complicated than a yes/no binary (see detailed discussion in Section 5.3). Examples of responses to this question included:

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marketing I see on social media somewhat influences my perception of certain brands. If I see an ad for sports betting where an appealing deal is offered I feel encouraged to use the platform and it also makes sports betting seem like it is a usual part of the sport. (Ricky, 17, male, Melbourne)

It influences my perception of some brands and products as it makes you think using them will allow you to have a good time as people on the ads are always happy. (Elizabeth, 19, female, elsewhere in Victoria)

Participants provided examples on how ads influence their perception of brands with most participants using examples related to unhealthy food (50 tags):

Marketing often makes brands appear better than they really are. KFC for example is promoted as a family friendly meal, implying that it is healthy to eat, which is not true. (Bernard, 17, male, Melbourne)

My perceptions have changed as marketing can show ideas and values that appeal to me. For example, I saw a Coke advertisement that claimed their bottles were made of recycled plastic, which connected to my own personal values and made me see the brand in a more positive light. (Jeff, 16, male, Melbourne)

4.1.12 Views on levels, nature, and regulation of advertising on social media

We asked a series of general questions about our participants' views on advertising on social media. Each question asked them to tell us how much they agreed or disagreed with an assertion. We asked them to respond both immediately before their week of data collection (S1 = survey one in the tables below) and directly after it (S2 = survey two) in order to assess what kind of impact (if any) the week of data collection in our study had, and also to verify what they reported in survey one.

There is *a lot* of <u>alcohol</u> advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	1%	14.2%	27%	**39.7%**	18.1%
S2	1%	11.8%	19.1%	**36.8%**	31.4%

Table 6: Perceptions of how much advertising of alcohol there is on social media.

There is *a lot* of <u>gambling/betting</u> advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	2.5%	14.2%	25%	**35.8%**	22.5%
S2	4.9%+	20.6%	**29.4%**	23.5%	21.6%

Table 7: Perceptions of how much advertising of gambling/betting there is on social media.

There is *a lot* of <u>unhealthy food and drinks</u> advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0.5%	2.5%	7.4%	36.8%	**52.9%**
S2	0%	0.5%	4.4%	33.3%	**61.8%**

Table 8: Perceptions of how much advertising of unhealthy food and drinks there is on social media.

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In summary, the perception among our participants was that unhealthy food and drinks advertising was the most prevalent of our three industries of interest, and this intensified after the week of data collection to the point that 95.1% of our cohort agreed that there was *a lot* of unhealthy food and drinks advertising on their social media (up from 89.7%), (see Table 8). Less, but still a majority agreed there was *a lot* of alcohol advertising (68.2%) and this increased by 10.4% after the data collection window (up from 57.8%), (see Table 6). Just under half of this cohort felt there was *a lot* of gambling or betting content (45.1% agreed or strongly agreed) and this proportion actually shrank after a week of data collection (down from 58.3%), (see Table 7).

We also asked our participants about whether or not there should be less advertising from unhealthy industries on social media:

There *should be less* <u>alcohol </u>advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0.5%	2.5%	23%	**46.1%**	27.9%
S2	0.5%	2.5%	24%	**42.6%**	30.4%

Table 9: Perceptions of whether there should be less alcohol advertising on digital media.

There *should be less* <u>gambling/betting</u> advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0%	1%	9.8%	30.9%	**58.3%**
S2	0%	1.5%	13.7%	30.4%	**54.4%**

Table 10: Perceptions of whether there should be less gambling/betting advertising on digital media.

There *should be less* <u>unhealthy food and drinks</u> advertising on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0%	2.5%	16.7%	**41.7%**	39.2%
S2	0%	2%	12.3%	**47.5%**	38.2%

Table 11: Perceptions of whether there should be less unhealthy food advertising on social media.

For all three industries, most of our participants thought there should be less advertising of unhealthy products in general. This was clearest for gambling where 84.8% thought there should be less gambling/betting advertising on social media (see Table 10), but also strong for unhealthy food and drinks (85.7%) and alcohol (73%) (see Tables 11 and 9).

Compared to the changes in perception of volume of advertising between survey one and two, the sense that there should be less advertising for the three industries did not change significantly between the two surveys. Significantly, 70-90% of young people in our sample agreed or strongly

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agreed in both surveys that the amount of unhealthy advertising on social media across all three industries - unhealthy food and drinks, gambling/betting and alcohol - should be reduced.

We also asked participants to respond to two statements about algorithmic advertising:

Alcohol / gambling / unhealthy food and drinks advertising on digital social media is manipulative and/or creepy:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0.5%	11.3%	23%	**37.3%**	27.9%
S2	1%	11.3%	21.6%	**41.7%**	24.5%

Table 12: Perceptions about unhealthy advertising being manipulative or creepy.

I sometimes notice that alcohol / gambling / unhealthy food and drinks advertising on digital and social media seems to know things about my interests or behaviours:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	1.5%	9.3%	13.7%	**46.6%**	28.9%
S2	1.5%	8.8%	15.2%	**45.1%**	29.4%

Table 13: Perceptions about unhealthy advertising knowing about interests and behaviours.

Two thirds (66.2%) agreed that the advertising they saw was creepy and/or manipulative (see Table 12), and almost three quarters (74.5%) agreed that the advertisements they were seeing were based on knowledge of interests and behaviours (see Table 13).

In line with our key research question (RQ4) around policy change and government regulation, we also asked if:

The *government* should make laws that reduce or ban alcohol marketing on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0.5%	7.4%	26.5%	**40.2%**	25.5%
S2	1.5%^	9.3%	22.1%	**34.3%**	32.8%

Table 14: Support for government regulation of alcohol advertising.

The *government* should make laws that reduce or ban gambling/betting marketing on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0%	4.9%	12.3%	34.3%	**48.5%**
S2	0.5%	6.4%	12.3%	32.4%	**48.5%**

Table 15: Support for government regulation of gambling/betting advertising.

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The *government* should make laws that reduce or ban <u>unhealthy food and drinks</u> marketing on digital and social media:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	2.5%	11.8%	27%	**37.3%**	21.6%
S2	2.5%	11.3%	23.5%	**34.8%**	27.9%

Table 16: Support for government regulation of unhealthy food and drinks advertising.

Support for government regulation was significant here (Tables 14-16), especially around gambling/betting with 80.9% supporting more regulation (see Table 15). Attitudes towards regulation are one of our key areas of interest, so we return to this point in 4.1.13 with qualitative comments, and in Section 5.4 in our discussion.

Finally in this section, we asked our participants to respond to statements about how advertising material should be framed or disclosed:

It isn't always clear whether a post about alcohol / gambling / unhealthy food and drinks is sponsored by a brand or company:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	1.5%	19.1%	15.7%	**48.5%**	15.2%
S2	2.5%	15.7%	21.1%	**47.5%**	13.2%

Table 17: Perceptions about clearly distinguishable advertising.

It should always be clear if a post about alcohol / gambling / unhealthy food and drinks is sponsored by a company:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
S1	0%	2%	7.8%	31.4%	**58.8%**
S2	0%	2%	4.4%	34.8%	**58.8%**

Table 18: Perceptions about whether advertising should be clearly distinguishable.

There was an overwhelmingly strong sense that sponsored posts should be labelled as such (93.6% agree with this in S2, slightly up from 90.2% in S1, see Table 18) and it was also clear that participants did encounter some advertising material that wasn't always clearly labelled (60.7% reported this in S2, see Table 17).

4.1.13 Views on regulation of advertising on social media

As covered in Section 4.1.12, there was strong support for higher levels of government regulation of social media marketing by unhealthy industries. We asked about support for greater regulation both before (survey one) and after (survey two) their week of data collection. The strongest levels of support for regulation were in relation to gambling and betting, with 80.9% of participants agreeing with the need for higher levels of regulation (34.4% in survey one, and 32.4% agreeing in survey two, with 48.5% of all participants strongly agreeing here in both surveys). While support was slightly weaker for regulation around alcohol and unhealthy food and drinks, a majority still

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supported the government regulating social media advertising from these industries (67.1% and 62.7% agree or strongly agree in survey two for both industries respectively), (see Figure 13, Figure 15).

To round this off, we invited participants to explain what they thought governments should do. 169 participants offered suggestions in these open-ended responses, and our analysis revealed a number of common themes and patterns in their responses. The focus on banning gambling/betting and alcohol ads for young people was one of the most common themes:

Ban ads for gambling to people under 18. (Alfred, 17, male, Melbourne)

No alcohol and gambling ads allowed. (Joy, 25, female, Melbourne)

With things like gambling, I personally don't think individuals under the age of 25 when your brain is still developing should be advertised gambling services as it forms unhealthy and hard to break habits that could follow you for the rest of your life, so i would prevent advertising of gambling, alcohol and fast food to people under 25. (Russell, 17, male, regional city)

I don't think gambling should be promoted anywhere you have minors on the platform. (Jack, 18, male, Melbourne)

All gambling advertisements should be banned on TV and on social media due to gambling and betting addiction along with a reduction of advertisements for other unhealthy habits. (Nate, 16, male, regional city)

For gambling in particular, I think there ought to be quite harsh restrictions, it's encouraging and utilising manipulative marketing techniques for a susceptible audience. (Robin, 20, male, Melbourne)

Gambling ads should be banned, they're an absolute net negative for society and my wallet. (Ash, 21, male, Melbourne)

On platforms that have users under the age of 18 - banning alcohol and betting advertisement. (Bob, 18, male, Melbourne)

There were also a number of innovative ideas on how regulation might be more nuanced, beyond simply banning this content, with different settings and tactics for these industries:

Removing gambling and alcohol ads entirely, or make social media platforms let you choose if you want to see those types of ads. (Deborah, 20, female, Melbourne)

Allow people to be able to block particular kinds of content. (Samantha, 19, female, Melbourne)

Increase advertisement costs for these kinds of marketing. (Rose, 19, female, regional city)

They should use the same marketing laws for gambling and some alcohol ads the same as the ones for smoking, where graphic imagery is put in cigarette boxes. (Ruben, 19, male, Melbourne)

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> *Advertisements of unhealthy food, alcohol, gambling must state that these things are risky - similar to cigarette packets. (Sandra, 18, female, regional Victoria)*

These forms of regulation borrow from other industries and practices, like tobacco, but show how our young participants were thinking about regulation in nuanced ways. Beyond simply banning this content, participants suggested also thinking about scaling cost, emphasising impact, and allowing social media users greater control over the kinds of content they see.

While gambling, and to a somewhat lesser extent alcohol marketing, was the focus in most responses, others were more encompassing in their accounts of increased regulation:

> *I don't think you should be allowed to advertise unhealthy food, drinks, alcohol or gambling all together. It is normalising unhealthy habits. (Darcie, 20, female, Melbourne)*

In reflecting on whether or not governments should be more proactive in regulating the marketing efforts of these industries, participants also raised the issue of freedom:

> *Yes we live in a pretty fucking fat country but yeah it's also a free market and there is free speech. But yeah obesity is not good for individuals and not good for society and comes at a major cost to the taxpayer. (Dewey, 17, male, Melbourne)*

4.1.14 Affective reflections on ads seen during the data collection week

In survey two, we asked participants to reflect on their week of data collection and tell us what they thought of the ads they saw, collected, and sent to us. We wanted to understand 'affective' or emotional responses to advertising (RQ3b, see Section 5.3). We prompted them with a range of different descriptions and prompted them to think about all the ads they saw during their week of data collection and if they made them feel like this never, rarely, sometimes, frequently or always. We calculated an average score based on their responses as follows: 1 = always; 2 = frequently; 3 = sometimes; 4 = rarely; 5 = never; a lower mean score across the sample as a whole equates to a higher average affect (Table 19).

Average affective store for each product category			
	Alcohol	**Gambling**	**Unhealthy food**
Manipulative	3.14	2.90	2.40
Funny	3.81	4.03	3.55
Annoying	2.92	2.89	2.63
Clever	3.45	3.78	3.16
Boring	3.16	3.27	3.03
Enjoyable	3.67	4.19	3.42
Informative	3.89	4.15	3.65
Creative	3.05	3.77	2.94
Cringy	3.32	3.44	3.36

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Disturbing	4.20	3.84	4.12
Targeted at me based on my personal data	3.25	4.01	2.59

Table 19: Affective responses to unhealth advertising.

4.1.15 Impacts of alcohol ads

We asked our participants about the impacts specifically of the alcohol ads they saw over their week of data collection, and whether or not those ads encouraged or celebrated excessive consumption, depicted people under 25 consuming alcohol, suggested it might improve social or intimate settings, or change your mood or environment (see Table 20).

Did the ads you see...	Never	Rarely	Sometimes	Frequently	Always
Encourage or celebrate excessive alcohol consumption	14.75%	15.67%	**31.80%**	29.49%	8.29%
Depict someone who appeared to be under 25 years of age	19.35%	13.82%	20.28%	**34.10%**	12.44%
Suggest that alcohol might change your mood or environment	11.98%	6.45%	29.49%	**37.33%**	14.75%
Suggest alcohol might improve your social or intimate relationships	14.75%	13.82%	28.11%	**32.26%**	11.06%

Table 20: Impact of alcohol ads.

4.1.16 General reflections on ads, targeting, visibility, and regulation

Also in survey two, we asked about whether or not the ads targeted at our participants were appropriate or not, in terms of their own likes, interests, and consumption practices, and how this kind of algorithmic targeting made them feel (see Table 21).

After your week of observation, do you think the ads you see...	Never	Rarely	Sometimes	Frequently	Always
...are for products you already consume?	5.07%	18.43%	**45.62%**	27.65%	3.23%
...are for products you are likely to consume?	2.76%	13.36%	31.80%	**44.24%**	7.83%
...are for products you are unlikely to consume?	1.84%	**37.79%**	34.10%	24.88%	1.38%
...are targeted directly at you?	3.23%	11.98%	31.34%	**41.94%**	11.52%
...are difficult to recognise as ads?	9.22%	32.72%	**41.01%**	14.75%	2.30%
...should be reported to the	18.43%	**39.63%**	31.80%	7.83%	2.30%

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platform?					
...influenced your emotions or behaviours?	10.60%	**38.71%**	37.79%	9.68%	3.23%

Table 21: General reflections on ads, targeting, visibility, and regulation.

We also asked whether our participants thought the platforms "knew them well" in order to get at their sense of how well (or how poorly) the platforms they were engaging with had an accurate consumer profile on them with which to target advertising. 42.6% reported that platforms knew them "pretty well" and 29.4% that platforms knew them "very well" (see Figure 7). We also asked participants about whether or not they thought these platforms 'knew them well', after their week of data collection:
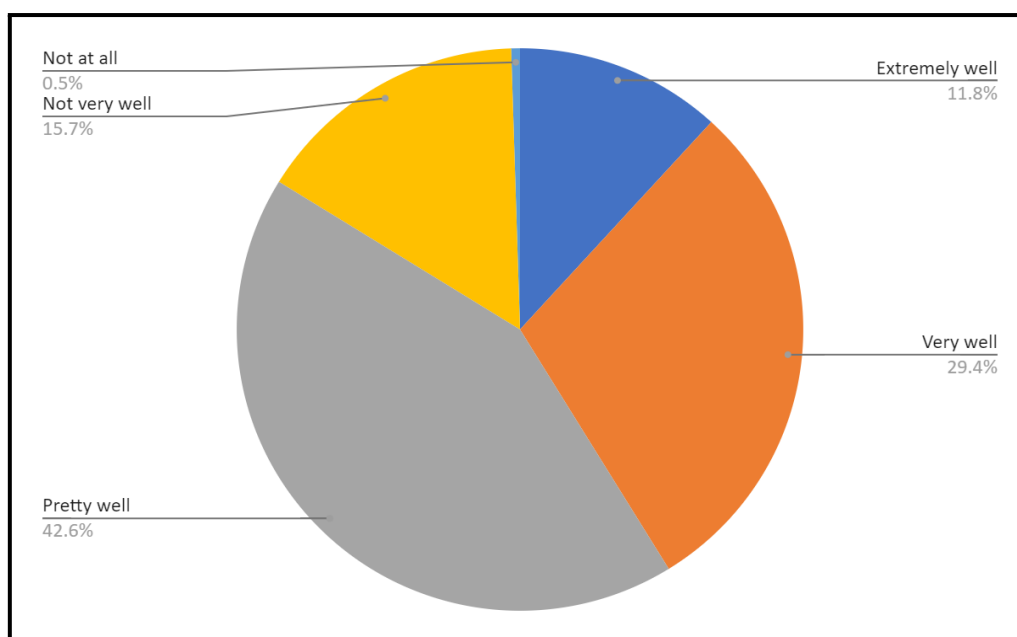
Figure 7: How well participants thought platforms know them.

4.1.17 Impact of participating in the project on their own practices and "advocacy"
Finally, in survey two, we asked about the impact of participating in this research project on our participants' social media practices, direct forms of advocacy (like talking to family/friends, or reporting ads), and any impact on their own consumption (see Table 22).

Behaviour since participating in the project:	Yes	No	N/A
Talked to friends / family about unhealthy marketing on digital and social media	**62.4%**	36.6%	1%
Changed your advertising, data or privacy preferences on social media	22.8%	**75.7%**	1.5%
Reported an advertisement on social media	16.8%	**81.7%**	1.5%
Reduced your consumption of alcohol	11.9%	**60.4%**	27.7%
Reduced your use of gambling or betting apps and services	5.4%	**34.2%**	60.4%

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Reduced your consumption of unhealthy food or drinks	27.2%	**64.4%**	8.4%
Thought about the impact of marketing tactics on digital and social media	**93.6%**	4.9%	0.5%

Table 22: As a result of participating in this project, have you done any of the following?

4.1.18 Reflections on specific ads

After their week of data collection, in survey two, we asked participants to identify and describe the most interesting ad they saw during their week of data collection. Many participants shared with us ads that they found interesting because they seemed "targeted" at them, which often involved them theorising why they saw some ads:

> *As someone who plays and enjoys watching basketball (NBA) games, etc. I found it surprising that gambling was promoted to me using my enjoyment of basketball - via understanding my personal data, Snapchat used ads which were more likely to entice me. This was certainly eye opening as before I never realised how much what I do and search on my phone influences what kinds of advertisements I would be getting on my social media apps. (Malvin, 20, male, Melbourne)*

> *I thought this ad for a bar in traralgon was interesting because I don't live in that area (I'm at least 2 hours away) and was staying with a mate in the traralgon area that night. It surprised me how quickly the localised ad appeared. (Lola, 18, female, Melbourne)*

> *This ad was less than two hours after ordering Macdonalds. (Ronnie, 24, non-binary, Melbourne)*

> *Because it came up on my feed right after talking about kfc, it could of [sic] been a coincidence but it was strange. (Kieron, 17, male, Melbourne)*

> *The ad was about Korean food that was available to be delivered in doordash. It was interesting because I recently went to some Korean restaurants and posted stories about it on Instagram. I thought that Instagram was spying on me or something with algorithm. (Penelope, 19, female, Melbourne)*

> *I found this ad the most interesting as during the week I had seen no advertising regarding alcohol. Then the one night I go out to have drinks with friends and I'm actively searching for clubs, this ad pops up in my feed (see Figure 8 below). Which to me shows that they're reading what I'm searching and then advertising things to me. (Gus, 19, male, Melbourne)*

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The ad was for a bar located near me, even though I have my location services turned off on social media. (Walter, 18, male, Melbourne)

An alcohol delivery ad I got. I got it right after I was looking to purchase drinks online for a friends party. (Homer, 21, male, Melbourne)

i had just been on woolworths online on my laptop and i got the ad about 5 minutes later on my phone. (Joanne, 17, female, Melbourne)

I don't understand how they sent me this ad (see Figure 9 below) when me and my friend was just talking about drinking. It was a sunny day and seeing this as just scared me that how much influence these ads can put on a person who doesn't understand their marketing. After seeing this ad for once i literally thought my phone is listening and showing me exact things i am talking about. (Leroy, 23, male, Melbourne)

In each of these examples participants describe ads that seemed to respond to their specific interests, to conversations they had with friends, to a location they were in, recent searches they had done or profiles they had visited. Several indicate in their responses that the activity of

monitoring ads for the week led them to realise how responsive and data-driven the advertising was.

Many participants told us about ads that they found appealing, clever or entertaining:

I think rather than a particular ad it was a particular type. There were lots of alcohol ads for different brands that were briefly showing how to make cocktails that looked really yum. (Samantha, 19, female, Melbourne)

The ad from Patron Tequila displays a video of a bartender teaching the audience how to make a drink using the tequila to peak their interest. (Maddie, 21, female, Melbourne)

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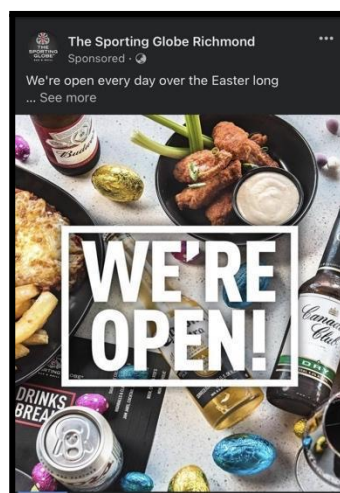
Samantha and Maddie both reference the common practice of spirits brands creating engaging videos demonstrating how to make cocktails (see Section 5.1.3 for further discussion of this tactic).

> *There was an instagram ad for Orchard Theives cider and it depicted an animated fox scurrying along the screen with the backgrounds changing (instagram story). I was encouraged to "catch" the fox by holding my finger down on the screen, thus pausing the ad. I thought it was really clever, the branding rather than alcohol was front-and-centre and overall I really adore foxes. I'm genuinely considering buying their cider now just because of that, since I think good marketing should be rewarded. (Alex, 23, non-binary, Melbourne)*

Alex describes an extremely creative ad attuned to the Instagram stories format, encouraging users to catch the fox by holding their finger on the screen. Users would likely play the game, and then having paused the ad take a moment to notice the brand. The Orchard Thieves cider ad was one example of brands creatively using the affordances of social media platforms and their formats.

Some participants drew our attention to particular campaigns that were particularly distinctive or engaging:

> *Notable Aussie band Lime Cordiale endorsing Smirnoff, I think it's a little bit strange considering a lot of their audience would be underage or in their early 20's. (Kirsten, 19, female, Melbourne)*

> *Most interesting one was probably Lime Cordiale advertising alcohol as influencers. I didn't think I saw any influencers in my Facebook feed until this project made me realise that I do. (Byron, 20, male, Melbourne)*

> *This ad was a deal through KFC about Fried Donuts. It stood out for me because the title*

> *was "FREE LARGE Kentucky fried Donuts," but the donuts wouldve been free with other*

purchases. I found this interesting as it advertises it in a way that makes you click on it to see what you have to do to claim the free donuts, and even though you get them for free, you have to make other purchases you wouldn't have otherwise made. (Bob, 18, male, Melbourne)

That you can exchange any excess solar power you produce for slabs of beer. It's strange that an energy saving device is being promoted as something you can use to get free alcohol. (Ashleigh, 24, female, Melbourne)

The ad is from Buzzfeed and is a quiz to order at a Mexican restaurant called Mad Mex and at the end they will provide you with a new menu item to try. I thought it was interesting because it's an interactive ad and a quiz is a clever way to sponsor a particular food or restaurant because you don't really realise it's an ad, you think you're just doing a fun quiz to try a new dish. (Jasmine, 24, female, Melbourne)

In the case of the Lime Cordiale partnership with Smirnoff and the Buzzfeed quiz for Mad Mex, the participants noticed how subtle the ads are, presented as entertainment or interactive content, rather than ads.

Several male participants singled out Sportsbet ads for being entertaining and funny:

Sportsbet ads. They are always engaging and funny. I don't gamble and don't want to. But because of the ads it would make them my number 1 choice if I did. (David, 20, male, Melbourne)

In this ad a man is competing in the 'average olympics' and is attempting to fold a tent. What stood out for me most was the humourous and light-hearted nature of the ad, particularly when it was advertising gambling which shouldn't necessary be viewed as casual or light-hearted. If the sportsbet logo was not displayed, I also would not have thought it to be an ad promoting gambling. (Shawn, 19, male, Melbourne)

A parody of the Olympics (see Figure 10 below), featuring stereotypical Aussies taking part in relatable events. This drew the viewer in, then delivered the sportsbet message. (Oscar, 19, male, Melbourne)

Across these responses we see how some participants in our studies enjoyed some of the ads they saw, and found them entertaining. Many advertisers produce rich and engaging content that is integrated "natively" into young Victorians' social media feeds. We discuss these "brand-building" strategies that aim to present ads as entertainment and embed brands within our cultural practices and identities in section 5.1.3.

Other participants told us about ads they found manipulative or difficult to recognise as ads:

At first I wasn't sure if it was actually alcoholic (see Figure 11 below). I had a suspicion based on the overall imagery of the ad but I had to click on it and read the ingredients to confirm. I thought that was one of the most manipulative ones I saw, making me click on it to check which will affect my advertising data and perhaps lead to more alcoholic ads. (Janelle, 19, female, Melbourne)

I think it stood out because I didn't initially recognise it as an ad for a club event promoting drinking, it looked like just something my friends were interested in. (Sharon, 20, female, Melbourne)
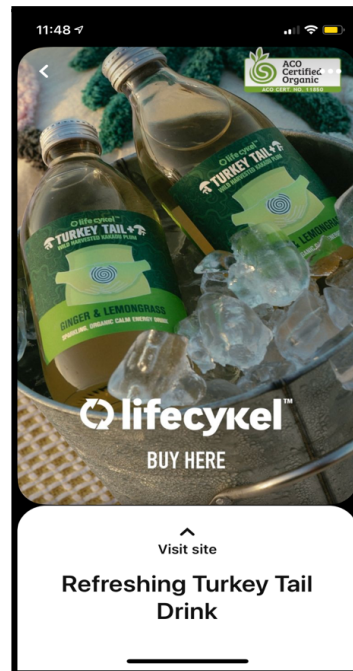
Figure : An ad for lifecykel that Janelle found difficult to identify as alcohol advertising.
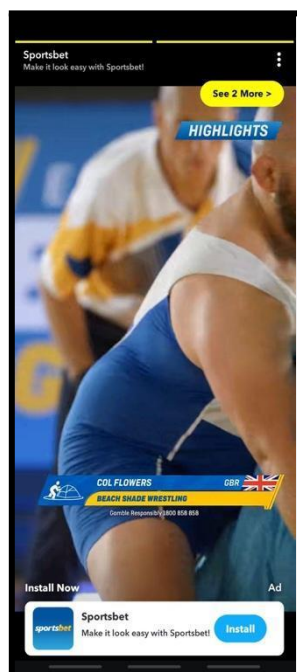
It basically shows an influencer drinking alcohol with a number of people (see Figure 12 below). It stood out as I can't tell whether the person was paid to do it or if it was exactly an ad or not. (Roy, 17, male, Melbourne)
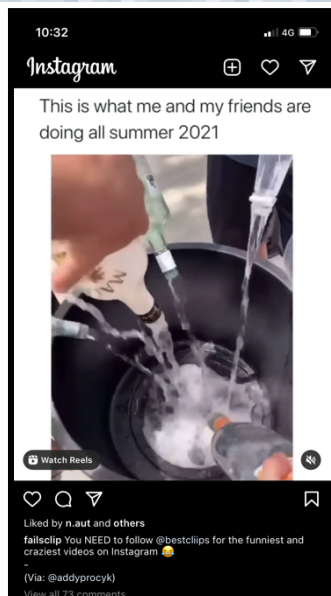
The uploaded screenshot is taken from an influencers Instagram story and is a picture of a cocktail drink with the tag line "Couldn't make it to the bar, so I brought the bar to me". Before this week of ad searching, I would not have noticed that this was an ad, so if I were an alcohol consumer I probably would have wanted to try out this service. So what surprised me is that it did not say that it is a sponsored ad in some form either paid or free products to the influencer and I probably would not have thought much of it if it had not been for this study. (Courtney, 25, female, Melbourne)

These responses further illustrate how seamlessly some forms of advertising and promotional content are woven into the feeds of social media platforms. While these ads might be disclosed as "sponsored posts", they appear in the same format as all other comments and flow under participants fingers as an integrated part of the rhythm of the feed of content. It isn't until we ask participants to pause and notice content that they see posts that they think they wouldn't have previously distinguished as ads.

Several participants identified ads for alcohol and unhealthy food that made health claims:

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This one was because she is a Health based influencer and I know for a fact that although harvest snaps sound and look healthy they are pretty bad for you. Promoting unhealthy food when your within the Health and wellness space is pretty bad I think (see Figure 13 below). (Savannah, 23, female, regional city)

I think it's ironic that the brand is marketing their alcoholic beverage in a health/fitness/diet orientated way by stating it only has 70 calories (see Figure 14 below). (Tilly, 21, female, regional city)

Several participants recalled ads for alcohol that were irresponsible or promoted excessive consumption, which we return to in Section 5.5.2:

I have been receiving ads about Bottomless drinks and it's interesting that the venues try to get in customers by offering unlimited alcohol. I don't see how it's profitable to them and it's promoting over drinking. (Barbara, 23, female, Melbourne)

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I think the "Bad Decisions Bar" was interesting because it was almost glorifying the bad things that happen to people while under the influence. (Ajay, 18, male, Melbourne)

Interesting - in a bad way. With Mother's Day coming up a lot of the ads, especially alcohol based ads, were centred around Mother's Day. I find it odd and manipulative to include Mother's Day or references to mum, Mother's Day branded content especially in an ad for alcohol. It is unnecessary and quite absurd. Around any "holiday" season (as Mother's Day is not necessarily a holiday) it is common to get hounded by ads focussed on that specific holiday - not the best feeling to feel bombarded. (Erika, 20, female, Melbourne)

Shows captain Morgan's new drink at a party. Interesting because it creates a connotation between alcohol and parties during the day. This excludes those who don't drink during the day or don't drink at all from what a party should have, alcohol. Also creates an idea of pressure to drink at parties to be fun. (Holly, 20, female, Melbourne)

This ad promotes a deal of unlimited beverages from 2pm on Saturdays. What stood out to me is that the content of the ad (the video) doesn't centre the consumption of alcohol itself, but rather the games and the good time that can be had. I think this is a subtle way of linking alcohol with happiness, which is particularly destructive for impressionable young adults who are still forming consumption habits. (Rupert, 20, male, Melbourne)

Additionally, several underage participants referred to alcohol ads they had seen, which we also return to in Section 5.5.5:

It's a dan murphy's ad. It's surprising to me because i didn't even notice i was being advertised alcohol until i was told to look out for it, so i guess i've passively been taking these types of ads in without it realising it, and i wonder if that has changed my behaviour at all. (Russell, 17, male, regional city)

I got an ad on YouTube for Baileys, which I thought was interesting as none of my other social media platforms showed me directly alcohol related content throughout the research week as I'm under 18. (Fran, 17, female, Melbourne)

The ad is for schoolies at Byron. The ad shows young people partying and consuming alcohol. This ad stood out to me because I don't normally see many ads about alcohol, and I think since this one was for schoolies it may have been targeted at me for my age. (Connor, 17, male, Melbourne)

The bottomless brunch options, there are so many of them and I feel like it promotes people to drink an unnecessarily large quantity of alcohol just because of their affordable prices. (Ciara, 16, female, Melbourne)

These responses about irresponsible promotion of alcohol align with young participants' views about the need for higher standards and better controls around unhealthy marketing on digital media. The participants offer explanations of the problems with the ads that are linked to their particular cultural settings.

4.2   Digital advertising by harmful industries

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4.2.1 Number of ads collected by participants

Over the course of the study, 204 participants sent us a total of 5169 images. For this analysis, we then excluded images that were irrelevant or illegible or were sent in by participants who did not complete the study. This left us with a total of 4601 images that were ads for alcohol, gambling or unhealthy food.

Participants sent us on average 23 screenshots that could be coded as ads. While the median was 18 (indicating a long tail of participants who sent us less than the average number of screenshots), we also had several participants who sent us far above the average. The top five participants sent us an average of 105 screenshots.

8% of participants (n=12) sent us 25% of screenshots (n=1341). While the bottom 25% of participants sent us 25% of the screenshots (n=1341).

23% of participants (n=48) sent us 50% of screenshots (n=2642).

51% of participants (n=106) sent us 75% of screenshots (n=3960).

4.2.2 Digital platforms that ads come from

86% of the ads sent to us by participants came from Facebook and Instagram. Instagram is wholly owned by Facebook and the two platforms function as effectively a single advertising model and market (see Figure 15). 51% (n=2354) come from Instagram and 35% (n=1611) come from Facebook.
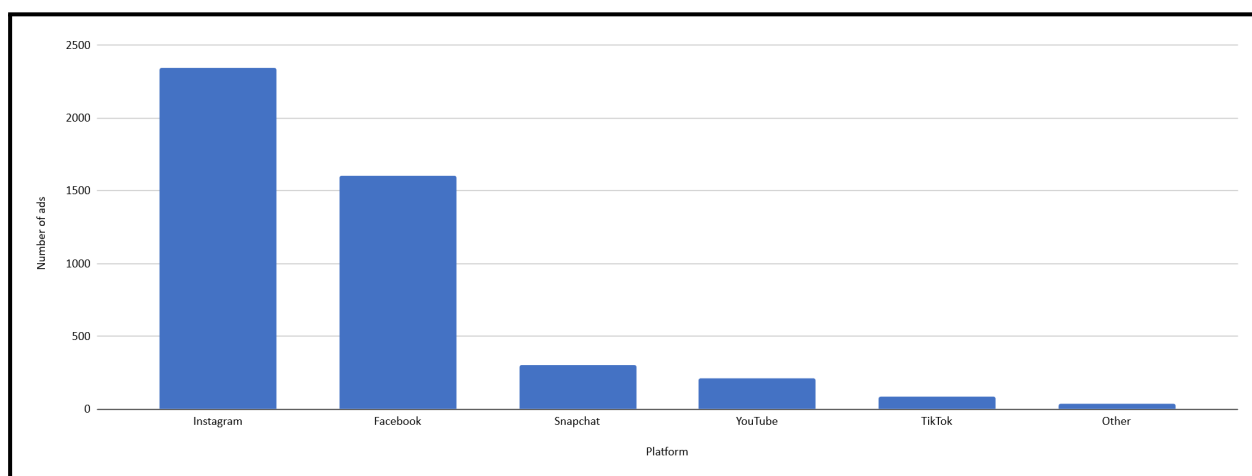
Figure 15: Number of ads by platform.

The dominance of Facebook and Instagram in advertising markets is partly reflected in the self-reported social media use and screen time of participants (see Section 4.1.1):
- 92% of participants reported using Facebook and YouTube.
- 91% of participants reported using Instagram.
- 62% of participants reported using Snapchat.
- 51% of participants reported using TikTok.

The average daily screen time of participants was 4 hours and 31 minutes (n=158) (see Section 4.1.2). Instagram was the platform participants spent the most time on, an average of 1 hour and 7 minutes per day (n=65), with TikTok having the next highest average at 1 hour and 5 minutes

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(n=35). Snapchat, Facebook and YouTube all had a similar amount of screen time at 45-50 minutes (see Figure 16).

This suggests that the participants in our study see a higher volume of harmful industries marketing on Facebook and Instagram than they do on TikTok, Snapchat and YouTube. This is not entirely accounted for by more young people using Facebook and Instagram or spending more time on those apps. As many participants reported using YouTube as reported using Facebook is Instagram, and they spent a similar amount of time on each platform. But, they reported far less ads. TikTok has less users, but those who do use it spend a similar amount of time per day on it as they do on Instagram. Even so, we received relatively few ads from TikTok. TikTok's share of the advertising market is growing in Australia, so we might expect to see this change in coming years. Already though, it appears that while unhealthy food advertisers are moving onto TikTok, alcohol and gambling advertisers are not. This is likely a result of the platform's restrictions on these forms of marketing and the caution of these advertisers in using models with unclear content and "brand safety" controls. YouTube has not been as innovative as Facebook and Instagram in developing new advertising formats. YouTube's main format remains targeted display advertising, a format that is prohibitive for most advertisers, only major brands who are creating professionalised video and television campaigns create ads for YouTube.
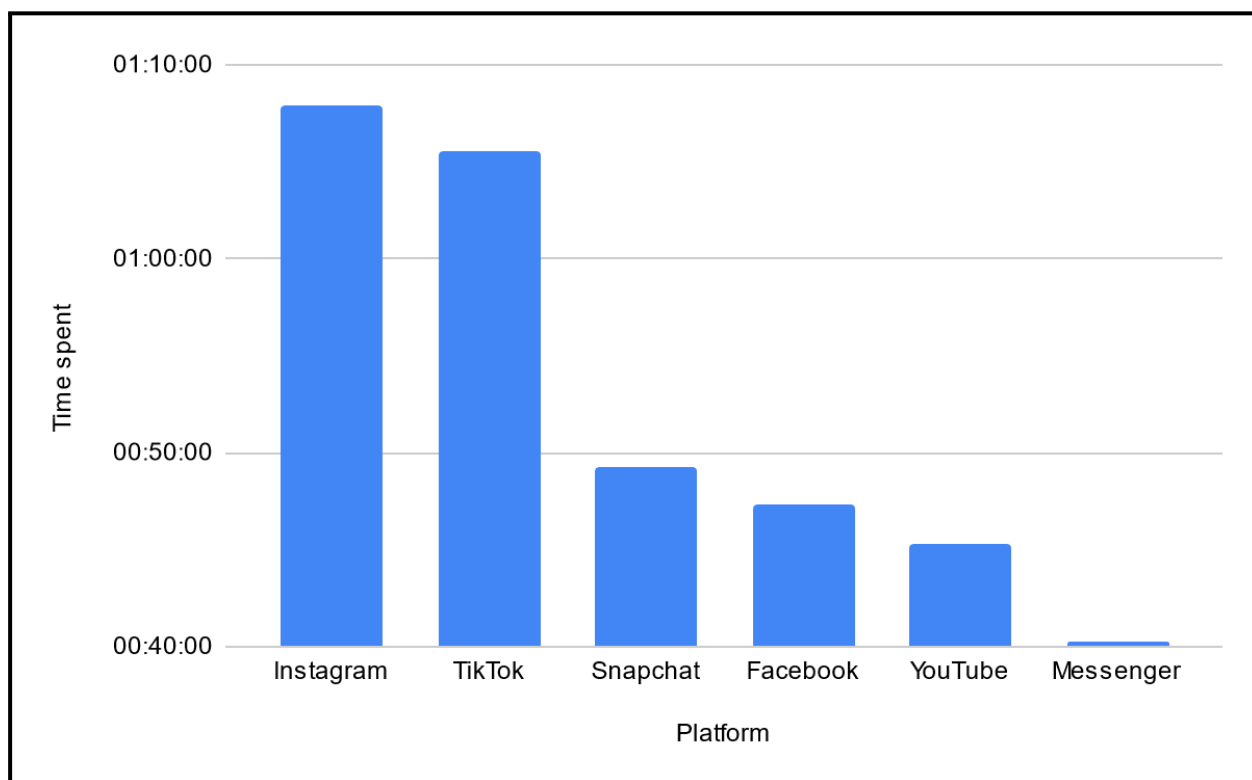
Figure 16: Average time spent on platform.

63% of ads sent to us by participants were for unhealthy food products (n=2896), 30% for alcohol (n=1395) and 7% for gambling (n=311) (see Figure 17).

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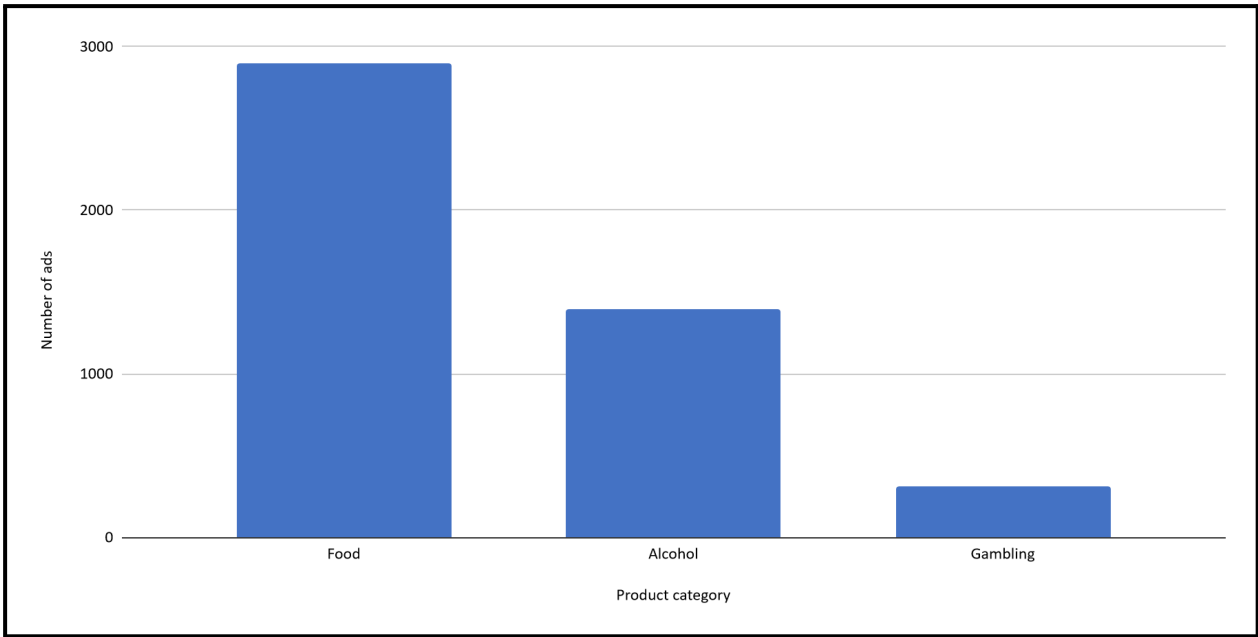
Figure 17: Number of ads in each product category.

Alcohol advertising is evenly split between Instagram and Facebook. Unhealthy food advertising was most common on Instagram, and unhealthy food advertisers were the only category to make significant use of TikTok. There is no paid alcohol or gambling advertising on TikTok (see Figure 18).

Gambling is most common on Facebook, Snapchat and YouTube.
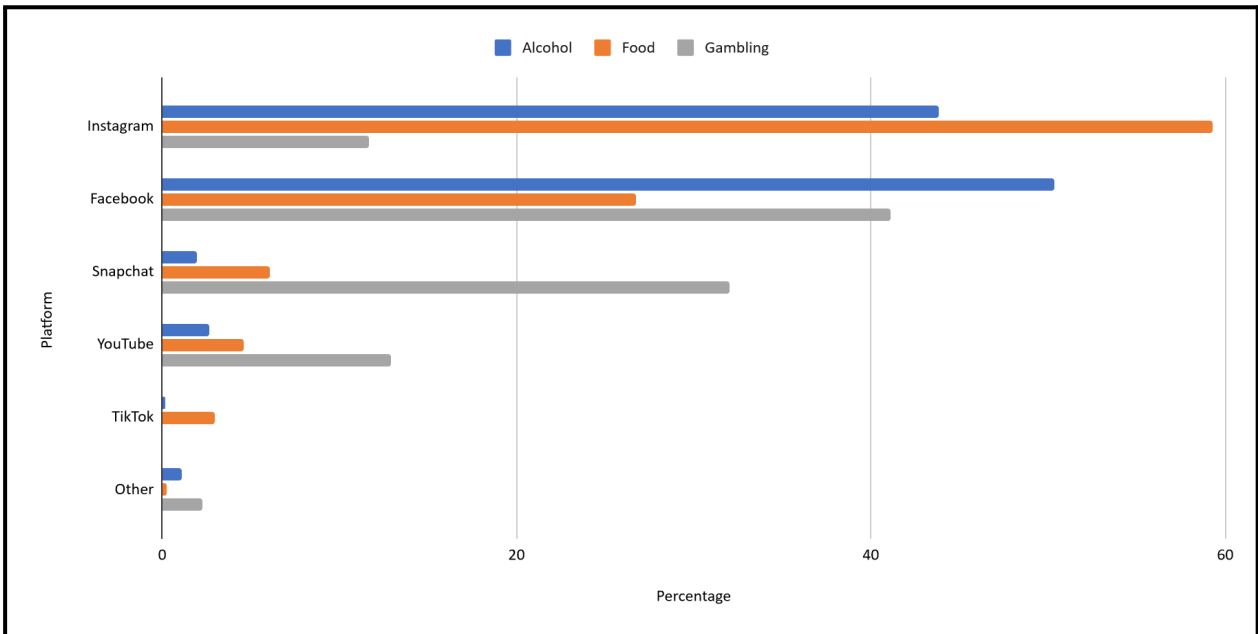
Figure 18: Product category by platform.

50% (n=704) of alcohol ads were on Facebook and 44% (n=609) on Instagram.

59% (n=1717) of unhealthy food ads were on Instagram, and 27% (n=776) on Facebook.

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41% (n=128) of gambling ads were on Facebook, 32% (n=96) on Snapchat and 13% (n=40) on YouTube.

63% (n=89) of alcohol home delivery advertisements were on Facebook, and 32% (n=45) on Instagram. These ads often had a very similar format and are both purchased through Facebook's advertising model. Facebook's advertising model therefore accounts for 95% of the alcohol home delivery advertising young Victorians sent us (see Figure 19).
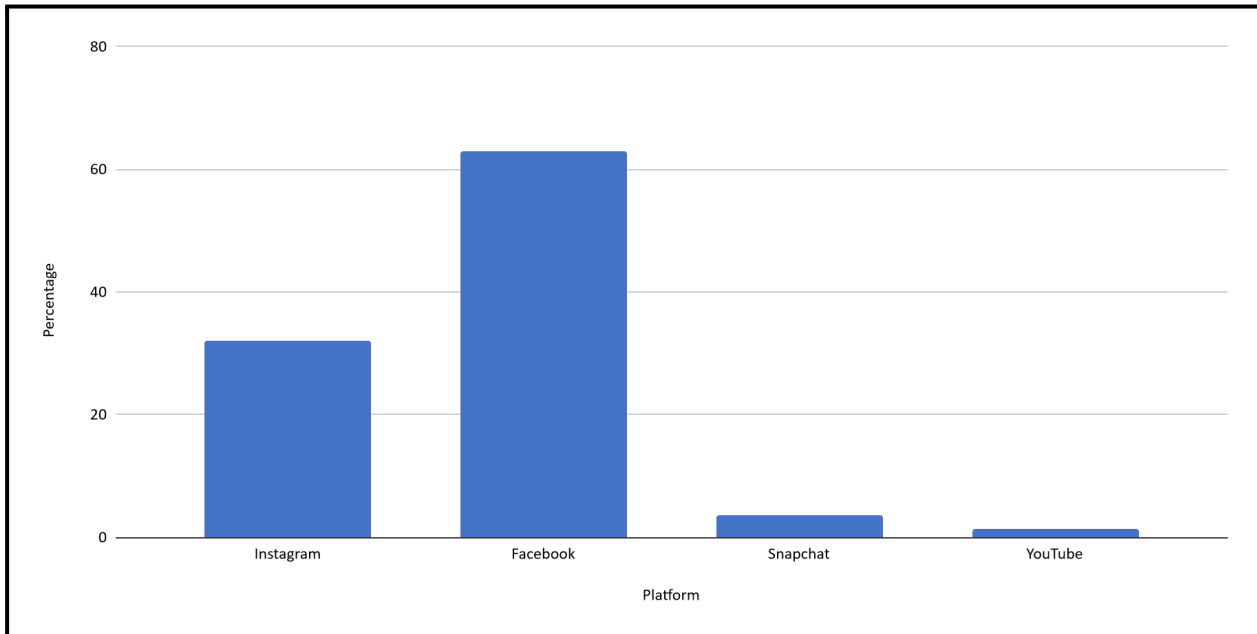
Figure 19: Alcohol home delivery ads by platform.

68% (n=1037) of unhealthy drinks and snacks ads were on Instagram and 22% (n=337) on Facebook (see Figure 20).

68% (n=74) of cafe and restaurant advertising was on Instagram and 31% (n=34) on Facebook (see Figure 20).

44
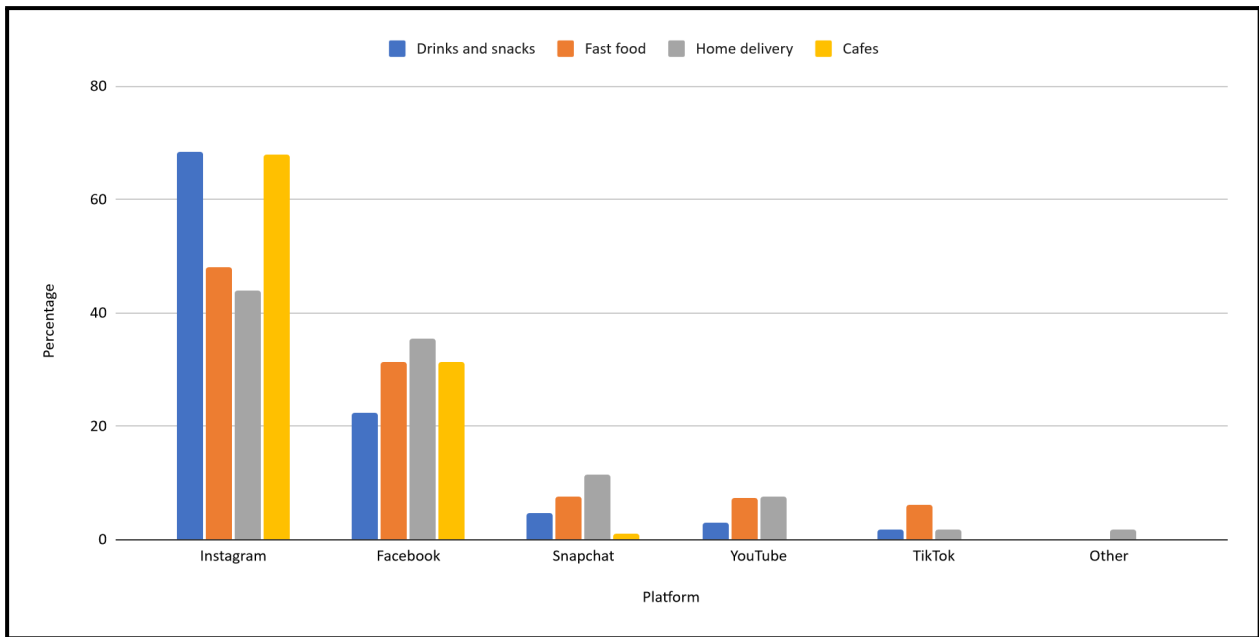
Figure 20: Food categories by platform.

Sports betting was split across Facebook and Snapchat. 38% (n=87) of sports betting ads were on Facebook, 40% (n=90) on Snapchat and 10% (n=22) on Instagram. 64% (n=39) of lotteries advertising was on Facebook and 13% (n=8) on Instagram (see Figure 21).
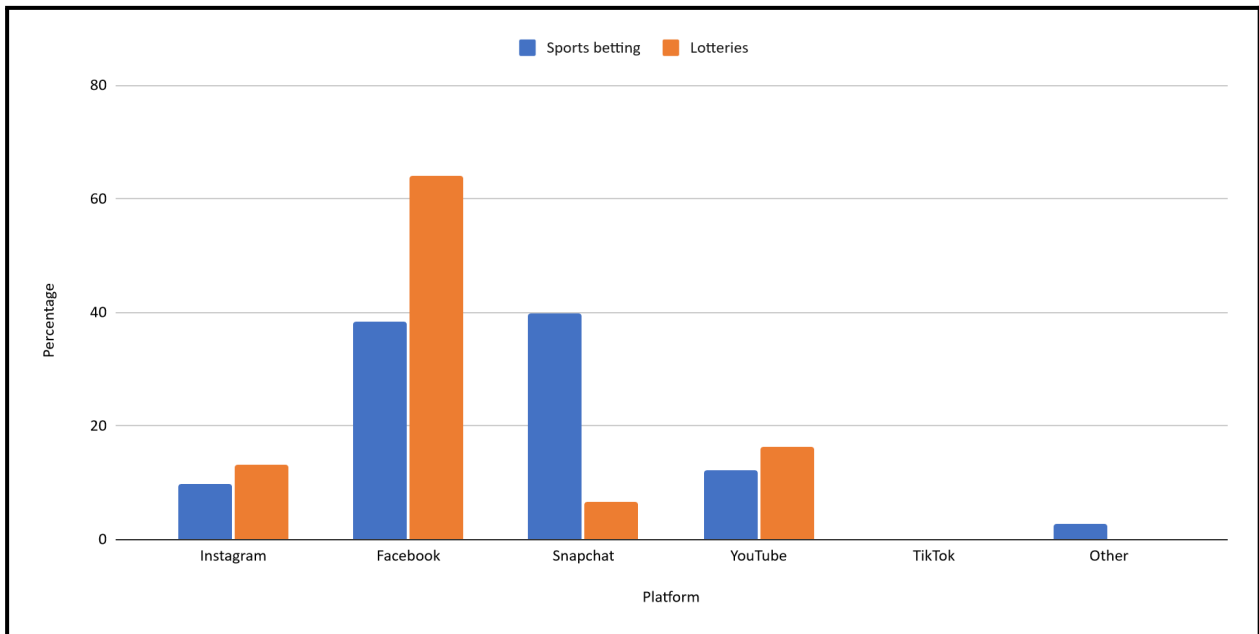
Figure 21: Gambling categories by platform.

4.2.3 Most common ad formats

A small number of ad formats and placements dominate each platform.

80% (n=1243) of Facebook ads are "sponsored posts" and 7% (n=110) are "sponsored carousel posts". The remaining ads are a mix of organic page posts, influencer and third party posts, and pre-roll ads on Facebook videos.

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48% (n=1112) of Instagram ads are "sponsored posts", 36% (n=825) are "sponsored stories" and 5% (n=116) are "sponsored carousel posts". The remaining ads are a mix of organic page posts and stories and influencer and third party posts and stories.

YouTube, Snapchat and TikTok ads are dominated by a single "display" ad format. On YouTube the ads are nearly entirely pre-roll and mid-roll ads that play before or during videos (see detailed discussion in Section 5.1). On Snapchat and TikTok the ads mostly appear as display video ads in users' feeds. While both platforms have other formats like sponsored filters, participants sent us relatively few of these examples.

Participants submitted relatively few examples of influencer ads, organic posts and emerging formats like augmented reality filters. For instance, the largest number of influencer and third party posts were on Instagram. Participants sent a total of 133 ads that were organic or paid posts from influencers and third parties (like Broadsheet and Urban List). This accounts for only 6% of the ads submitted from Instagram.

The lower prevalence of influencer and third party posts might be due to a variety of reasons. Influencer content may be more difficult for participants to easily distinguish as ads. Furthermore, organic posts are becoming much less common as advertisers move their activity predominantly to the "dark" and "paid" formats on platforms (see also Section 4.1.8). The relatively small number of influencer posts collected reflects participants' perceptions that they do not see much of this content (see Section 4.1.8).

The advertisers most likely to make use of the sponsored carousel format on Instagram and Facebook were alcohol and food home delivery or retailers. The carousel format works like a "catalogue" of products for sale, and includes buy buttons that enable consumers to purchase directly through the platform (see Section 4.2.9 for more detail on the importance of these formats for harmful industries advertisers using Facebook and Instagram).

4.2.4 Major advertisers

The top ten advertisers (1% of all advertisers) account for 25% of the total ads submitted by participants. These top ten advertisers are:
1. McDonald's
2. KFC
3. Door Dash
4. Cadbury
5. Sportsbet
6. 7 Eleven
7. Uber Eats
8. Hungry Jack's
9. BWS
10. Guzman y Gomez

This "long tail" distribution continues throughout the ad collection. 5% of all advertisers (n=48) accounts for 50% of all the ads. 20% of all advertisers (n=202) account for 75% of all the ads (see Figure 22).

Just as the platforms Facebook and Instagram dominate the majority of the ads, the volume of ads on those platforms is concentrated among a small number of major corporate harmful industries advertisers, particularly in unhealthy food, home delivery and alcohol categories.
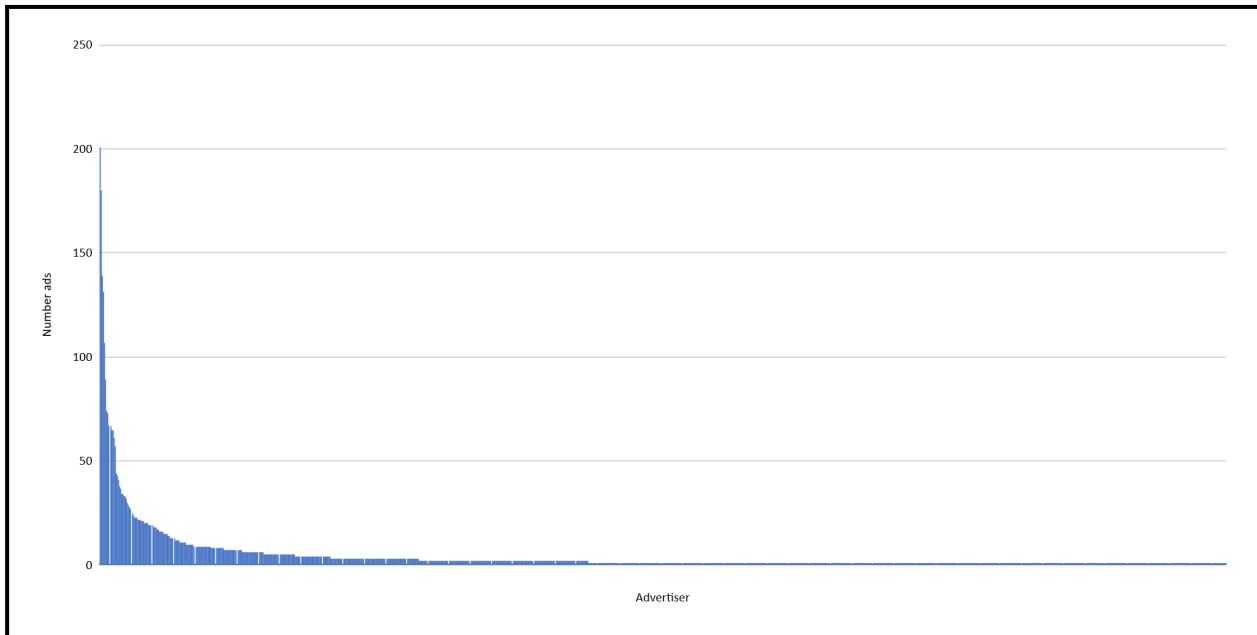
Figure 22: Number of ads ranked by advertiser.

Example: KFC

Participants sent us a total of 177 KFC ads across Instagram, YouTube, Facebook, TikTok and Snapchat.

The ads adopted both sales promotion and brand-building strategies. Sales promotion ads involved images of the product accompanied by price promotions. These ads had buy buttons enabling consumers to click straight through to home delivery services.

There were two brand-building campaigns. One campaign, most prevalent on YouTube, was a series of video commercials built around the narrative of teens going on a date in a park with a KFC Ultimate Box. The other campaign, most prevalent on TikTok and Instagram, involved creators demonstrating recipes like popcorn chicken cupcakes in short vertical videos.

In the ultimate KFC box YouTube video (see Figure 23 below) there are two young teens on a date eating KFC in the park, one of them even has a hickey. As one participant described explaining another KFC ad featuring teens,

> *Most advertisements I see use bright colours and in your face techniques which tend to draw individuals in. Bright colours, as opposed to darker colours, are associated with happy and positive moods. The fact that brands are being marketed on social media, full of young consumers, speaks for itself. Many brands use young people as their "models" and relate their environments back to young people also - doesn't change perception as so but draws more people in. For example, a KFC ad on Facebook that had adolescents around the TV watching sports, having a good time with food (true ad) is more likely to get us to purchase their food in comparison to an ad of older people, just sitting around eating their food. (Tilly, 21, female, regional city)*

As observed by this participant, these ads appeal to a younger audience as they are bright, full of energy and feature young people - whether this be on a date hanging out at the park or watching sports together.

Figure 23: Still from pre-roll KFC Ultimate Box ad on YouTube

The sponsored TikTok pre-roll ad is a recipe video which is a part of a larger series of recipe videos called "Kentucky Fried Cookin". In this series, celebrity chef Morgan Hipworth creates and shares recipes using KFC products. The recipes are strange and attention grabbing. The popcorn chicken cupcakes (see Figure 24) went "viral" - with articles written on the recipe including, Daily Mail (Tran 2021).
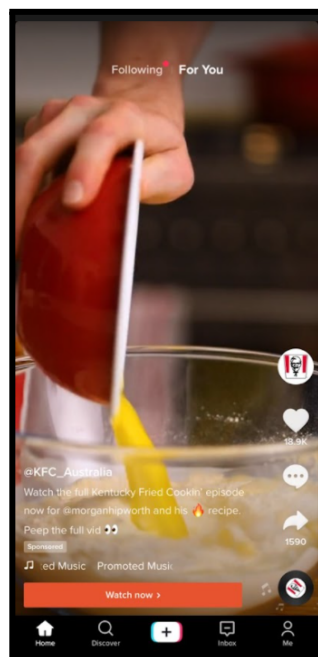
Example: McDonald's
Participants sent us a total of 204 McDonald's ads across Instagram, YouTube, Facebook, TikTok and Snapchat. McDonald's ads relied mainly on sales promotions and the promotion of new products. Deals on delivery, sales on certain products, chances to win free products as well as "exclusive offers" only found on the McDonald's app were common. The $2 McFlurry ad on Snapchat (see Figure 25) is an example of one of these.

48
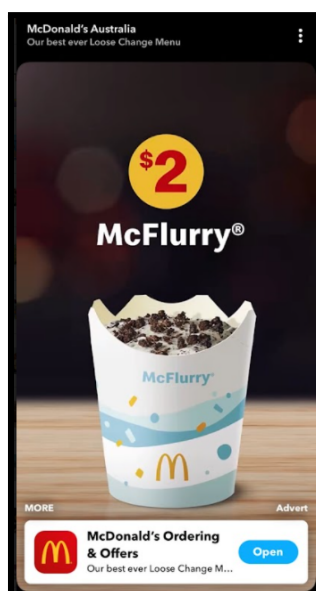
New products were also frequently featured - from Mini Nutella hotcakes to their new "healthy" menu. These ads did lead some participants to go out and try them, as explained by one participant:

> *It shows me what new and interesting foods are available (e.g. at McDonald's) which I didn't know existed but now want to try it for the novelty. (Maisy, 21 female, Melbourne)*

4.2.5 Accountability and visibility of ads

Only 3% of the ads sent to us by participants were published on a public advertiser profile where they could be viewed and monitored.

97% of the ads sent to us were "dark" to some degree. By "dark" we mean that they are only visible to the young Victorians targeted by the advertisers, are ephemeral, are not published on advertiser accounts where they can be viewed, or they appear in platform ad libraries for only a short period.

79% of the ads are sponsored posts or stories that potentially appear in the Facebook Ad Library. This is a very limited form of accountability. Ads only appear in the library while it is "live" on Facebook, so it requires continuous monitoring by independent third parties. The library also only provides a partial copy of the advertisement and very little information on targeting and reach. Many "sponsored posts" are published on the advertiser's Facebook page, but many are also listed as invisible "unpublished" posts that are not visible. "Sponsored stories" are published in the ad library but it takes guesswork (for instance, looking for the vertical format) to identify these ads as likely stories. They are not clearly labelled as stories, and clear information about which platform they were published on is not provided.

12% are targeted formats that are not publicly published and do not appear in platform ad libraries. This makes them completely "dark" and not open to any form of public monitoring and accountability. These include sponsored TikToks and display ads on Snapchat and YouTube.

6% of the ads were from influencers or third parties. These ads may be published on public profiles, but many are ephemeral. They cannot be monitored because it is not possible to know

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which influencers are posting branded or sponsored content on behalf of advertisers at any point in time.

This demonstrates the extraordinary challenges to meaningful public accountability of unhealthy advertising on digital platforms. Only 3% of the ads participants sent to us could be reliably monitored. None of the ads sent to us could be monitored in terms of their targeting or reach.

Example: Instagram's sponsored stories
Instagram stories account for 20% of the ads participants sent to us. These are among the least accountable of the major ad formats. Sponsored Stories are technically visible in the Facebook ad library while the ad is "live" but they are not published on advertiser's public profiles. In the ad library they are not labelled as "stories", they are only distinguishable because of their vertical video format. This is an extremely limited form of accountability, requiring researchers to manually view and code each item of content and then guess to some degree that it would've been targeted as an Instagram Story format.

The Yums Chicken Instagram story ad (see Figure 26) is an example of how this occurs. It appears on users' Instagram feeds with a sponsored tag underneath the brand's profile name. However, when looking at the image from the ad library, it is hard to tell if this ad has been published in stories even though it has the Instagram logo on the top right. This is because it is a carousel post, with other images which did not appear in the user's story feeds. Nowhere in the ad library post does it explicitly indicate how the ad appears on Instagram and Facebook, we can only guess based on the formatting of the ad. How this ad appears in users' Instagram stories feed is different to how it appears in the ad library, and from just the ad library we cannot definitively tell that ad appeared as a story.
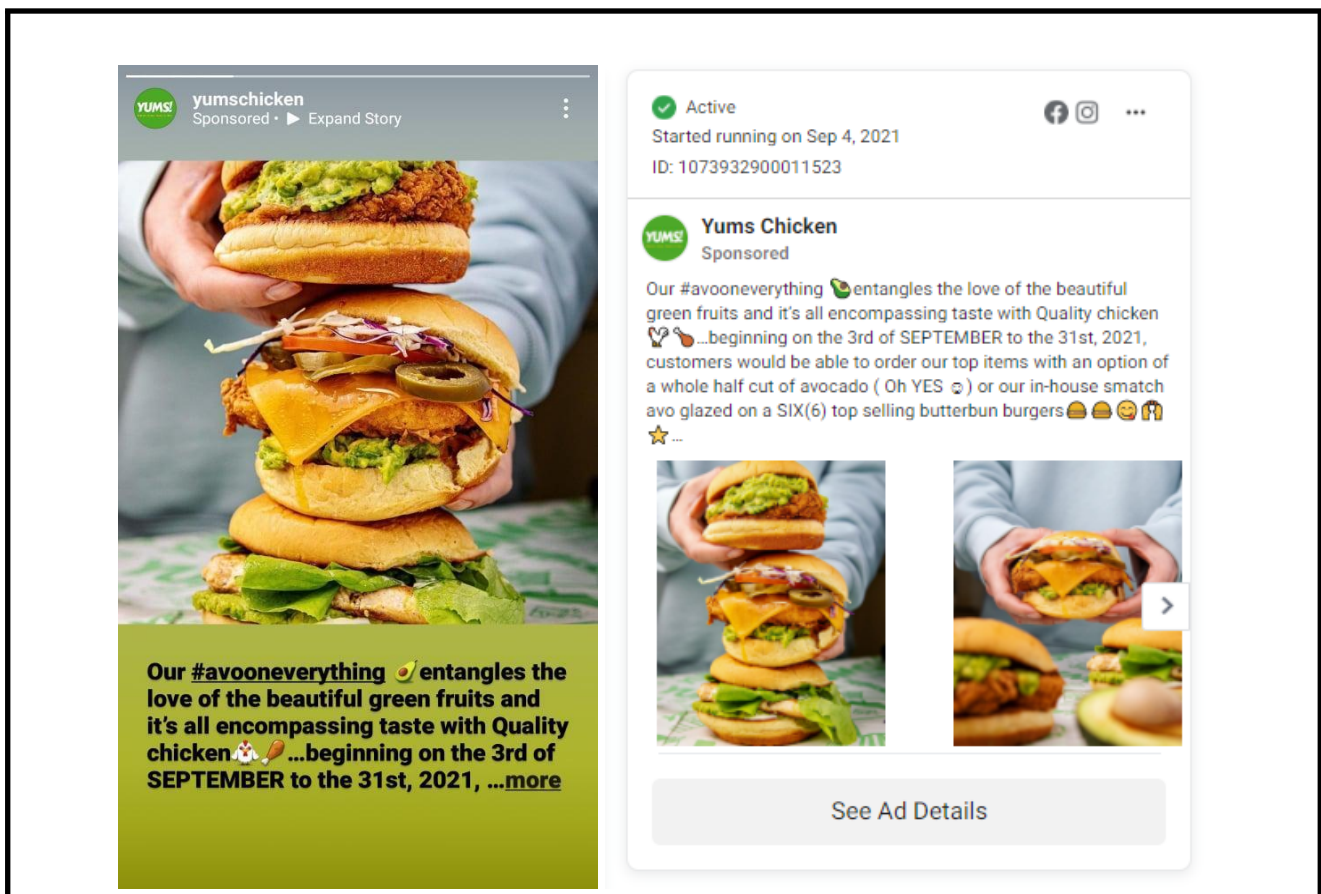
Figure 26: Yums Chicken sponsored Instagram story.

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4.2.6 Facebook advertisers and interests data

We asked participants to download and send us some of the data Facebook makes available to all users about their advertising model.

Participants sent us two lists of information.

One was a list of advertisers who had uploaded data about them. For instance, an alcohol or fast food retailer could upload into Facebook's advertising model a list of all consumers who had "signed up" to their app or purchased products through their website. That list is then used to assemble a "custom audience" of existing customers by finding and targeting individuals on the advertiser's list. Facebook "matches" the data by using phone numbers, names, email addresses and other identifying information. The "custom audience" is then used by advertisers to generate "lookalike audiences" of consumers which are not yet known to the advertiser but who are similar to consumers on their database.

The other was a list of "interests" that Facebook's advertising model has automatically generated about them based on their Facebook and Instagram activities and other websites that have installed Facebook's tracking devices (like Facebook's pixels). These "interests" accumulate as users talk to each other in Messenger, follow pages, like posts, post content, visit various locations, and so on. For instance, if I talk to my friend about drinking on Messenger the model might automatically generate "alcohol" as an interest of mine, if I keep my location data on and the model notices I often visit a fast food restaurant the model might record "fast food" as an interest of mine, if I or my friends "like" or click on ads from a sport betting service I might have "sports betting" assigned as an interest.

We had 83 participants send us data about advertisers and interests. The process of downloading and sending this data is made purposefully difficult by Facebook, which explains why only 40% of participants completed this part of the study.

We had 40 male, 37 female and 6 non-binary participants send us advertiser and interests data.

From these 83 participants we had a list of over 16,000 entries for "advertisers who've uploaded data about you" and over 63,000 "interests" that Facebook's advertising model had assigned to participants.

On average, the young Victorians in our study have had 194 advertisers upload data about them, and the advertising model has generated 787 interests about them.

51
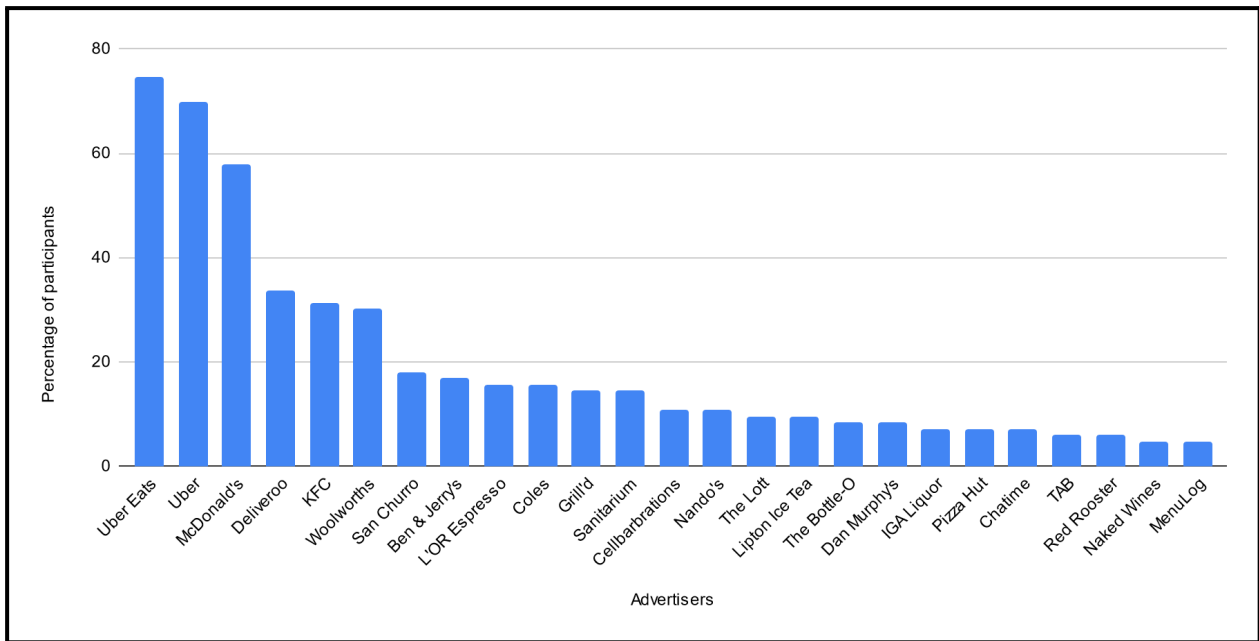
Figure 27: Percentage of participants to have advertisers upload data about them.

While we can see that these advertisers have uploaded data about participants into Facebook's advertising model, we do not know what that data is or how the advertisers and Facebook use it. This is a significant accountability problem.
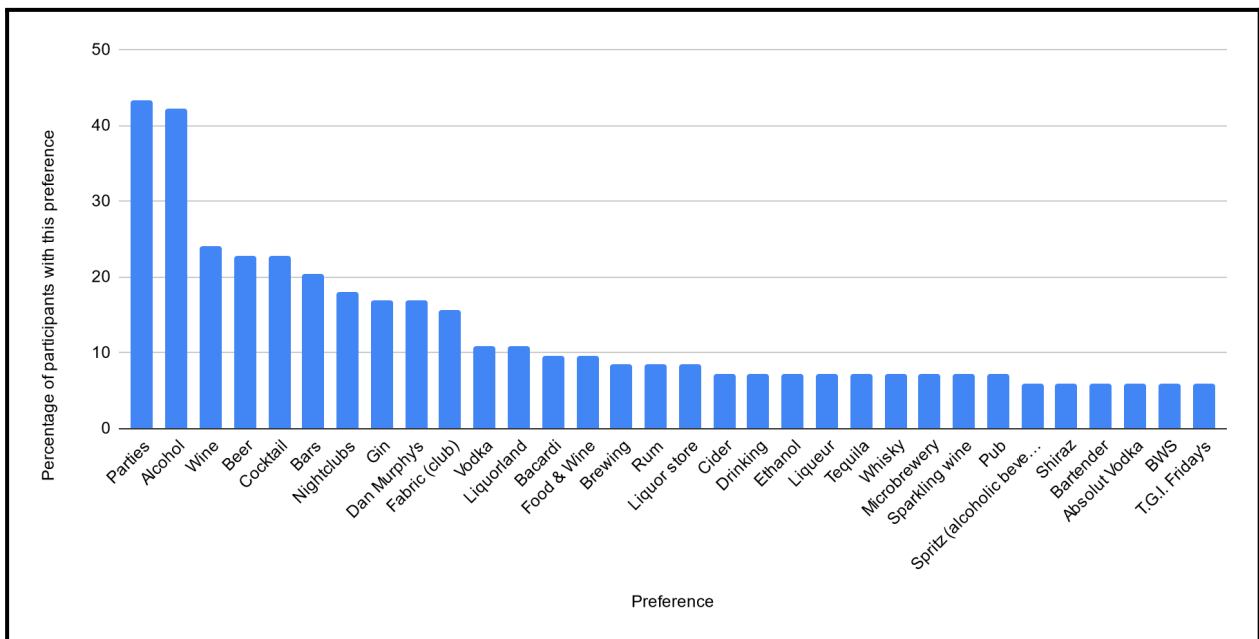
Figure 28: Percentage of participants with alcohol-related interests.
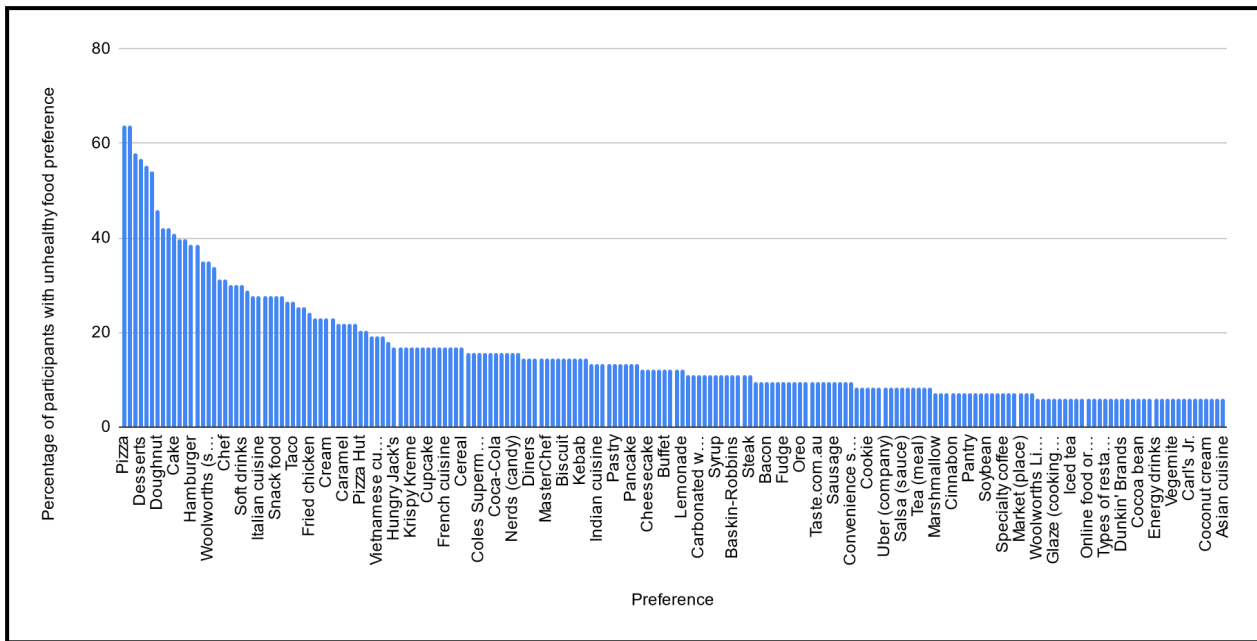
Figure 29: Percentage of participants with unhealthy-food related interests.
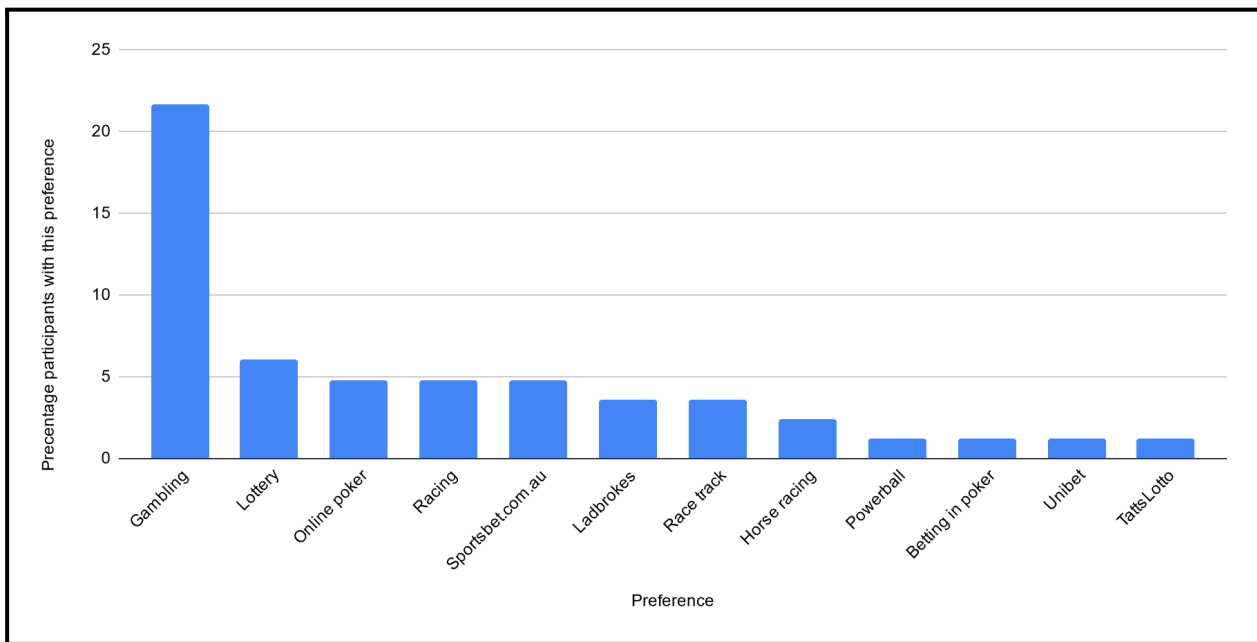
Figure 30: Percentage of participants with gambling related interests.

On average, 7.9 unhealthy food advertisers, 1.5 alcohol advertisers, and 0.3 gambling advertisers had uploaded data about each participant.

The major advertisers to upload data about participants are Uber Eats (74% of participants), McDonald's (48%), Deliveroo (28%) and KFC (26%) (see Figure 27).

The average participant had 6.3 alcohol-related interests. The most common interests were (see Figure 28):
- Alcohol (42%)
- Parties (43%)
- Wine (24%)

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- Beer (22%)
- Cocktail (22%)
- Bar (20%)
- Nightclubs (18%)
- Gin (16%)
- Dan Murphy's (16%)

The average participant had 62 food related interests, and 39 unhealthy food interests. The most common unhealthy food interests were (see Figure 29):

- Pizza (63%)
- Restaurants (63%)
- Fast food (57%)
- Desserts (56%)
- KFC (42%)
- Chocolate (54%)
- Doughnut (45%)
- McDonald's (39%)
- Soft drinks (30%)

21% of participants had gambling as an interest (see Figure 30).

Using 2016 Census data as a guide, there are approximately 770,000 Victorians between the ages of 16 and 25.

We searched for some of the most common "interests" assigned to participants in our study relating to alcohol, unhealthy food or gambling in Facebook's ad model.

Table 23 below illustrates the number of Victorians between the age of 16 and 25 Facebook says it can target based on that interest, and the percentage of young Victorians that it represents. For instance, Facebook says it can target 260,000 young Victorians interested in "parties", which would be 33.7% of that age group.

Facebook "interest"	Number of young Victorians Facebook says it can target based on this "interest"	Percentage of young Victorians Facebook can target based on this "interest" (%)
Alcohol related interests		
Parties	260,000	33.7
Alcohol	100000	12.9
Wine	230000	29.8
Beer	200000	25.9
Cocktail	110000	14.2
Bars	160000	20.7
Nightclubs	170000	22.0
Dan Murphy's	59000	7.6
Fabric (club)	68000	8.8
Gambling related interests		
Gambling	100000	12.9

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Lottery	30000	3.8
Sportsbet	100000	12.9
Ladbrokes	44000	5.7
Unhealthy food related interests		
Pizza	200000	25.9
Restaurants	410000	53.2
Fast food	300000	38.9
Desserts	220000	28.5
Barbecue	170000	22.0
Chocolate	230000	29.8
Doughnut	130000	16.8
Sugar	150000	19.4
KFC	170000	22.0
Cake	160000	20.7

Table 23: The predicted audience size of "interests" in Facebook's ad model.

The data provided by our participants suggests that the frequency of consumption of alcohol or unhealthy food correlates with the number of interests the model assigns.

For instance, if a participant consumes unhealthy food "daily" they have an average of 43 unhealthy food-related interests. This declined to 38 if they consumed unhealthy food weekly, 37 if they consumed it monthly, and only 3 if they consumed it less than monthly.

To better understand this pattern, Facebook would need to have a much more accountable advertising model. But, this example suggests that the model is tuned to "learn" predispositions toward the consumption of harmful and addictive commodities and reinforce them by assigning "interests" related to those products that enable advertisers to more efficiently target high volume and vulnerable consumers.

Facebook's advertising model has assigned alcohol-related interests to participants in our study who are under the age of 18. 41 alcohol-related interests were assigned to 5 participants who were 17 years old. These include "alcohol", "alcoholic drink", "bars", "bartender", "beer", "BWS", and "Dan Murphy's", "Carlton Draught" and "Jim Beam".

Cellarbrations and IGA Liquor had uploaded data about a 17 year old participant in our study.

The information shared with us by participants also demonstrates that influencers upload data to Facebook's advertising model on behalf of advertisers they are working with. For instance, a fast food retailer could partner with an influencer and ask them to upload a list of customers into the advertising model to optimise the targeting of sponsored content. This adds another layer of "darkness" to the advertising model, because it is not possible to know which advertisers influencers might be uploading data on behalf of.

4.2.7 Patterns by gender in the ads sent by participants

Participants of all genders sent us a similar proportion of ads they had seen on Facebook and Instagram (see Figure 31). Male participants sent us 119 ads from YouTube, whereas female participants sent us 70 and non-binary participants sent us 19 (see Figure 31). Female participants

sent us 63 ads from TikTok, whereas male participants sent us 20 and non-binary participants sent us 5 (see Figure 31).
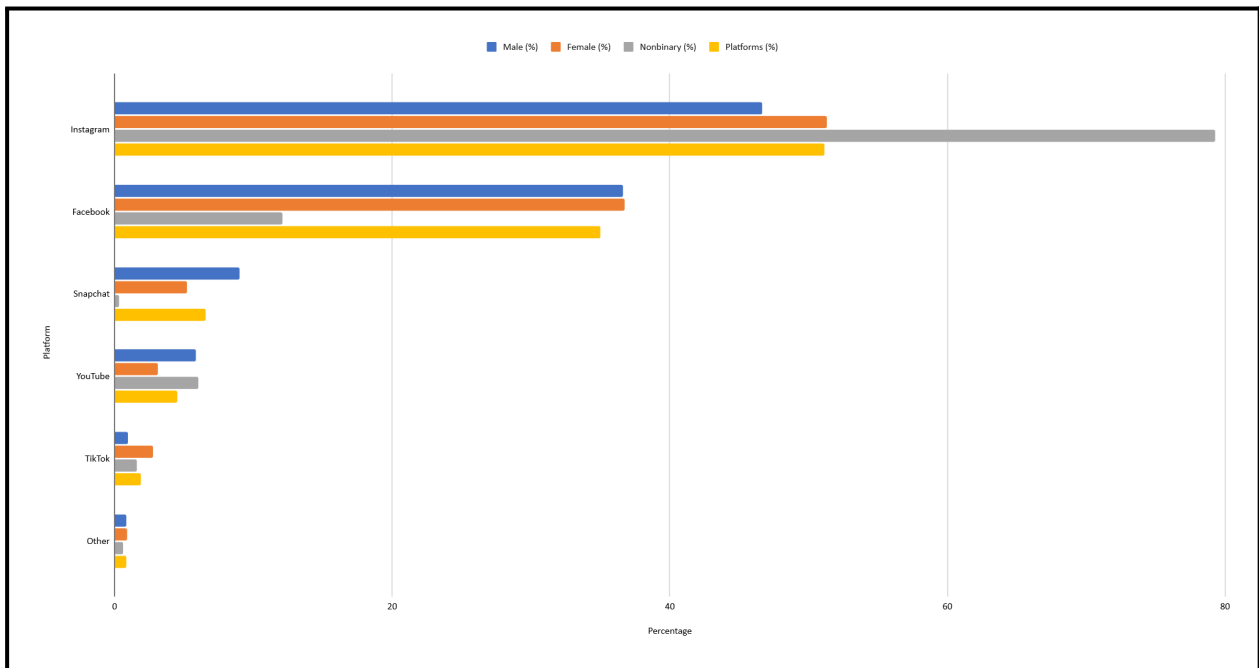
Figure 31: Platforms by gender.

Female participants sent us 60% of the alcohol ads, and males 35%. On average female participants sent us 9 alcohol ads, compared to male participants who sent us 5 (see Figure 32).

Although gambling advertising was the smallest category, male participants sent us 81% of the gambling ads (see Figure 32).
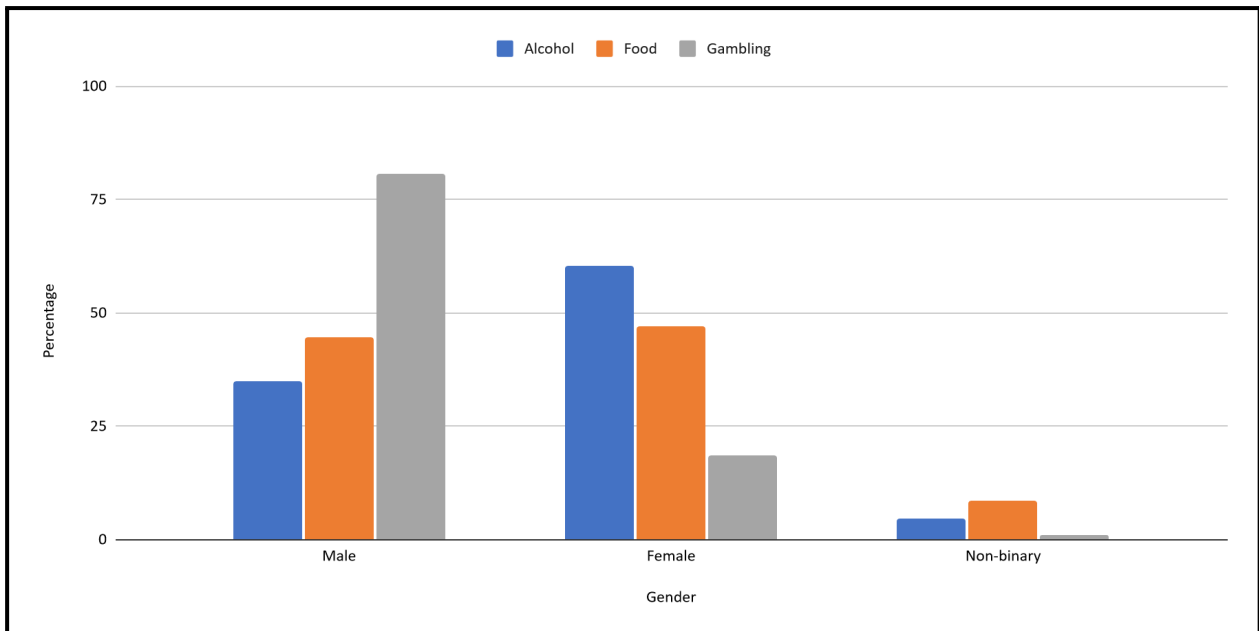
Figure 32: Product categories by gender.

There are gendered patterns in the targeting of some advertisers. Female participants were 2.23 times more likely than male participants to send us images from the top 5 alcohol brands.

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Feminised brands had the strongest skews, with female participants sending in more than 4 times as many Good Pair Days ads and more than 5 times as many Somersby ads compared to male participants (see Figure 33).
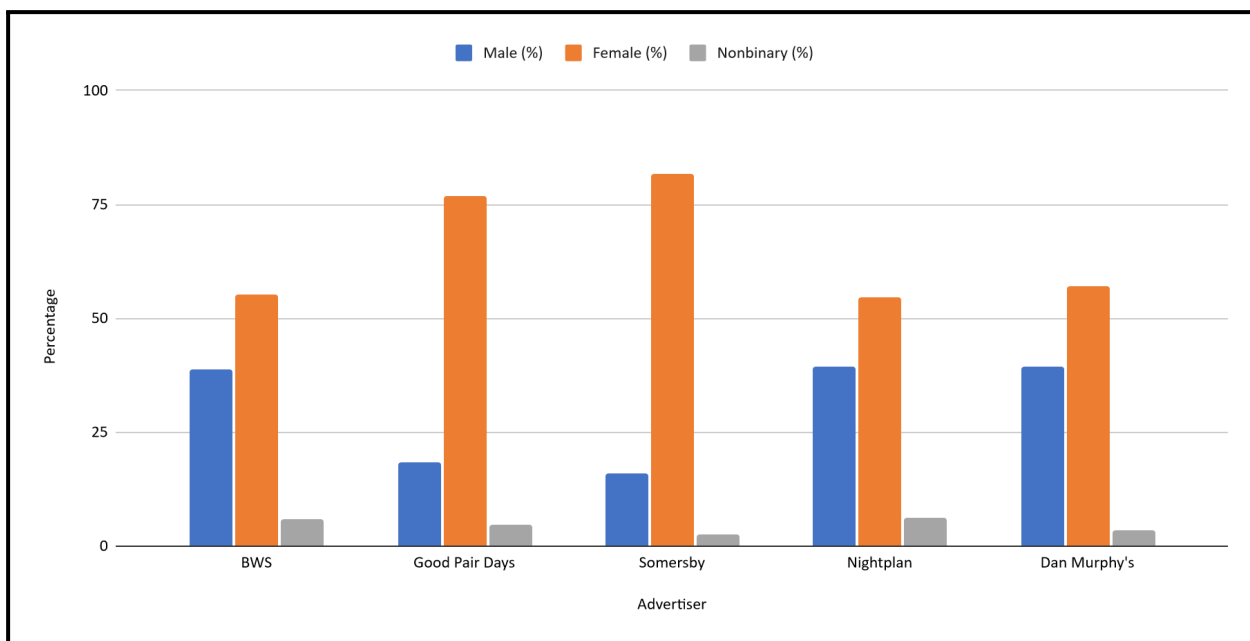
Figure 33: Top 5 alcohol advertisers by gender.

The gendered patterns for the top 5 unhealthy food advertisers are less prominent, although female participants were 1.5 times as likely to send us McDonald's ads. Male participants were 1.7 times as likely to send us KFC ads. Male participants also sent us 1.5 more 7 Eleven ads than female participants (see Figure 34). This might be explained by a differing emphasis for each of these brands, with McDonald's in particular positioning their brand with reference to "healthy" options.
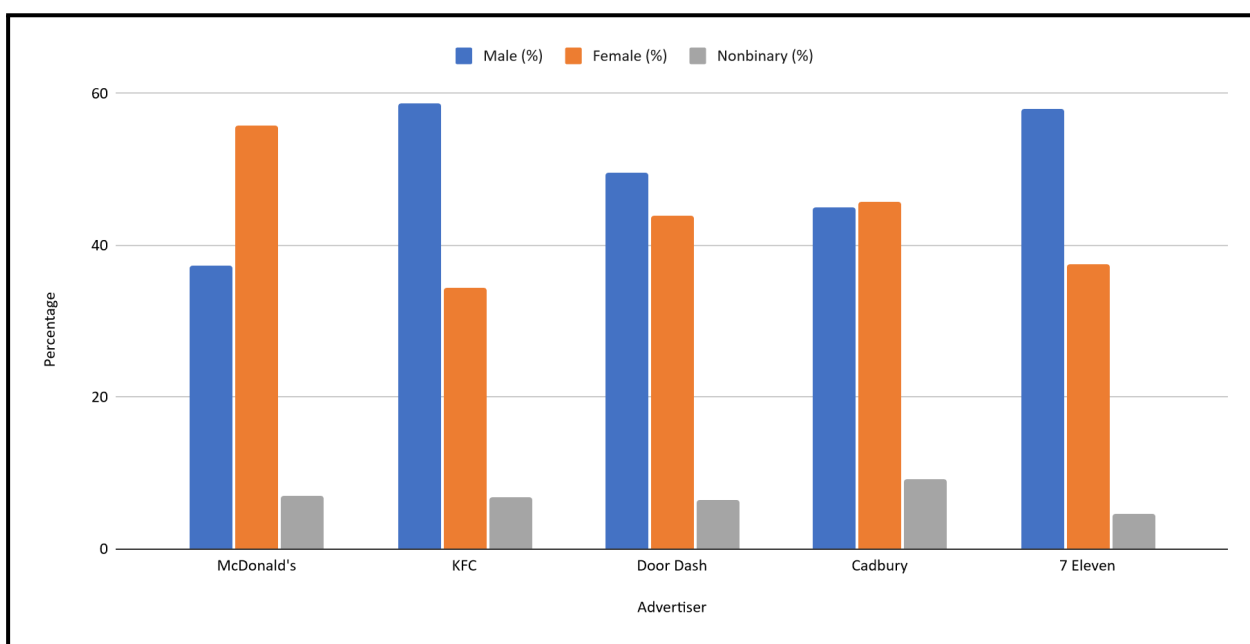
Figure 34: Top 5 food advertisers by gender.

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The ads sent in from gambling advertisers skew toward males for sports betting advertisers, with males 4.26 times more likely to send us ads from the top five gambling advertisers. Female participants sent us the majority of lottery advertisements, with just 36% of OzLotto advertisements coming from male participants (see Figure 35).
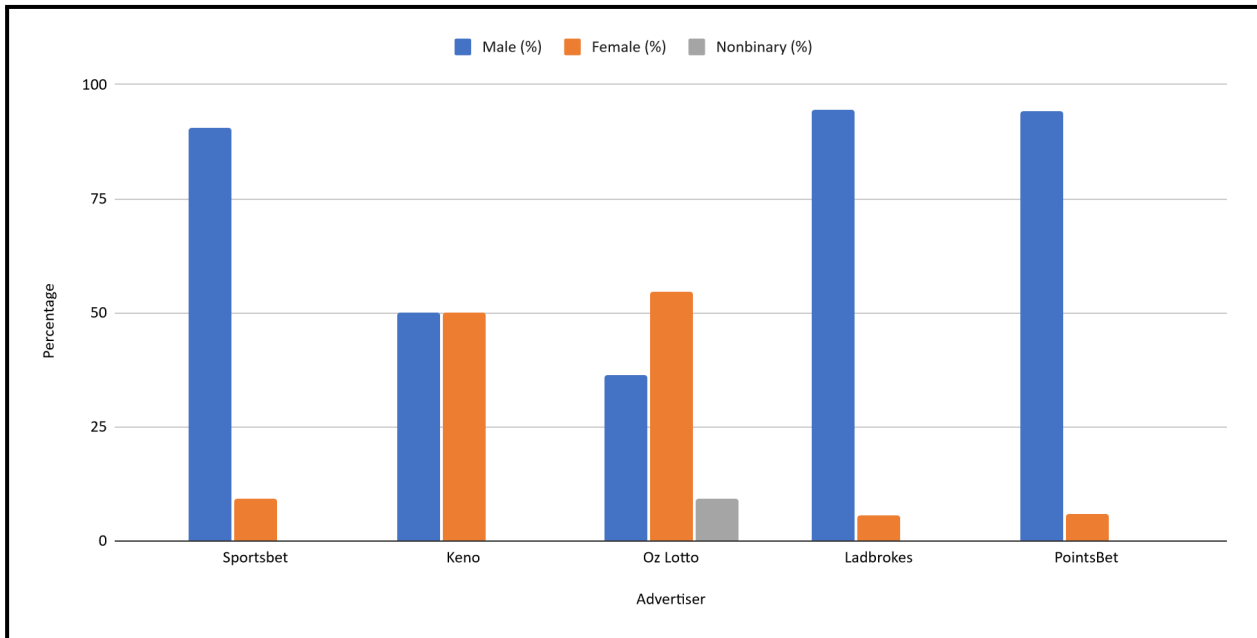
Figure 35: Top 5 gambling advertisers by gender.
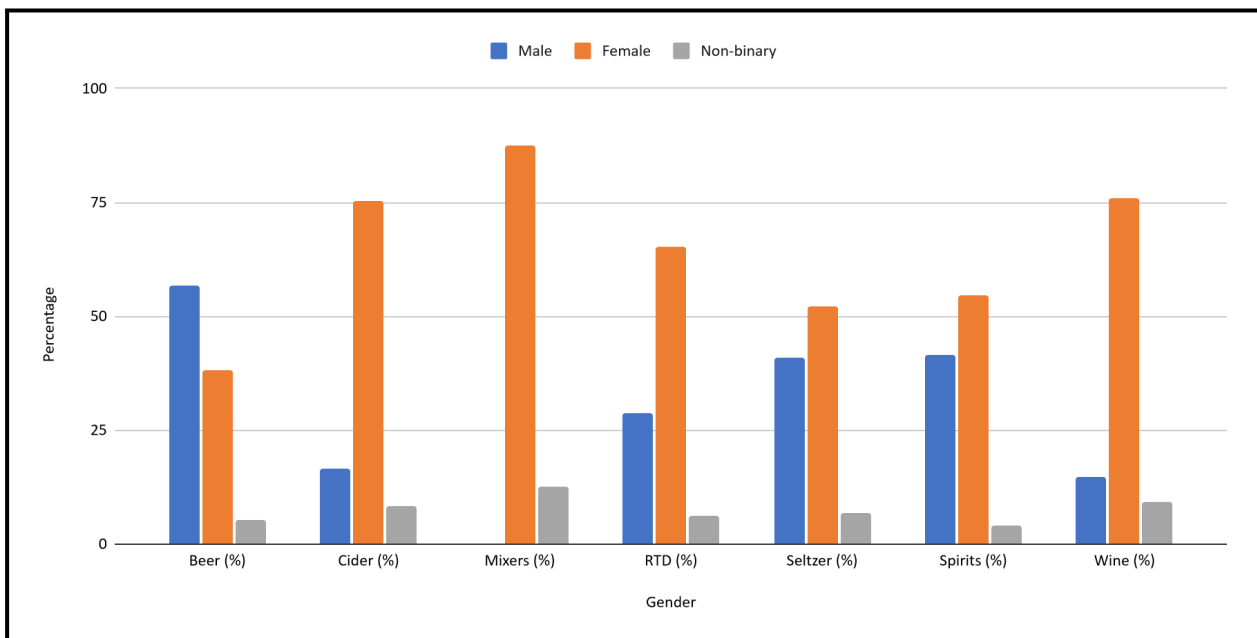
Figure 36: Types of alcohol by gender.

Several categories of alcohol had a clear gender skew in their targeting (see Figure 36). Compared to male participants, female participants were 5.13 times more likely to send us ads for wine, 4.6 times more likely to send us ads for cider, and 2.29 times more likely to send us ads for RTDs. They were somewhat more likely to send us ads for seltzer (1.28 times) and spirits (1.32 times).

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Ads for mixers were sent only by female participants (87.5%) and non-binary participants (12.5%). Male participants were 1.5 times more likely to send us ads for beer than female participants.

4.2.8 Unhealthy advertising to underage consumers
There was a total of 54 underage participants in our study.

16-year-olds in our study sent us 19 alcohol ads, 244 unhealthy food ads, and 1 gambling ad.

17-year-olds in our study sent us 85 alcohol ads, 493 unhealthy food ads, and 49 gambling ads.

17.2% of these underage participants reported seeing alcohol ads regularly, with a further 41.4% seeing them sometimes, and 34.5% 'barely ever'. Only 6.9% of our underage participants reported 'never' seeing alcohol advertising. 39.6% reported seeing gambling and sports betting ads regularly, 22.4% sometimes, 19% barely ever and another 19% never.

67% of our underage participants sent us alcohol ads (n=34) and 22% of them sent us gambling ads (n=12).

The formats where underage participants most often saw alcohol ads are:
- Sponsored posts, stories and carousel posts on Facebook (n=26) and Instagram (n=23).
- Organic or sponsored influencer content on Instagram (n=24) and TikTok (n=2).
- Display pre-roll and mid-roll ads on YouTube (n=16).

The most common advertisers whose ads were seen by underage consumers are:
- Alcohol products or brands (n=29) including White Claw, Teremana Tequila, Corona, Baileys, Bundaberg Rum, Good Tides, Absolut, Coopers, Mercury Hard Cider, Jim Beam, Victoria Bitter, Smirnoff, Jack Daniel's, Johnnie Walker, Captain Morgan, Heineken, Panhead, Gordon's Gin, Jagermeister, Pirate Life, and O'Brien.
- Home delivery advertisers (n=3) including The Whiskey Club and BoozeBud.
- Alcohol retailers (n=14) including Dan Murphy's, BWS, Liquorland, Bottle-O, Big Barrel, and Dirty Lickings.
- Venues such as bars, pubs, and clubs (n=31).

Most of the gambling content seen by underage consumers came from sports betting advertisers (n=36) the majority of which was sponsored posts or display ads (n=26). Advertisements from Sportsbet, Ladbrokes, TAB, The Shark, BR Betting and PalmerBet were seen by underage participants.

4.2.9   Sales promotion
The ads sent in to us by participants illustrate the use of sales promotion tactics by alcohol retailers and venues, alcohol and food home delivery services, and fast food chains, restaurants, and cafes.

These tactics are most prominent on Facebook and Instagram.

Sales promotion tactics are appeals that stimulate immediate purchase. These include prominently advertising the price, discount offers like free delivery, or bonus offers, prizes, and competitions.

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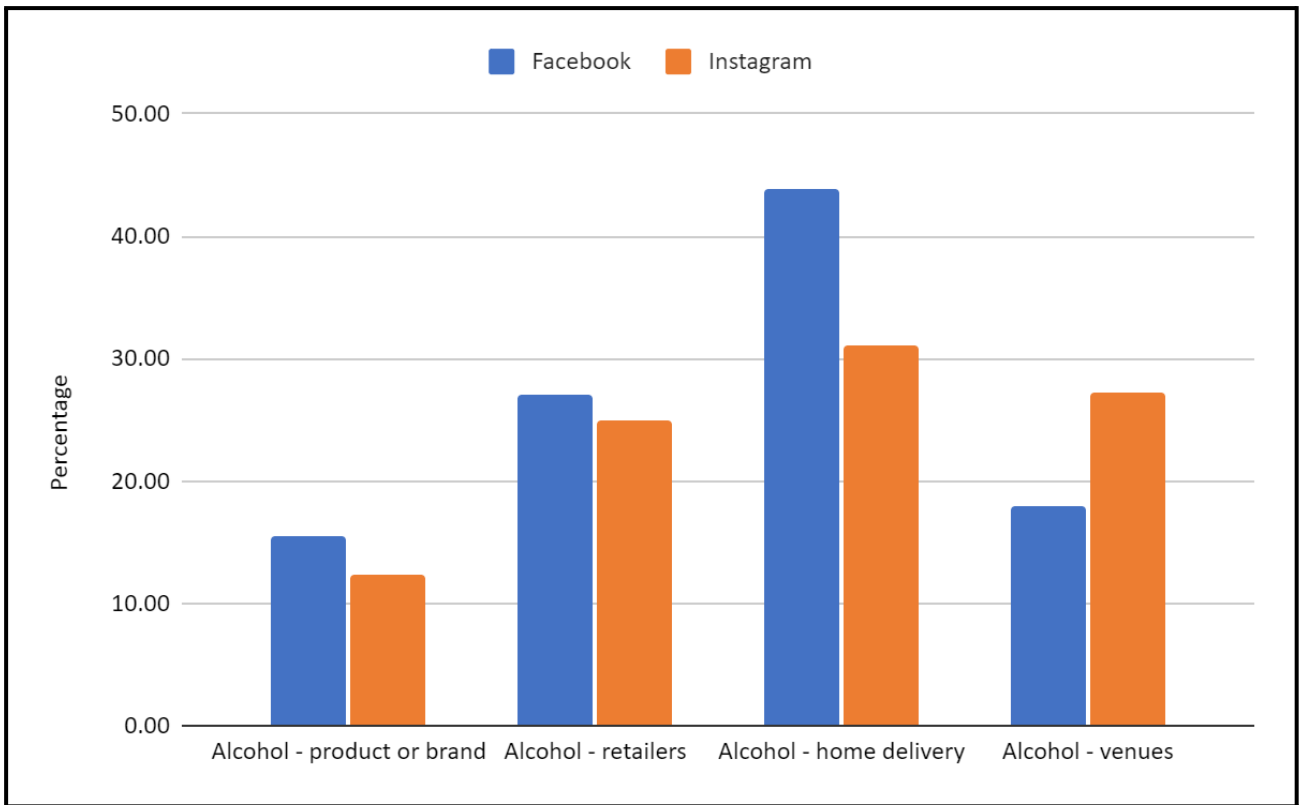
Figure 37: Sales promotion tactics used by alcohol advertisers.

On Facebook 44% (n=49) of alcohol home delivery ads and 27% (n=23) of alcohol retailer ads used sales promotion tactics (see Figure 37).

On Instagram 31% (n=14) of alcohol home delivery ads, 25% (n=17) of alcohol retailer ads and 27% (n=56) of licensed venue ads used sales promotion tactics (see Figure 37).
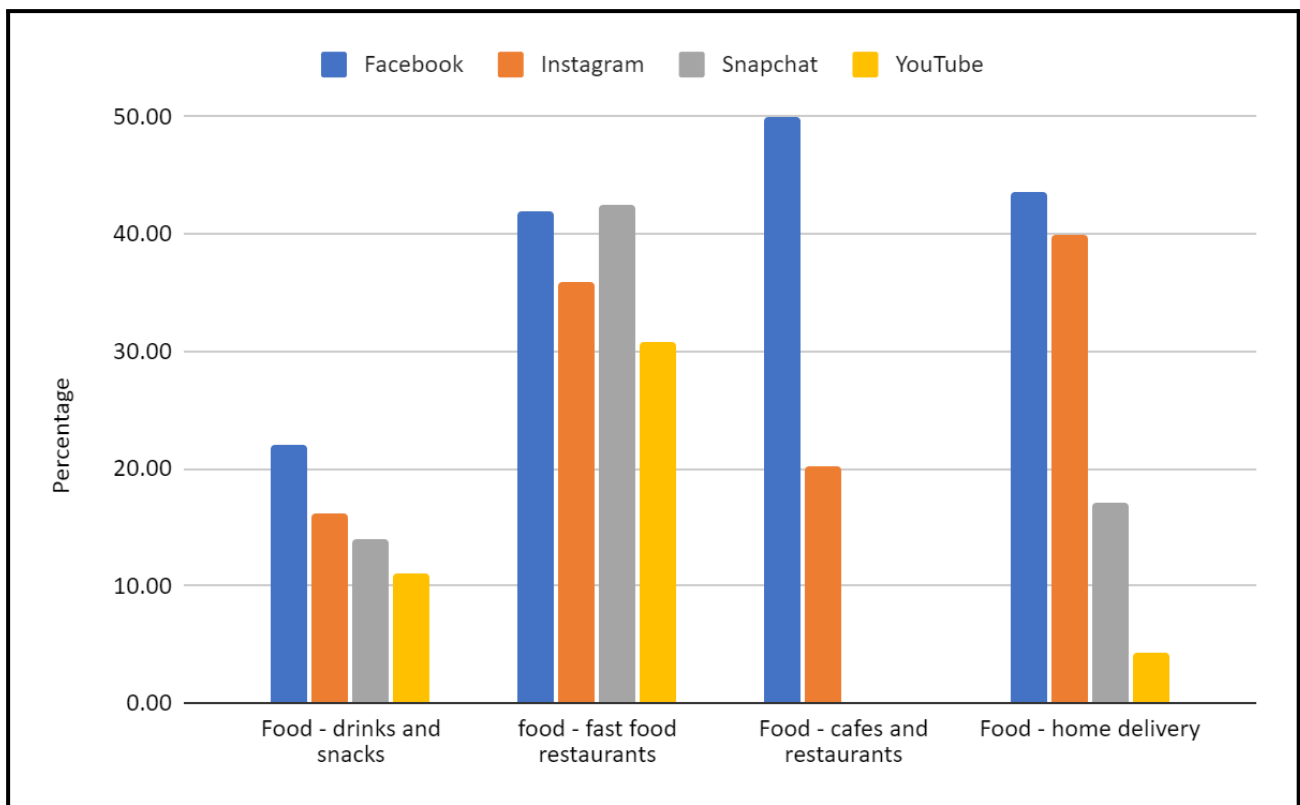
Figure 38: Sales promotion tactics used by unhealthy food advertisers.

On Facebook 42% (n=116) of fast food retailer ads, 50% (n=17) of cafes and restaurant ads and 44% (n=48) of home delivery ads used sales promotion tactics (see Figure 38).

On Instagram 40% (n=54) of home delivery ads, 36% (n=153) of fast food restaurant ads and 20% (n=15) of cafes and restaurant ads used sales promotion (see Figure 38).

On Snapchat 42% (n=28) of fast food restaurant ads and 17% (n=6) of home delivery ads used sales promotion (see Figure 38).

On YouTube 30% (n=20) of fast food restaurant ads used sales promotion (see Figure 38).

Sports betting advertisers used sales promotion tactics in 34% (n=30) of their Facebook ads and 45% (n=10) of their Instagram ads.

4.2.10 Integration of advertising and retail on digital media platforms

The ads sent to us by participants illustrate the increasing integration of retail into the advertising model of digital platforms.

16% (n=369) of ads on Instagram had a "buy" button and 46% (n=1082) had a "call to action" button. The "learn more" button often connects consumers through to a retailer's website.

15% (n=237) of ads on Facebook had a "buy" button and 40% (n=640) had a "call to action" button like "learn more" or "install app".

9% (n=26) of ads on Snapchat had a "buy" button and 53% (n=159) had a "call to action" button.

The use of buttons is concentrated in some product categories on Facebook and Instagram.

On Facebook the following percentage of ads had a button:
- 80% of food home delivery ads.
- 75% of sports betting ads.
- 65% of alcohol home delivery ads.
- 62% of alcohol product ads.
- 56% of alcohol venues.
- 54% of alcohol retailer ads.
- 53% of fast food restaurants.
- 50% of cafes and restaurants.

On Instagram the following percentage of ads had a button:
- 87% of alcohol home delivery service ads.
- 82% of food home delivery service ads.
- 75% of alcohol retailers' ads.
- 74% of alcohol venues' ads.
- 69% of fast food restaurant ads.
- 68% of cafe and restaurant ads.
- 57% of alcohol products or brands' ads.
- 52% of unhealthy drinks and snacks' ads.

Some alcohol retailers, home delivery services, fast food restaurants and sports betting services had "install app" buttons on their ads (see Table 24).

Product category	Platform			
	Facebook	**Instagram**	**Snapchat**	**YouTube**
Alcohol - retailers	9	11	10	0
Alcohol - home delivery	6	6	0	1
Food - fast food restaurants	20	27	27	2
Food - home delivery	10	15	20	9
Gambling - sports betting	0	2	57	8
Total	**45**	**61**	**114**	**20**

Table 24: Install app buttons by product category.

There were 2208 ads submitted by participants that had a "button" of some kind. 26% (n= 577) of these ads used sales promotion tactics.

There were 1087 ads submitted by participants that used sales promotion tactics. 53% (n=577) of these used a button.

This illustrates that buttons are not only used by advertisers in conjunction with sales promotion tactics. They are an increasingly integrated and normal part of ad formats and tactics on digital platforms, especially Facebook and Instagram.

4.3   Reflective chats and focus group discussions

The qualitative data includes three different datasets: reflective chats, asynchronous focus groups and answers to qualitative questions in the two surveys completed by participants. Each dataset will be discussed below.

Reflective chats

During the week of data collection, participants sent screenshots of the ads they saw on their social media to a designated phone number. The research team was able to collect the data and exchange messages with participants via the MessageMedia platform.

MessageMedia allowed the research team to communicate and ask questions to participants while they were sending their screenshots. At the end of the week of data collection, the research team asked participants to reflect on what they had seen throughout the week.

The research team sent 2,101 messages to participants and received 3,010 messages between February and May 2021. A summary of the message flow during the data collection is provided below:
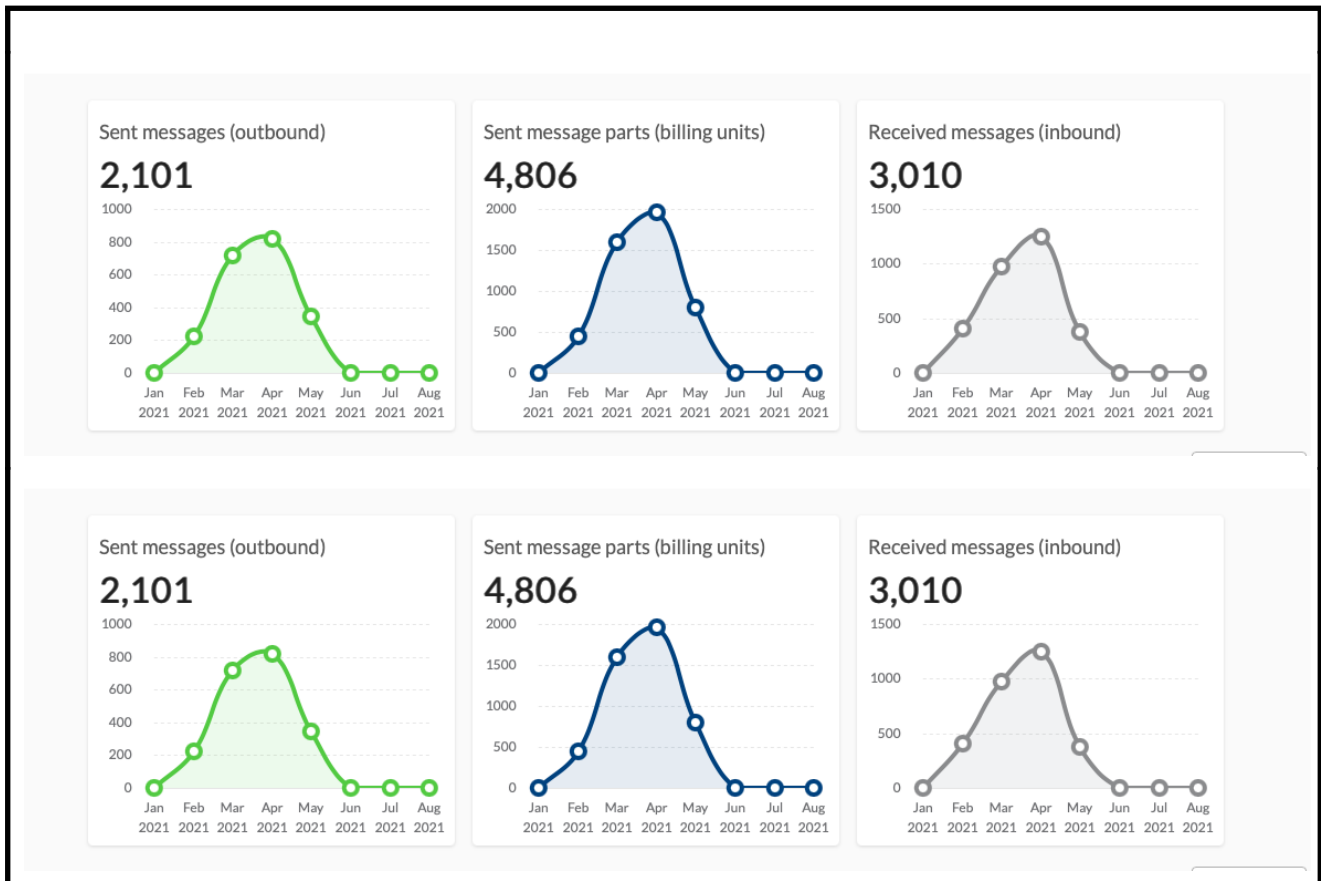
Figure 39: Number of messages sent and received (Source: MessageMedia, August 2021).

The reflective SMS chats with participants served a variety of purposes:
- During the week of data collection, as participants sent us ads, we asked them to help us make sense of them. Sometimes these were simple clarifications like asking them what platform they saw the ad, or if the product, service or venue was unfamiliar to us we asked them to tell us a bit more about it.

- As the week went on, we asked participants about some of the patterns they were seeing or not seeing:
    - If they sent us screenshots predominantly from one platform, like Instagram, we'd ask them if that was because this is where they were seeing ads or because it was the platform they used most.
    - If they sent us a lot of ads from one advertiser or product category, we'd ask if that pattern reflected their interests or consumption habits.
    - If they sent us examples of ads with "buy" buttons, we'd ask if they ever clicked "buy".
    - If they sent us examples of ads from nightlife venues we'd ask if these were venues they went to with their friends, and if they used these ads to plan a night out.
- At the end of the week, we'd ask participants to reflect on some of the patterns they saw, whether they matched their interests and preferences, and how they felt about them. We'd also ask them if they thought they saw more or less advertising from unhealthy advertisers than they thought they might.

Throughout the week this frequently prompted useful insights and rich discussions with participants.

Focus Groups
After completing the week of data collections, participants were asked to participate in the asynchronous focus groups. The focus groups were an additional step in the data collection and participation was optional. 38 participants joined the discussions on FocusGroupIT sharing their perspectives on these topics**.**

The asynchronous focus groups were conducted using the FocusGroupIT platform and participants were invited to participate in two rounds. Participants from Wave 1 and 2 were invited to participate in the first round while participants from Wave 3 and 4 in the second round.

Participants were asked to provide insights and reflect on themes suggested by the research team. Moreover, participants could exchange their thoughts and comments on other participants' posts.

Topics of discussion in the focus group were:

- Being targeted on social media;
- Rules about marketing on social media;
- Home delivery and online shopping;
- Alcohol recipe and gendered ads;
- Venues;
- Sport betting;
- Making ads with friends.

Topics of discussion in reflective chats and focus groups
Reflective chats and focus group discussions have been coded on Dovetail to identify key themes and topics of discussion. Five major topics appeared in the data:
- 111 mentions of the volume of ads participants saw.
- 104 mentions of alcohol advertising.
- 96 mentions of unhealthy food advertising.
- 84 mentions of ads appearing to match participants' interests or behaviours.
- 82 mentions of gambling advertising.

The following sections contain examples of the comments provided by the participants for each of these five themes.

4.3.1   Participants reflecting on the volume of ads they saw

Many participants reflected on the volume of ads they saw during their week of data collection. Many told us that they had never paid attention to, or noticed, the number of ads they were exposed to every day on social media platforms.

> *This experience has definitely been eye opening as I became aware of just how many advertisements I am exposed to throughout the day, and how the vast majority of the ads are for unhealthy food/activities. (Rupert, 20, male, Melbourne)*

> *I do think I've been seeing more ads than I thought I would, simply because I regularly don't pay attention to them and try to get rid of them to continue browsing content haha, not knowing how they've been subconsciously affecting me! (Erika, 20, female, Melbourne)*

> *I didn't even realise how many of these ads I was getting in a day until I started logging them! (Celine, 22, female, Melbourne)*

These were interesting reflections in the sense that they highlighted that the exercise of collaborating with young Victorians to monitor unhealthy advertising in their social media feeds made them more aware of it and that could prompt critical reflections and discussions. Awareness might also increase young people's understanding of the power of advertising, its harms, and influence their support for changes and regulation.

The research team, and some participants, also wondered if the practices of screenshotting ads might have been influencing the number of ads participants were seeing. Amelia (20, female, Melbourne) offered a nuanced explanation when we asked her about the number of Keno ads she was seeing.

> *Researcher 1: Thanks Amelia, it looks like you are seeing those Keno ads quite a bit. Do you play Keno? -Brady*

> *Amelia: Hi Brady, yes I am seeing them a lot but no I've never played Keno. I'm not sure why I'm seeing so many.*

> *Researcher 2: Thanks Amelia, did you ever notice Keno ads before you started sending us your screenshots? -Lillian*

> *Amelia: Hi Lillian, I've definitely noticed them before but it does seem to have increased. Maybe I accidentally engaged with one while screenshotting? I'm not sure.*

And, later in the week, Amelia messaged us about her use of TikTok.

> *Amelia: Oh thank you! Here are some final screenshots I've collected. Also if it is useful to your study at all, I just wanted to say I have been using tiktok regularly and haven't seen any relevant ads. Good luck with it all :)*

In the exchange above, Amelia reflects with us on how she's noticed increases in specific ads. Our dialogue invites her to think through why she might be being targeted by specific campaigns. The young people connect this to their participation in the study, reflecting not only on their understanding of social media advertising, but also on their position in the study, as a participant and citizen researcher. We think there is merit to her explanation, in that platforms can recognise and collect data about when and what we take screenshots of. Amelia's comment about TikTok suggests they had an original hypothesis that TikTok would show them alcohol, gambling or unhealthy ads and were surprised to be proven otherwise. The unprompted comment suggests she was taking on the role of an investigator exploring their use of digital media platforms.

At the end of his week of data collection, Byron (20, male, Melbourne) reflected to us that the high volume of ads he saw matched his expectations. He explained that he always saw a lot of ads and so wasn't surprised to see the volume that he did. He then reflected that many of the ads he saw for nightlife venues didn't reflect his consumption practices.

> *Researcher: Hi Byron, thanks for all the screenshots you've sent this week, you are nearly done! We will send you the second survey tomorrow and after that is done we'll send you a $100 gift card to thank you for your time. Please send through any screenshots you've collected in the past couple of days, or have a final scroll and screenshot this evening if you can. As we get to the end of this process I just had a couple of questions about what you've seen so far. As you've gone through this week have any patterns jumped out to you in the kinds of ads you are seeing? And, have you seen more ads than you thought you would? -Nic*
>
> *Byron: I think that I saw the same amount of ads that I thought I would as I know there is always a lot.*
>
> *There is a lot of ads in my Facebook feed for danceclubs and stuff that involve alcohol*
>
> *Also bottomless alcohol events are very popular at the moment.*
>
> *Researcher: Thanks Byron, just with the ads for clubs - are these clubs that you go to and do these promo offers / posts influence how you and your friends plan a night out? -Nic*
>
> *Byron: Most of the ads are for clubs that I haven't been to at all, and I would say that they don't really influence me and my friends at all.*
>
> *Only way they could influence me is if I see something that looks cool and me and my friends are like yeah okay let's try something new.*
>
> *Researcher: Thanks Byron! That's helfpul to know - so these aren't clubs that you follow, but they're targeting you anyway. -Nic*
>
> *Byron: Yeah legit, never been to them and don't follow them but I still see heaps of ads for them.*

4.3.2   Participants reflecting on alcohol ads they saw

Participants had a number of reflections on the alcohol advertisements that they saw: some felt they reflected their drinking practices, while others explained that they did not. Some thought that alcohol advertising happened at night when they were planning to drink or go out.

66

Erika (20, female, Melbourne) and Jeff (16, male, Melbourne) explained that it was "funny" that they saw alcohol ads because they didn't drink.

> *I actually find it funny that I get alcohol ads as I myself have never drank and don't plan on doing so either!*

> *I think I've noticed a few more alcohol ads than i would have expected at first since I have never bought any alcoholic products online or really interacted with anything related to it online. However, it could make sense due to my age being their target demographic. Other than that, the food ads do make sense since i like to order a lot of food online!!*

In text chats, Pim (22, trans male, Melbourne), Melanie (19, female, Melbourne) and Lukas (17, male, regional Victoria) reflected on patterns they saw in alcohol ads in their feeds.

Pim explained that they "definitely" saw "more alcohol ads at night".

Melanie explained that:

> *There was a huge pattern with the strawberry daiquiri batch & co ad, I got it across all platforms (and am still getting it), but have never heard of the drink or the company before! [....] I was also surprised by how much influencers actually promote alcohol consumption, once i paid attention to it I ended up seeing at least one drink on an influencer story a day!*

Lukas reflected that:

> *Usually the ads I get around the unhealthy food are pretty obvious and don't get promoted by influencers however alcohol does get promoted by influencers heaps more especially on tiktok and Instagram*

In our anonymous focus group forum, one participant explained:

> *I often see advertising advertising for nightlife venues (mainly because people I know are promoters for these venues). These don't have an influence on planes I make with friends. Yes, these posts largely advertise alcohol (mainly saying how they have a deal or special on drinks for that night). (Anonymous focus group discussion forum participant)*

Another focus group participant added:

> *I rarely see posts from bars, pubs and clubs. Most of the ads I see are by big brands like BWS, UberEats and Dan Murphy's. I think [of] these posts as entertainment through alcohol. (Anonymous focus group discussion forum participant)*

Across these comments we see the young participants in the study reflecting on and helping to interpret the patterns they see. Many of these observations generate helpful questions and lines of inquiry. For instance, Melanie's and Lukas' perception that they see a lot of influencers promoting alcohol wasn't reflected in our overall data set. This opens up the question as to whether influencer content is just targeted at some consumers, or if many of the participants in our study weren't noticing influencer content in their feeds or recognising it as advertising.

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In an extended text message chat Kirsten (19, female, Melbourne) reflected on the patterns of nightlife ads she saw, explaining that while she didn't drink much she did go clubbing.

> *Researcher: I see you've mostly sent us alcohol and nightlife ads, do you think this reflects your interests? As you've gone through this week have any other patterns jumped out to you in the kinds of ads you are seeing? Lastly, I find the Smirnoff ad with Lime Cordiale super interesting - do you know/like this band? -Lillian*
>
> *Kirsten: I actually don't drink super frequently but I do go clubbing and tend to click interested on clubbing events on Facebook so I get a notification to buy tickets and can see which mates are going.*
> *...*
>
> *I've noticed a lot of the alcohol related ads tend to be targeted towards young people, trying to brand their products as trendy/hip and try to act like they're healthy and targeting younger, vulnerable and more weight conscious with sugar free branding. I think also the way they portray drinking their product as cool is purposeful to target insecurities in my age group especially, feeling left out or not cool etc.*
> *…*
>
> *I know of Lime Cordiale but I'm not a fan, I know I have friends that have attended their concerts and they've played at uni events I've been at so that could be the connection.*
>
> *Researcher: Hi Kirsten, thanks for explaining that. it's an interesting observation for sure. What examples of alcohol ads you've screenshotted, if any, stand out most to you as targeting young peoples' insecurities? And do you think this advertising is problematic? -Lillian*
>
> *Kirsten: I believe the Jack Daniels one really plays into the impulsivity of my age group with phrases like "make it count". Also the association with Lime Cordiale or even the guy skateboarding in the Byron brewery advert just associate drinking with being cool, hip and trendy.*
> *…*
>
> *I think these types of advertisement are extremely problematic, for example you wouldn't see a similar ad with Lime Cordiale smoking cigarettes for Marlboro (but for some reason it's acceptable with alcohol). Alcohol is really harmful and we have a huge binge drinking issue in Australia, I think people are really blasé about it.*

While many participants reflected on the volume, frequency and tactics of alcohol advertising, Kirsten reflected on the content in the advertising. Kirsten presented an analysis of textual features of alcohol marketing she sees in her feed. For Kirsten, advertisers' social media marketing strategies specifically target young people by playing on perceptions of "coolness". Through her textual analysis of alcohol ads, she concludes alcohol advertising is deliberately harmful.

4.3.3   Participants reflecting on unhealthy food ads they saw

Many participants reported in chats and focus groups that the highest volume of ads they saw on their social media were about unhealthy food, especially fast food and home delivery services. Participants wrote in text message chats:

Definitely got a lot more Ubereats ad than anything else. I don't think I've ever ordered any other food delivery (besides restaurants official delivery) so this didn't surprise me. It was not too surprising. (Fabian, 16, male, Melbourne)

I also got increasingly more fast food ads over this week, particularly from online delivery companies (I do order from places like menulog and Uber eats often but never fast food). (Melanie, 19, female, Melbourne)

Colourful imagery, enhanced saturation and bright colours especially for junk food ads. I've also seen that most of the junk food ads group the product with other products that the company offers. I thought it would be hard to find ads regarding junk food because usually when i'm scrolling I do not consciously realise how many ads appear on my feed. However after this week I've realised that there are much more ads for junk food than I thought. (Stacy, 20, female, Melbourne)

I saw more fast food ads than expected. I don't consume a lot of fast food, so this was surprising. Especially the amount of hungry jack ads, I don't think I've ever eaten there but I guess Facebook thought I was a hungry jack type of guy. (Ash, 21, male, Melbourne)

I'm not sure I noticed any patterns other than being bombarded with fast food/delivery ads, at a rate of which I was definitely surprised to see, often getting pockets of 3 in a row. (Aiden, 19, male, Melbourne)

These perceptions about the volume of fast food ads is reflected in the quantity of ads participants sent us. The interesting insight participants add is that they were surprised by this volume of fast food advertising and hadn't noticed it before. It also indicates that home delivery services are advertising to prospective consumers in an effort to grow their user base. Industries in a "growth phase" will push advertising to potential, rather than existing, customers to build awareness and engagement.

In an extended exchange with the researchers, Fran reflected on how this advertising affects her consumption habits:

Fran: Great, will do! As for patterns, once I started actually looking for ads I realised just how many I got! scrolling through Instagram stories I realised that I see an ad after every 2nd or 3rd person's story, but because they are in the same format it's hard to recognise them as an ad unless I'm explicitly looking for it. It's honestly a bit spooky! It felt like all the time I've spent watching people's Instagram stories over my life, I've been receiving subliminal messages (especially for fast food and alcohol) that I haven't even really registered until now.

Researcher: That's super interesting, what sorts of 'subliminal messaging' do you think you get? Can you think of any particular examples of this? -Lillian

Fran: I think the simplest example would be with food! It feels harder to maintain healthy eating habits when a good portion of what I'm being shown throughout the day is pictures of fast food. I think that constantly being shown pictures and videos of burgers, fast food chain food, decadent desserts, etc, dictates my cravings and therefore my food habits. Days when I'll be craving unhealthy food seemingly out of no where usually traces back to a tiktok or instagram ad I've seen earlier that day.

Researcher: Right, thanks for explaining, I totally get what you mean now.

Fran's messages indicate the research process made her think about how exposure to social media advertising affects her everyday habits around unhealthy food consumption. Strategies of raising brand awareness and market expansion affect young peoples' overall habits of unhealthy food consumption as well as their specific choice of brands. Fran's insights are interesting because

they tell us that awareness of advertisers' strategies might not prevent exposure to advertising from adversely affecting young peoples' consumption habits around unhealthy food.

Elmer (23, non-binary, Melbourne) and Ciara (16, female, Melbourne) reflected on the ways fast food brands harnessed social and cultural "personas" that Facebook generated through their data.

Elmer told us, "facebook and instagram definitely think i'm vegan".

Ciara wrote:

> *hi!! i think i saw less ads than i thought, i always thought like "wow i see heaps of ads about fast food and alcohol" but when i actually paid attention to ads, legit all the ones i saw were about clothes which i didn't expect? out of all the fast food ones i got, so many were from kfc too? (i think they know i'm from nz or something 😳)*

4.3.4   Participants reflecting on ads appearing to match their interests or behaviours

Many participants expressed concern about the way social media platforms specifically targeted them and appeared to know their preferences.

Several participants wrote in text message chats:

> *I wasn't really surprised by the ads that come up for me cause they are basically what I search online (fast food/unhealthy food) and they do reflect my interests. (Sebastian, 17, male, Melbourne)*

> *The advertisements that I saw over the course of the week matched fairly well with my interests and intrigues, no particular advertisement surprised me as they are a fair representation of what I see and like in day to day life. (Nate, 16, male, Melbourne)*

These views were reflected in focus groups too:

> *I have noticed that majority of ads were targeted at me specifically because the ads started coming after I have searched about something on Google, an example: I have searched for sports betting just once and the ads kept coming from that day to now. I felt surprise at all because instagram and facebook have my interests saved, and some of the ads were not even related to any of my interests. I feel weird because the social media platforms are tracking all my moves, and sometimes creepy because all my social media accounts do not use same email. (Anonymous focus group discussion forum participant)*

> *I found that ads were definitely targeted to me and my interests. It's not surprising anymore as we're more informed about how companies are using our data and it happens so often. What I found strange was that I didn't actually get "creeped out" by these ads. I actually found the ads interesting and useful. I like to try new things and if there's a different version of something I know I already like, then that's great. (Anonymous focus group discussion forum participant)*

These insights are useful. They demonstrate that, for particular ads and categories, participants sometimes felt like they were being targeted even though they weren't interested in that advertiser. But, even so, for the most part participants recognised the patterns in the ads they were targeted with and those patterns made sense to them given their preferences. They could see why the advertiser thought they would be interested. One way of interpreting these views is that

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participants more or less confirm that the targeting and optimisation processes of the platforms "work" - they more or less correctly categorise and target them.

Participants also gave different reasons they perceive their ads to "match" them, reflecting different theories about the way advertisers are targeting them on social media.

Carmen (24, female, elsewhere in Victoria) reflected that advertisers could be targeting her on the basis of an assumed "gamer" identity, that brands position themselves within:

> *Researcher: I'm interested to see the Rockstar energy drinks ad. Do you see many of these? The reason I ask is that we haven't seen many of these so far. -Nic*
>
> *Carmen: I've seen it a few times. I assume it's targeted bc I play video games hahahaha.*
>
> *Researcher: haha :-) that is an interesting connection to draw that I wouldn't have thought of, but that does make sense... do you watch game live streamers - say on Twitch or YouTube or similar? And, if you do... do you see streamers drinking or sponsored by energy drinks? -Nic*
>
> *Carmen: I dont watch any streamers, I prefer playing the games myself. There's a lot of video game content on my Instagram explore page (guides, merch, fan art). So instagram definitely knows it's an interest of mine though!*
>
> *Researcher: Thanks so much, for helping me join the dots :-) -Nic*

Holly (20, female, Melbourne) observed advertisers strategies in the ads targeted to her match up with her spending behaviour:

> *The pattern I've noticed is a lot of discount advertisements for alcohol and food ads such as 5-15% off or buy one get one free. As someone with not a lot of money these always stick out to me and make me consider getting the deal.*

In contrast, Rynessa (22, female, Melbourne) suggested nightlife ads match her searching habits, but the promotional strategies they use would not motivate her to act on the ads:

> *Researcher: Thanks for these, they're great. I'm seeing mostly nightlife and alcohol so far, does this reflect your interests? -Lillian*
>
> *Rynessa: That great! Yes it does reflect my interests and of recently I have been searching up these things to have my bday party ever since then a lot more of these have been popping up.*
>
> *Researcher: So interesting that you can point specifically to why these might be showed to you. Do you find those nightlife ads helpful for you party planning? -Lillian*
>
> *Rynessa: Yes I have noticed that pattern a lot, for example when I was looking for gym wear I used to get and still get a lot of different gym wear brands ads. The nightlife ads are not that useful in the sense that the places that pop up are more towards buying an alcohol package (like bottomless) rather than actual night clubs.*

Similarly, Harry (18, male, Regional city) said he had been seeing particular brands because he already interacted with them:

Researcher: Hi Harry, Thanks for all the screenshots you've sent this week, you are nearly done! We will send you the second survey tomorrow and after that is done we'll send you a $100 gift card to thank you for your time. Please send through any screenshots you've collected in the past couple of days, or have a final scroll and screenshot this evening if you can. As we get to the end of this process I just had a couple of questions about what you've seen so far. Have you noticed any patterns in the kinds of ads you've seen this week? - Chiara

Harry: Hey Chiara, I have particularly noticed that majority of the ads are for fast food - very rarely do I get gambling ads. I also notice most of them are promoting some kind of special deal to reduce the cost of the item.

Looking through them now - alot of them also are attempting to be humorous or relate to internet meme humour, probably to engage young people who would otherwise skip the ad.

Same thing applies to the Cruiser snapchat filter I would think.

Researcher: Do you think the ad was targeted at you because you search for fast food or order fast food online? Or do you think it is just random?

Harry: Definitely not random - I do occasionally search for codes for uber eats and I imagine my search history is entered into an advertisers database to best advertise to me?

Researcher: Yes - that's definitely one of the reasons why you get these ads.

Osian (17, male, Regional city) said some ads match the content his friends engage with on social media, but with further questioning revealed this did not mean these ads necessarily aligned with his interests:

Researcher: Do you feel like these ads make sense in terms of reflecting your interests? Is there anything that's wildly off target? Also, if you see anything from the list of stuff you are looking out for that is being promoted by an influencer, feel free to send those over too. - cheers, Steve

Osian: Yeah most of them make sense in terms of my interests, but also in terms of friends of mine on social media, their interests.

Researcher: Cool, thanks for that. Is there any activity in particular that is something you consider more in your mates' interests? And, I guess, does seeing the stuff you associate with your friends make you feel the urge to do those things a bit more?

Osian: Drinking alcohol and it gives me more of an urge to stay away from it.

Across these responses, participants held various theories about how ads are targeted towards them. Ads might have "matched them" in the sense that the ads addressed their interests, used promotions that matched with their interests and social cultures, and reflected places they had already engaged with. Across these examples, participants reflected that just because ads "matched" them in theory, it did not necessarily make them more likely to buy a product.

4.3.5   Participants reflecting on gambling ads they saw

Many participants indicated that they see sports betting and gambling ads in their social media feeds even though they have never gambled before. While some participants were surprised and annoyed by these ads, sports betting advertisers are likely doing this deliberately to grow their user base and to increase awareness and acceptance of their products.

In the anonymous focus group discussion forum, one participant explained:

> *Most of my ads were for gambling ads (almost Snapchat was exclusively gambling ads and the same 2 or 3 ads). Interestingly, I don't follow any sports or teams and I have never gambled before so I felt I was nowhere near the target audience for these ads and therefore it had no impact on how I enjoy sport. I think there should be tougher laws on gambling ads (for example, how gambling ads on TV can only be on after a certain time could be applied to social media). (Anonymous focus group discussion forum participant)*

Another participant added:

> *I didn't see any of these ads, but again I am female and I don't engage in any gambling or betting behaviours, so I don't think I'm the target demographic. (Anonymous focus group discussion forum participant)*

This view was reflected in text message chats too:

> *I was also surprised with the number of betting ads that I came across. I probably had as many betting ads as fast food ads. This was strange because I've never gambled or downloaded a gambling app. (Shawn, 19, male, Melbourne)*

> *I've never used any of the betting apps before nor have I done any sports related gambling or really any gambling for that matter besides some poker with friends at their houses (Malvin, 20, male, Melbourne)*

The ads were also prominent for some participants who already participated in betting. For Gus (19, male, Melbourne), the prominence of gambling ads was problematic because he was trying to quit. Gus' observation that he received particular ads for gambling despite using Facebook and Instagram's "hide ad" function is interesting because it suggests platforms' native tools are ineffective for users to self-regulate what ads they are shown.

> *Researcher: Looks like you are getting a few gambling/betting ads, and I see in survey 1 you do gamble sometimes via an app or through a website, is that right? Do you tend to use the apps/sites being advertised to you, or others? -Brady*

> *Gus: I recently have given up on gambling within the past month and a bit, but I use to do it a lot prior. Majority of the gambling ads I get are from apps/sites that I don't have an account registered with!*

> *Researcher: No problems, thanks Gus - that's interesting that even though you've given up on it you still see so many ads. Is that frustrating for you? -Brady*

> *Gus: Very frustrating! Being young I have more disposable income as I don't have to pay for things such as bills and these ads can be quite brainwashing in a way. I've even used the hide ad feature and they still come up non stop!*

The method of conversational discussion with the researcher prompted participants like Gus to reflect on their experiences of media platforms, and the ways platforms facilitate certain types of advertising practices and affect users' experiences of unhealthy products in their day-to-day lives.

5   Discussion & Answering Research Questions

In this section we answer each of our Research Questions (RQs), drawing together data from [Section 4](#). In [Section 5.1](#) we provide a detailed and comprehensive response to RQ1, drawing on in-depth analysis and discussion of the 5169 screenshots collected in this study in order to understand the social media marketing strategies used by unhealthy advertisers, including a range of case studies and examples. In the subsequent sections ([5.2](#) to [5.4](#)) we provide shorter, more direct answers to RQs 2-4, making reference directly to the material covered previously in section 4. Beyond the set RQs, finally in [Section 5.5](#) we consider the implications for regulation of unhealthy advertising.

5.1   RQ1: Digital marketing strategies used by unhealthy advertisers

Research Question 1 is: 'What types of covert and overt digital marketing strategies are being used by the food and beverage, alcohol and gambling industries to target young people?'

We posed two sub-questions: (a) 'Are there differences in the strategies used by different industries?' and, (b) 'Are there differences in strategies used across different platforms?'

In this section we address this question by outlining the types of advertising on digital media platforms, the covert and dark nature of that advertising, and the emerging tactics and themes advertisers are using.

5.1.1   Types of advertising used by advertisers on digital media platforms

Young Victorians see a large volume of unhealthy ads in their daily use of social and digital media platforms. The 204 participants in our study sent us a total of 5169 images. Our reflective SMS chats with participants indicated that they could have sent many more ads over the course of the week if they screenshotted every ad they saw every time they used a digital media platform.

86% of the ads sent to us came from Facebook and its subsidiary Instagram. This highlights the extraordinary market power of Facebook in Australia's advertising markets and the central institutional role it plays in the marketing of alcohol, unhealthy food and gambling products.

Only 6% of the ads sent to us by participants were from influencers or third parties, and we received very few examples of user-generated content or use of participatory formats like sponsored filters. This was consistent with the survey results, where participants reported seeing some influencer content, with almost a third (31.74%) reporting seeing influencer content promoting unhealthy food or drink, just under a fifth (19.51%) seeing influencer content promoting alcohol, and 11.7% seeing influencers promote gambling or betting (see [Section 4.1.8](#)).

While participants might under-report these formats to some degree because they are harder to distinguish as advertising, overall this indicates that the vast majority of advertising on platforms is in formal paid formats. This is consistent with the commercially-motivated moves platforms have made in recent years to shift away from unpaid, organic forms of promotion to paid advertising. However, as we discuss below, the relatively small amount of influencer and user-generated content does not mean that the advertising is not 'covert'.

63% of ads sent to us by participants were for unhealthy food products, 30% for alcohol and 7% for gambling. While Facebook and Instagram dominated in all categories, unhealthy food advertisers

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favoured Instagram, alcohol advertisers made even use of Facebook and Instagram, and gambling advertisers used Facebook, Snapchat and YouTube.

Despite 92% of our participants using YouTube, advertisements from YouTube made up only 5% of our overall sample. This could be because users might see less ads on YouTube because they only appear at the start of, and sometimes mid-way through, a video. In contrast, Facebook and Instagram users see many ads for every minute spent scrolling. There is likely a higher volume of ads in these feeds that users can scroll past more quickly. Whereas YouTube shows users less ads, but forces them to watch these.

There are also significant differences in terms of who sees what kinds of ads, based on gender. While a deeper gendered analysis was beyond the scope of this study, and would benefit from follow-up research, when we break the sports betting ad perceptions down by gender, for instance, there is a clear and statistically significant difference between men and women, as reported in Section 4.1.6: 51% of women initially said they saw sports betting ads barely ever or never (18.1% regularly, 6.4% almost always, 24.5% sometimes) compared to men, 82% of whom said they saw sports betting ads sometimes (27.1%), regularly (30.2%) or almost always (25%).

Furthermore, a small number of advertisers dominate. The top ten advertisers account for 25% of the ads sent in by participants. Major corporate advertisers are making significant use of digital media to target and continuously engage with young Victorians. It appears that these major corporate advertisers make the most extensive and sophisticated uses of digital platforms, are likely to have the largest sets of data and optimised audiences, and cause the most harm.

On each platform a single format dominates. Facebook and Instagram advertisements are overwhelmingly sponsored posts and stories. YouTube, TikTok and Snapchat are dominated by targeted display ads. This suggests a consolidation of the advertising model of each platform around key formats that advertisers can plan for and use reliably.

Some advertisers, like home delivery services for food and alcohol, favoured platforms like Facebook (and increasingly Instagram) that offered integration of advertising and retail using 'buy buttons'. These advertisers also make the most use of the sponsored carousel format on Instagram and Facebook. The carousel format works like a 'catalogue' of products for sale, and includes buy buttons that enable consumers to purchase directly through the platform. We discuss the significance of these emerging 'buttons' and 'carousel' formats below.

Key ad formats
In this section we describe the key ad formats seen across each platform.

Sponsored posts

Sponsored posts are the predominant ad format on Facebook and Instagram. These are ads that appear like any other post in the News feed, Home feed or Explore feeds of the platforms. They might be published on an advertisers' profile and then be "boosted" or "promoted" into the feeds of targeted users. Sometimes they are "unpublished", which means they are inserted into users' feeds but not visible on the advertiser's public profile. The ad published by White Claw (Figure 40), a seltzer brand, is an example of this sponsored post on Instagram. There is a "sponsored" label underneath the advertiser's profile.
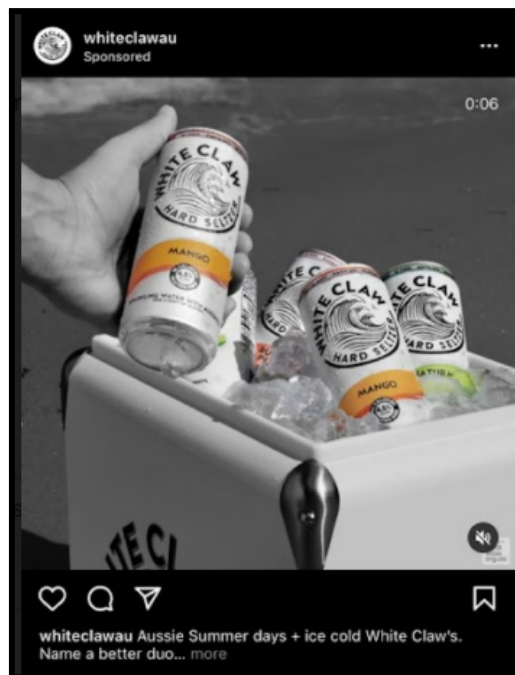
Figure 40: White Claw ad sent in by Ariel.

Sponsored stories

Sponsored stories on Instagram work similarly to sponsored posts. They are a vertical video format inserted into targeted users' Stories feeds. The video might contain "swipe up" links to the advertisers' profile or store. The Mother's Day ad by Gordon's (Figure 41), a gin brand, is an example of a sponsored story. It features a sponsored label under the advertiser's profile, as well as a "shop now" swipe up link.

Figure 41: Gordon's gin ad sent in by Nadia.

Sponsored carousel

Sponsored carousels on Facebook and Instagram are a sequence of images, usually of products, that a user can swipe through horizontally like a shopping catalogue. They are targeted into users' feeds like other sponsored posts. Sponsored carousels usually contain "buy buttons" that users can tap to go directly through to an online store and purchase a product. They are commonly used by alcohol and unhealthy food retailers and home delivery services. Figure 42 below is an example of a sponsored carousel. Doordash is a food delivery service and each carousel post in the ad is a different fast food restaurant they deliver from. It also features a "buy button", the "order now" button underneath each carousel post.

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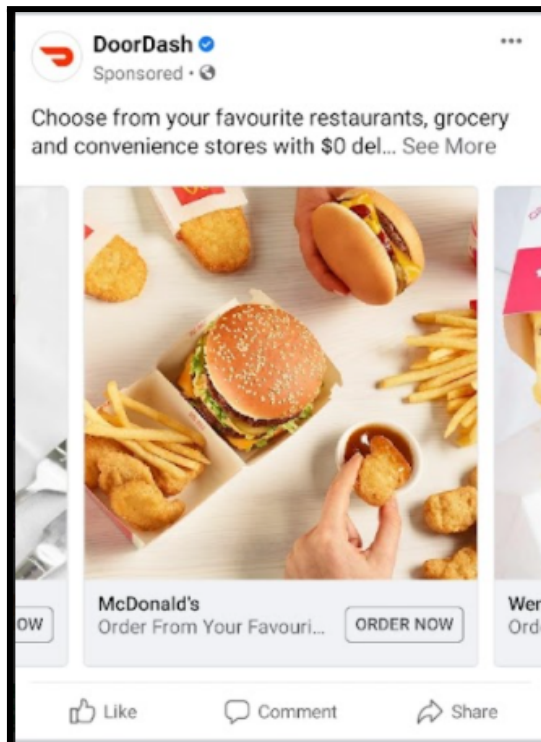
Figure 42: Doordash ad sent in by Omar.

Pre-roll, mid-roll and interstitial display ads

Pre-roll, mid-roll and interstitial display ads are the predominant format on YouTube, Snapchat and TikTok. These ads function like traditional television commercials, popping up as "interruptions" that users must watch before moving onto the next piece of content in their feed. The YouTube ad by McDonalds (Figure 43), a fast food brand, is an example of a "pre-roll" ad, as it is being played before a video begins. This ad must be played in full before the user can watch the video (there is no "skip ad" button shown on the screen).

Figure 43: Still from pre-roll McDonalds ad sent in by Kia.

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Sponsored filters

Sponsored filters are augmented reality effects that users can play with to create content they share with friends. These filters are common on Snapchat, Instagram and TikTok. Brands design a filter and then promote it to targeted users. The ad by Bakers Delight (Figure 44), an Australian bakery chain, is an example of a sponsored Instagram filter which is being advertised on Facebook. The filter is an augmented reality game. There is an incentive to use the filter: a competition to win free hot cross buns.

Figure 44: Bakers Delight ad for augmented reality sponsored filter sent in by Osian.

Paid partnership

Paid partnerships are the standardised influencer or third-party format on Instagram and Facebook. These posts function like sponsored posts or stories, but are posted from the influencer or third-party profile with a "paid partnership" tag. In the influencer Instagram post for Sour Patch Kids (Figure 45), a confectionary brand, there is a "paid partnership" label underneath the influencer's username. In the Instagram story ad for Grain Waves published by an influencer (Figure 46), there is a sponsored label and "shop now" link but no "paid partnership" label.

Figure 46: Grain Waves sponsored influencer post sent in by Alex.

5.1.2 Accountability and the covert nature of unhealthy advertising on digital media platforms

While the vast majority of advertisements sent in by young Victorians are in paid formats, there remain many covert features of unhealthy advertising on digital media platforms.

Limited monitoring and accountability
Unhealthy advertising on digital platforms is not open to public forms of monitoring and accountability.

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Only 3% of the ads sent to us by participants were published on a public advertiser profile where they could be viewed and monitored.

97% of the ads sent to us were "dark" to some degree. By "dark" we mean that they are only visible to the young Victorians targeted by the advertisers, are ephemeral, are not published on advertiser accounts where they can be viewed, or appear in platform ad libraries for only a short period (see also Section 4.2.5).

79% of the ads are sponsored posts or stories that potentially appear in the Facebook Ad Library.

The ad library is an accountability tool created by Facebook to enable public monitoring of advertising on the platform. The library has significant limitations. It doesn't provide examples of all ad executions, it provides no data on the reach of ads or how they are targeted. And, most significantly, the ads only appear in the library while they are live on the platform.

To examine how reliably Facebook and Instagram ads appeared in the ad library, we searched for a selection of ads in the ad library as soon as they appeared on our own Instagram feeds. We searched for 41 ads; 36 were visible in the ad library, but 5 were not.

The Dan Murphy's ad below was not visible in the ad library (see Figure 47). The image on the left shows what we saw in our own feed, while the image on the right shows what was simultaneously visible in the ad library. The Singleton Whisky ad is an example of an ad we found in our Instagram feed that was simultaneously visible in the library. This small exercise demonstrates the patchy accountability this tool provides.
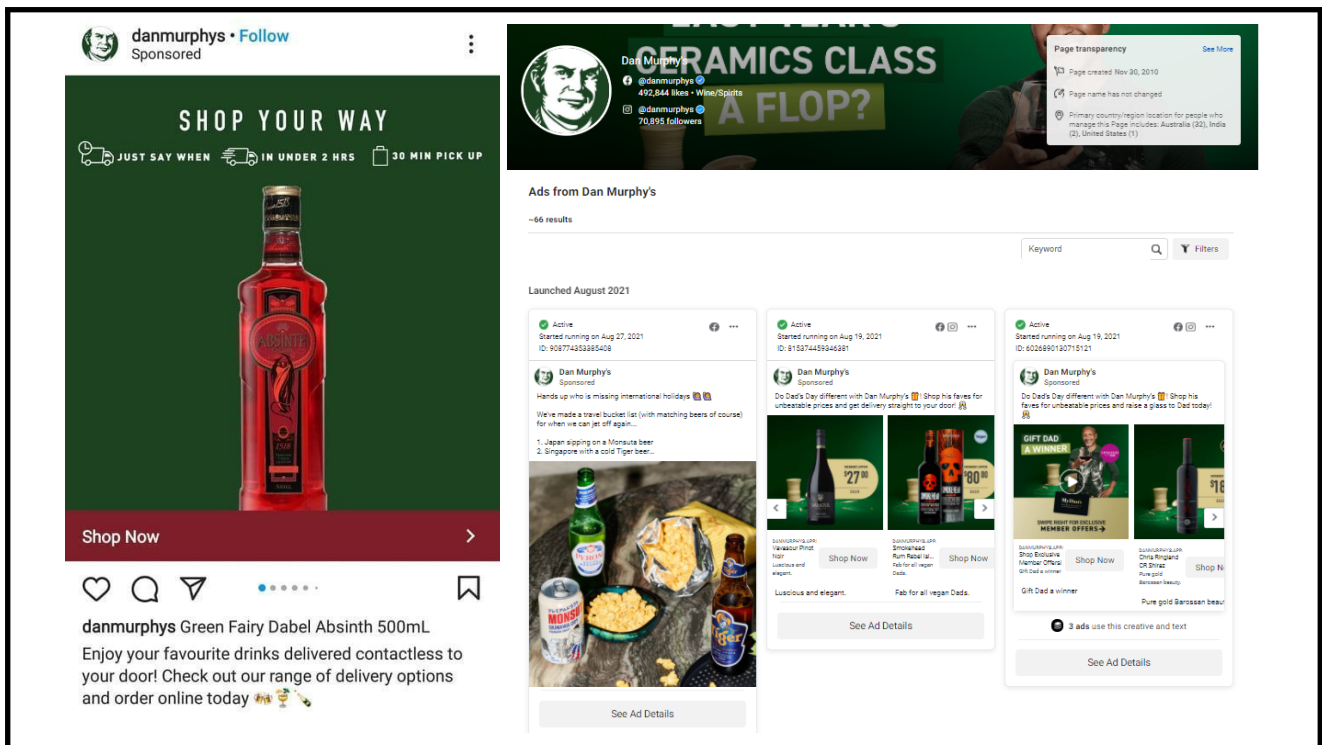
Figure 47: A Dan Murphy's carousel ad on Instagram that did not appear in the ad library.

The other 36 ads were found in the library - The Singleton ad below is an example of an ad which appeared the same in both the feed and the ad library. The ad posted on the ad library has the exact same image, caption, and "shop now" button as the post found in the user's feed.
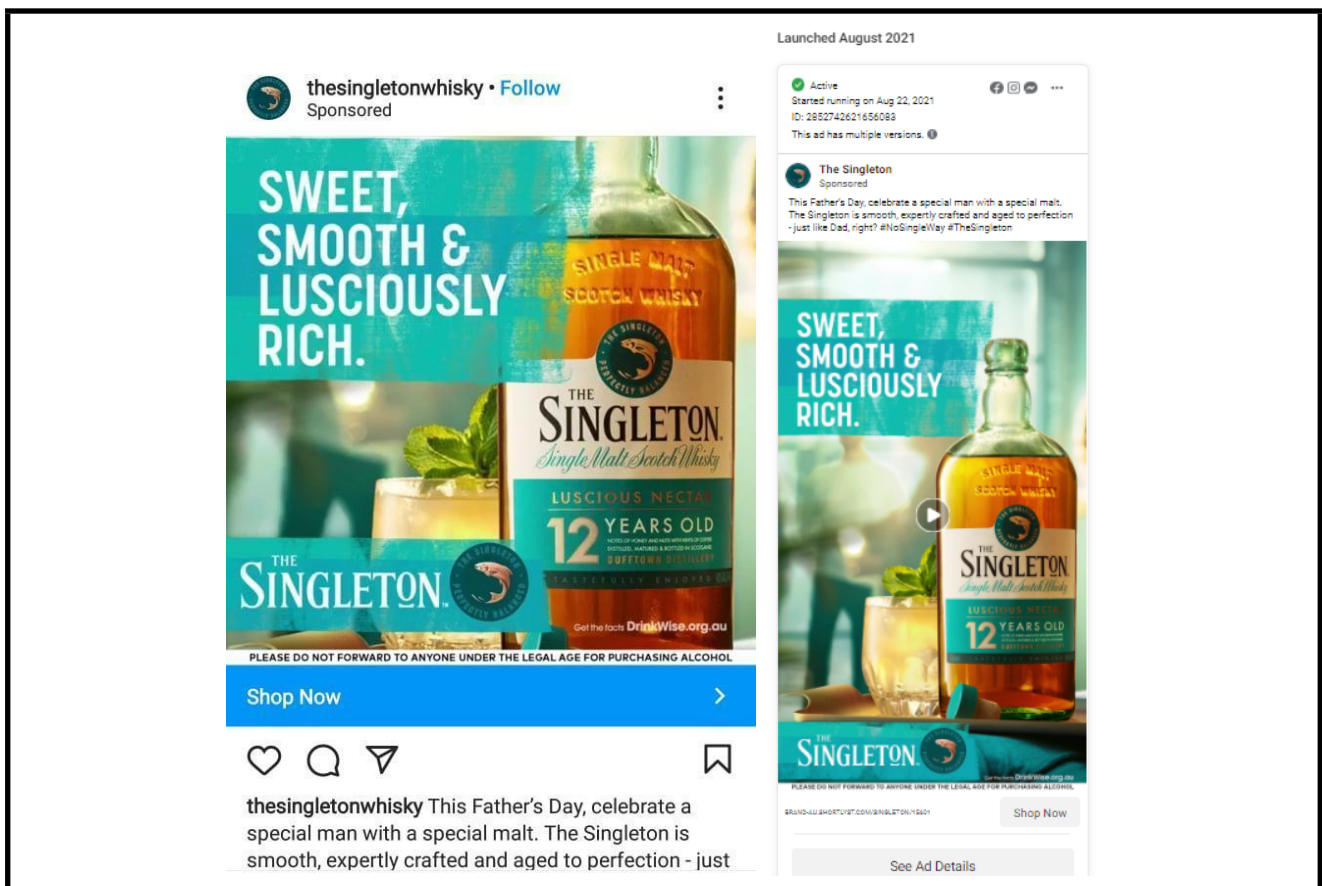

Figure 48: A Singleton Whisky ad from Instagram that did appear in the ad library.

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12% are targeted formats that are not publicly published and do not appear in platform ad libraries. This makes them completely "dark" and not open to any form of public monitoring and accountability. These include sponsored TikToks and display ads on Snapchat and YouTube.

6% of the ads were from influencers or third parties and cannot be monitored unless they are listed as a "paid partnership" with the unhealthy advertisers on Facebook or Instagram, and even then, can only be monitored while the ad is live.

All the major digital platforms fail to provide meaningful forms of monitoring and accountability. Facebook's ad library provides a limited ability to monitor ads. YouTube, Snapchat and TikTok have created a form of advertising that is only visible to the young Victorians being targeted. Considering that all forms of advertising regulation depend on the principle of public scrutiny, this is a major failing in oversight and accountability.

Understanding the use of data by digital platforms and unhealthy advertisers
Digital platforms use sophisticated algorithmic models to "learn" the preferences young Victorians have for unhealthy food, alcohol and gambling, and they are allowing advertisers to upload their own data about young Victorians into their advertising model.

On average, the young Victorians in our study had 194 advertisers upload data about them and the advertising model had automatically generated 787 interests about them.

The average young Victorian in our study had 7.9 unhealthy food advertisers and 1.5 alcohol advertisers upload data about them to Facebook. They had 6.3 alcohol-related interests and 39 unhealthy food-related interests automatically generated by Facebook's ad model. 21% of young Victorians had been assigned "gambling" as an interests in Facebook's ad model.

We found many instances of Facebook's ad model assigning alcohol-related and gambling-related preferences to underage consumers. We found 41 alcohol-related preferences to 5 different participants and 6 gambling-related preferences to 3 different participants.

It is likely that the more young Victorians interact with unhealthy advertisers on platforms like Facebook, the more those platforms "learn" those preferences and seek to reinforce them. Facebook most certainly has the data to demonstrate if their advertising model is disproportionately targeting vulnerable consumers. That information, though, is not available for regulators and researchers to independently examine.

To better understand how the advertising model learns to reinforce preferences for unhealthy food, alcohol and gambling, platforms like Facebook would need to have a much more accountable advertising model.

The data participants shared with us about the "interests" Facebook's algorithmic model has assigned them helps to illustrate the nuanced way advertising works on digital platforms. It is no longer a model organised only around targeting consumers based on demographic variables, interests and social networks.

The "interests" Facebook assigns to users are generated by a machine learning model. This means that they can be strange and sometimes appear inaccurate. For instance, "Love (John Lennon song)", "Victoria (Australia)", "Life", "Love", and "Clothing" are all prominent interests

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assigned to the young Victorians in our study. It is difficult in a sense to see how these interests would be useful to advertisers. The interests should not be read literally.

Instead, we need to think of them as "useful" to advertisers in three ways.

Firstly, advertisers can "search" for interests they wish to target. This is how targeted advertising has "traditionally" worked on digital platforms like Facebook.

Secondly, Facebook's advertising model will recommend to advertisers interests that are prominent in their existing audiences.

Thirdly, over time, as the advertising model optimises advertisers' audiences, it will use the interests as one among many data points to identify affinities between consumers.

So, for instance, a fast food advertiser might see that "Love" or "Love (John Lennon song)" is a salient interest for their consumers. Who knows why that is or what it means, all that matters in Facebook's advertising model is that it's a useful indicator of affinity and engagement for targeting ads. The "interests" are not meant to be read by humans, they are increasingly meant to be read by machines.

Many of the interests automatically-generated by the advertising model also relate to participants' identities including their political views, cultural interests, sexuality, and ethnicity. This indicates how advertisers can build audiences by looking for intersections between interests related to their product and other cultural or identity-based "affinities".

Major alcohol, unhealthy food and gambling advertisers would no longer be 'targeting' consumers by searching for particular interests in the advertising model. Instead, they would be optimising audiences they have already built, and feeding data from their own websites and customer databases into Facebook.

Nonetheless, because the interests are generated by machine learning processes like natural language processing we can use them as a rough indicator of the extent to which the advertising model 'learns' interests related to unhealthy products and attaches them to the profiles of young Victorians.

This is particularly important when we consider that recently Facebook has restricted advertisers from targeting users under 18 using categories other than age, gender and location. While on the surface this appears like it prevents advertisers from targeting the interests of consumers, this is not exactly the case. The audiences that advertisers create still optimise over time. This means that while the advertiser can only begin with the age, gender and location of users under 18, the longer they stay in market the more their audience will be optimised based on who is engaging with their advertisement. While at no point would the advertiser name "fast food" or "love" as an interest they want to target, the machine learning model that is optimising the audience is still using these categories. We need to think of this digital advertising model as partly "post-targeting" and moving into the era of "always-on optimisation". Advertisers no longer need to know who they want to "target", they no longer need to be able to describe their audience, the automated model will gradually build and tune their audience for them.

We can illustrate to some degree how Victorians are profiled and targeted by unhealthy advertisers using Facebook's audience optimisation tools. Many individual participants sent in collections of

ads that demonstrated they were getting targeted by specific kinds of advertisers, and furthermore that multiple different advertisers were using similar tactics, aesthetics and themes.

When we look at participants' individual collections we can often see striking patterns that suggest the advertising model as "learned" the interests and identity of participants.

For example, Rynessa (22, female, Melbourne) received ads mostly about nightlife and cocktail bars (see Figure 49). There is a strong visual similarity between these ads. They all feature neon or bright colourful drinks, there are people enjoying themselves, and decadent decor such as chandeliers. All the ads give off the vibe of luxury "bougieness". By viewing these images together, we can discern a certain "feel" for this person and their interests.

Figure 49: A selection of nightlife-themed ads sent in by Rynessa.

The specific way ads are targeted based on detailed data profiles built out of the automatically generated "interests" become even more clear when we compare between different personas. We can begin to see how visually and affectively different the images people are shown become.

For instance, like Rynessa, Jesse (18, male, Melbourne) also received many "nightlife" ads. However, these ads foregrounded distinctly different aesthetics and affects (see Figure 50). The ads Jesse received were for rave and dance events at large nightclubs. They focus less on luxury cocktails and bars, and more on club events and DJ acts. The visual aesthetic is a lot more industrial, and the images uniformly have less colour and saturation.

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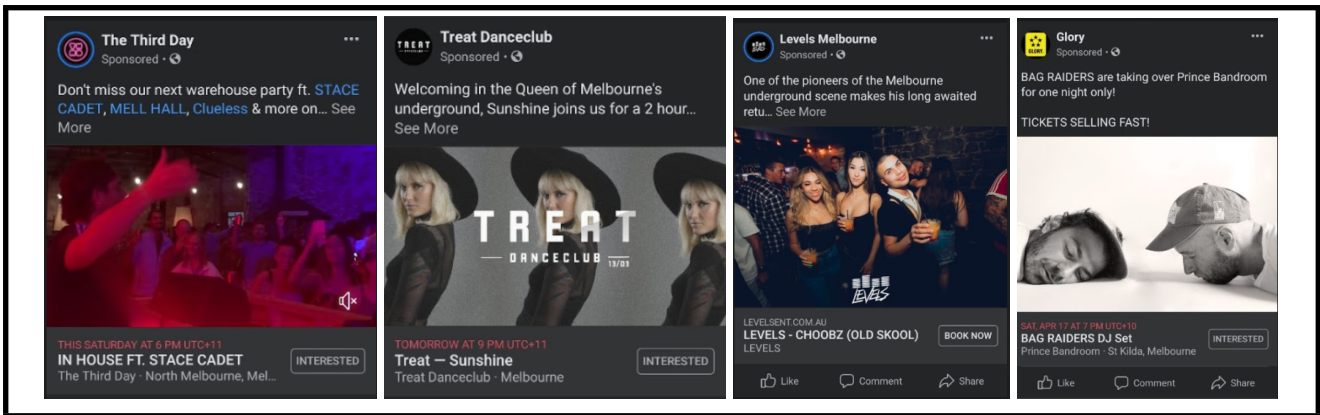
Figure 50: A selection of nightlife-themed ads sent in by Jesse.

If we compare Rynessa's and Jesse's nightlife themed ads to ads sent in by Agnes (21, female, Melbourne) we see more differences. Agnes also saw many alcohol and nightlife related ads, but again they were visually and affectively distinctive, featuring bolder and brighter colours and tones (see Figure 51). Where Rynessa and Jesse saw ads that featured the dark interior of bars and clubs, the ads Agnes saw uniformly reflected a summer vibe.
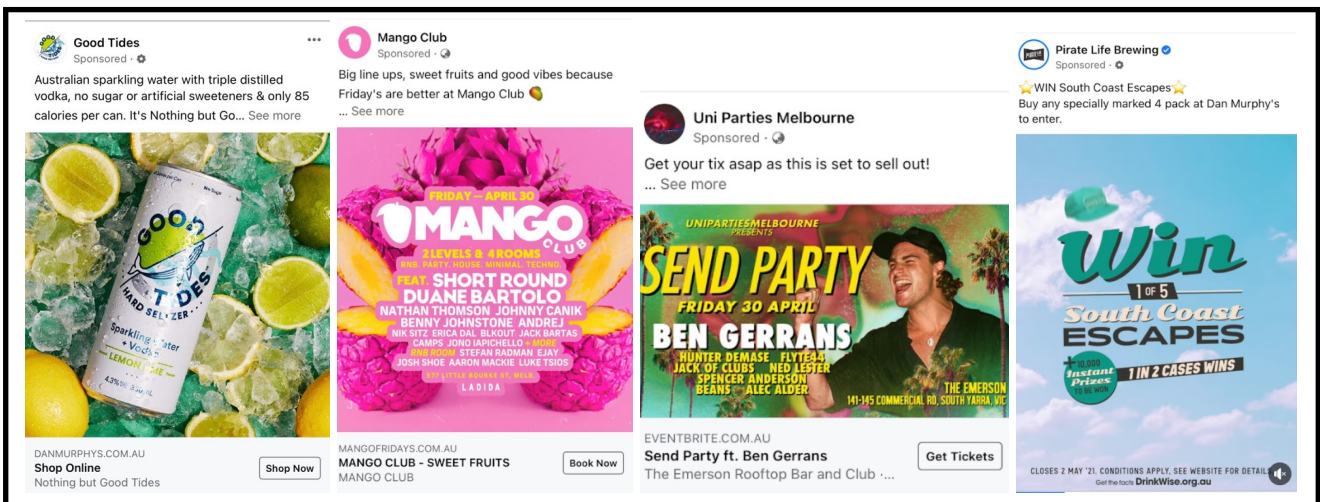
Figure 51: A selection of alcohol and nightlife ads sent in by Agnes.

Erika (20, female, Melbourne) also received a collection of thematically consistent alcohol ads that were different to Rynessa, Jesse and Agnes (see Figure 52). Erika's ads were pink and femme, with several centred around Mother's Day.

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Figure 52: A selection of alcohol ads sent in by Erika.

Across these several examples we can see two interrelated things. Firstly, alcohol is being represented using a range of distinctive themes, colours and appeals. Many different brands use a consistently similar thematic approach. Premium spirits use red, pink, fruits and flowers. Cocktail bars use dark interiors and saturated images of drinks. Secondly, by seeing how th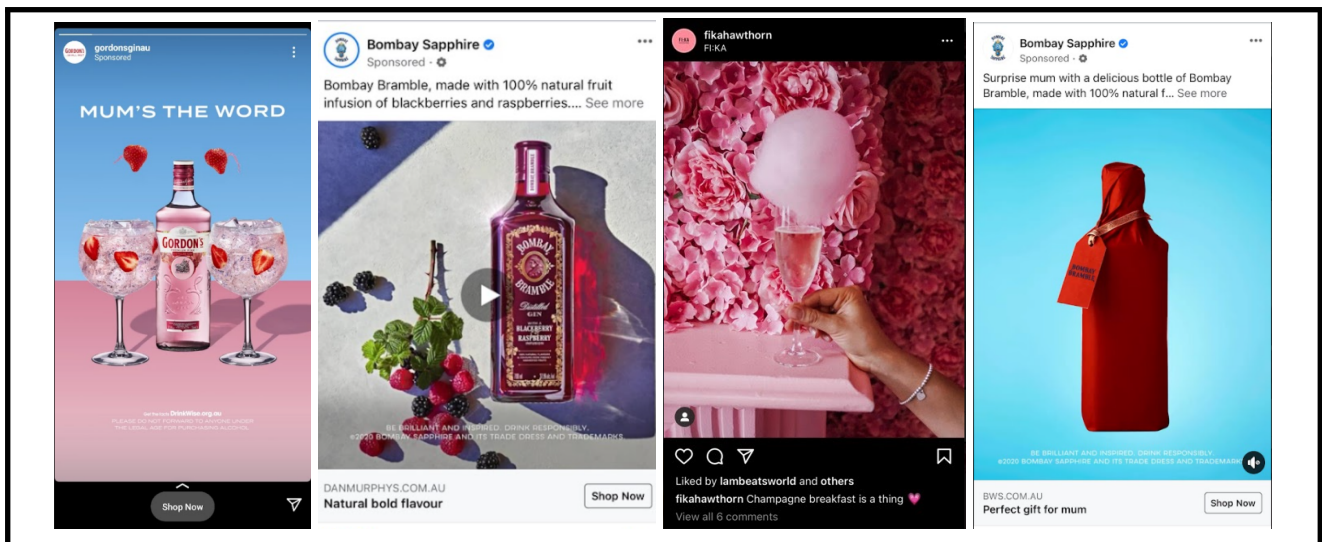ese collections of images appear in the social media feeds of particular young Victorians, we can discern how the advertising model learns to reproduce and reinforce forms of consumption, cultural tastes, aesthetics and vibes that appeal to particular consumers.

While in these examples we've examined alcohol and nightlife advertising, we can see similar patterns across many product categories, from participants who mainly received ads for fast food and confectionery to those predominantly receiving ads for gambling and betting.

Many participants received fast food advertising, and like the alcohol advertisements discussed above, there were consistent themes within individual participants' collections. This highlights how the capacity to target and optimise goes hand-in-hand with creating aesthetically and thematically distinctive ads.

Josephine (22, female, Melbourne) sent us almost exclusively fast food ads, many of which came from TikTok (see Figure 53). The imagery across these ads, for several different brands, is consistently bright, eye-catching and features 'trends' such as the Nandos ad that replicates a popular TikTok trend at the time.

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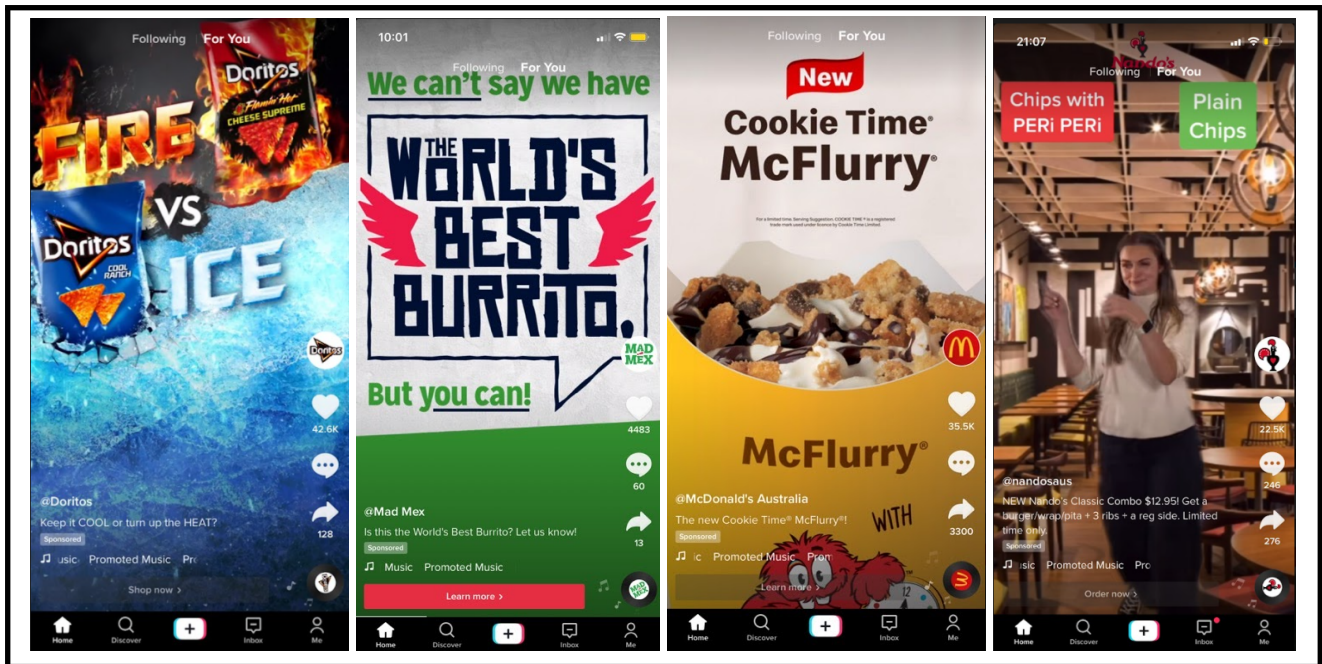
Figure 53: A collection of fast food ads sent in by Josephine.

Compare this to Deborah (20, female, Melbourne) who also received many fast food ads (see Figure 54). Deborah mostly sent us ads from Facebook for Korean and Japanese fast food restaurants. These ads are less colourful and bright; are mostly red, yellow and black; feature images of the products and sales promotions (e.g. "free settled egg fries" or "only $4.95"). We can see Josephine and Deborah being targeted based on their likely differing consumption habits, and possibly their identities too. We can also see advertisers targeting them with different strategies, Deborah is receiving ads that feature direct sales promotions and buy buttons, while Josephine's emphasise product features and brand narrative.

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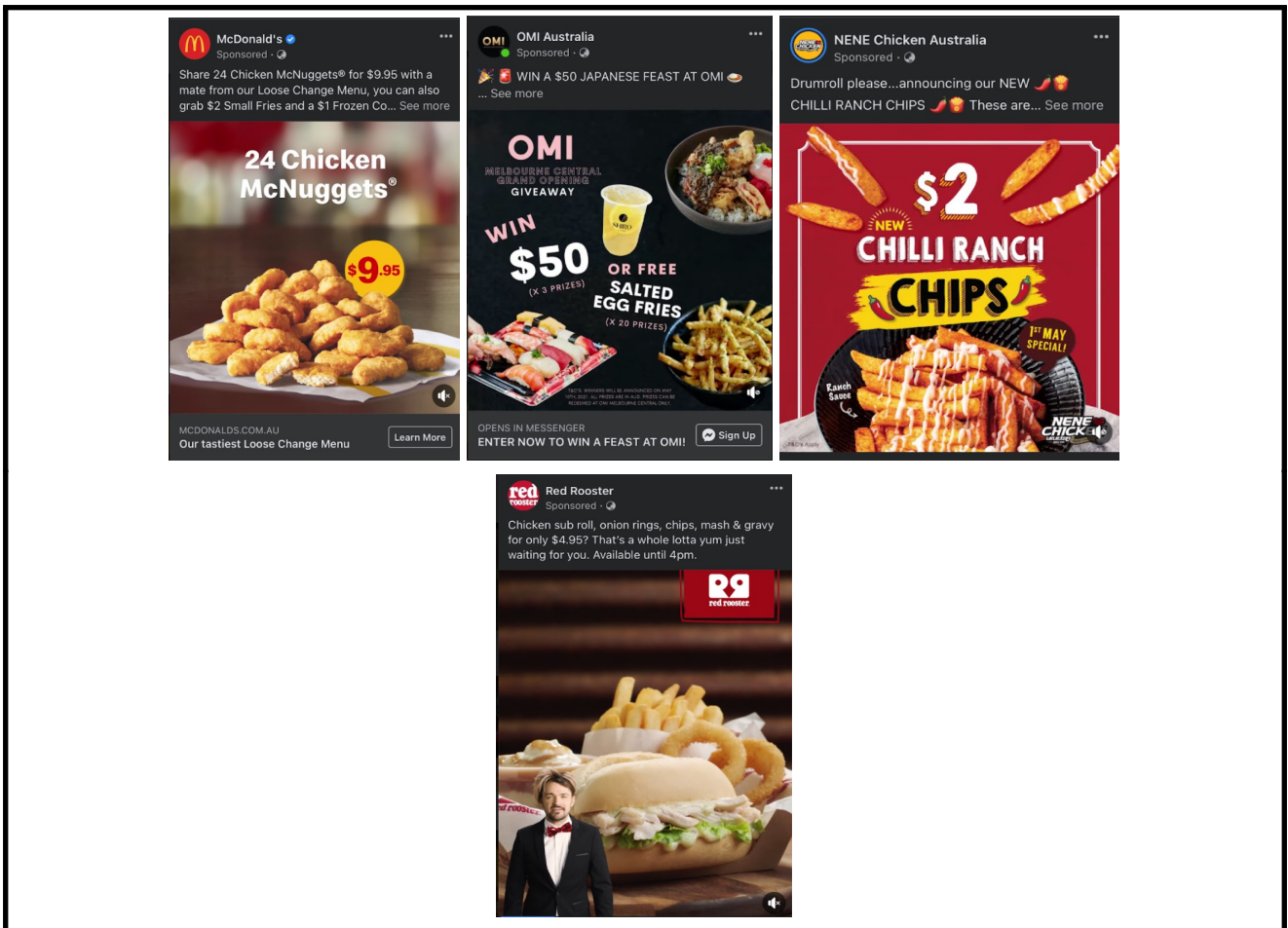
Figure 54: A collection of fast food ads sent in by Deborah.

Olivia (24, female, Melbourne) sent in a collection that featured many confectionery ads (see Figure 55). These ads featured bright colours, especially pink, and images of the products.
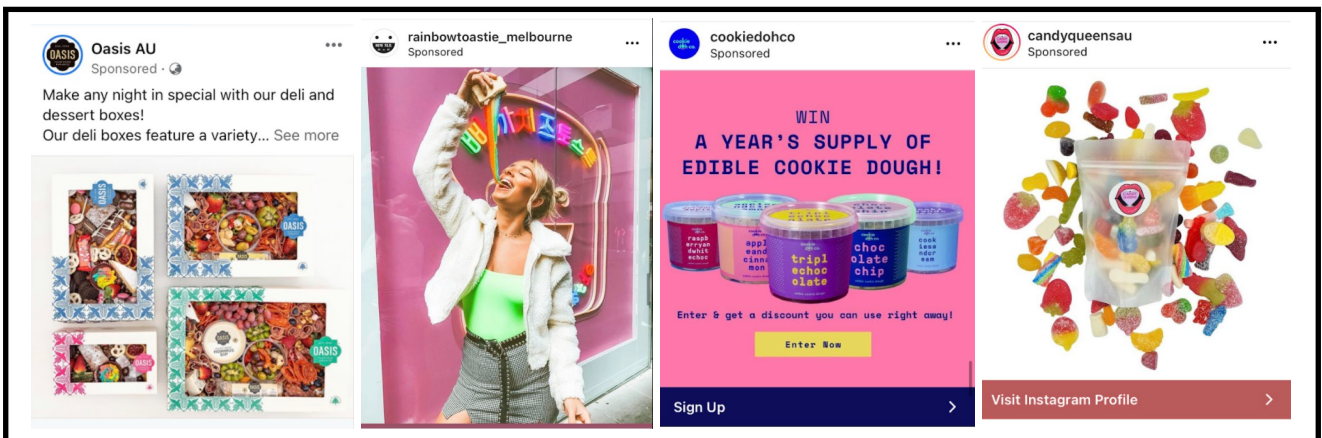
Figure 55: A collection of fast food ads sent in by Olivia.

The collections of ads sent in also reflected gendered identities. Omar (21, male, Melbourne) sent in a collection of ads featuring beer, burger and footy betting (see Figure 56). Taken together the collection seemed to reflect an "Aussie bloke" cultural identity.

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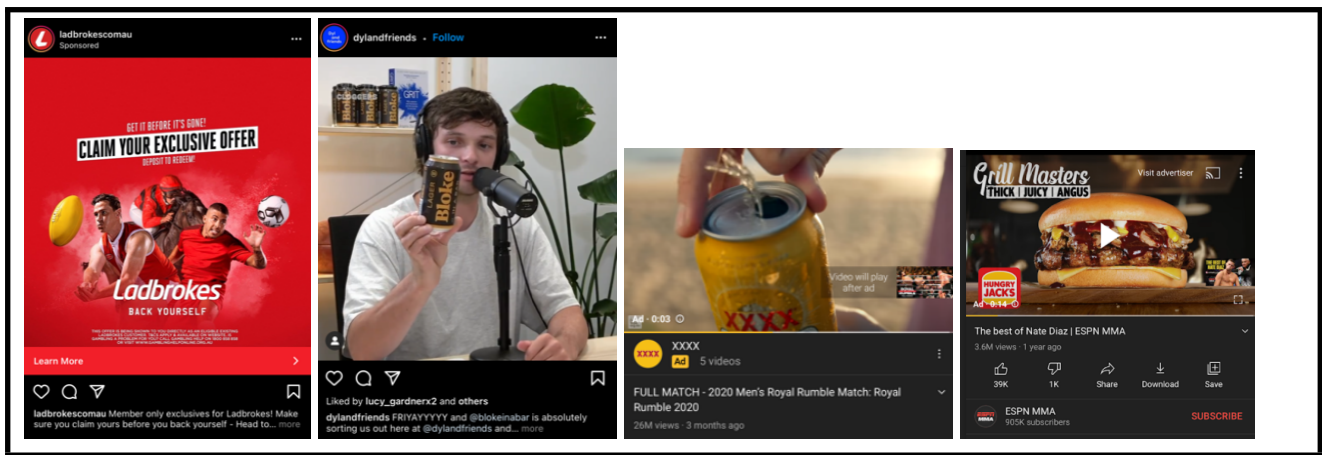
Figure 56: A collection of betting, beer and burger ads sent in by Omar.

Dan (24, male, Melbourne) also received many sports betting ads, but exclusively for horse racing and all promoting bonus bets (see Figure 57). All these ads contain "buttons" encouraging young Victorians to sign up, install the app and receive the bonus offer.
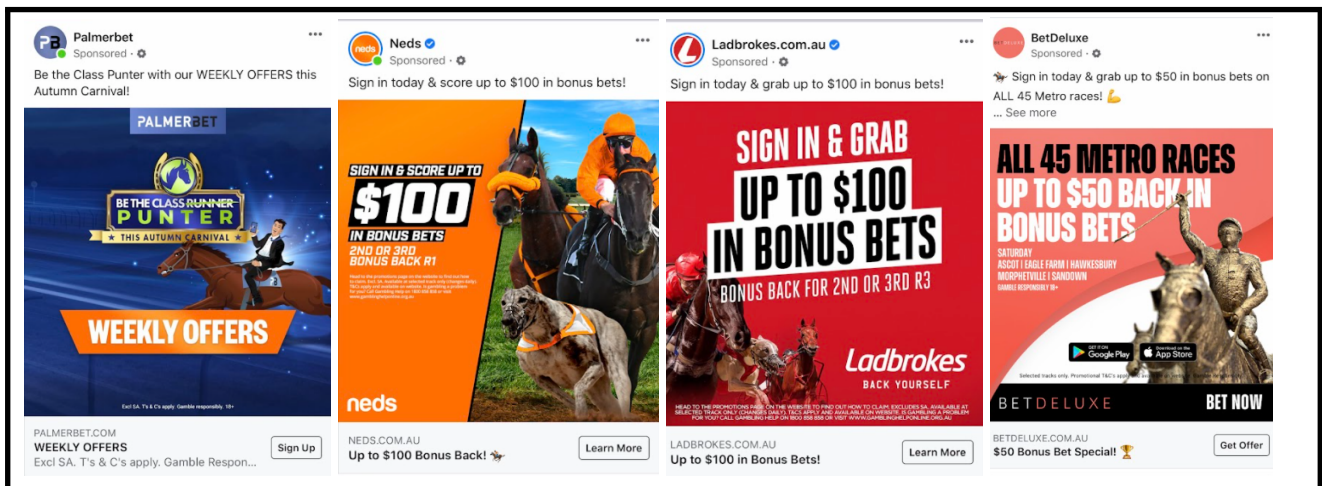
Figure 57: A collection of sports betting ads sent in by Dan.

Each of these personas demonstrates the interplay between the content of ads and the data-driven optimisation of audiences. While the collections of ads indicate to us the interests and identity of participants, they also show how the ad model learns those interests and funnels ads that reflect not just their interests, but their cultural identities and even aesthetic sensibilities. In some collections, we can also see some young Victorians being targeted in ways that may reflect their class or socio-economic status. Some sent us collections that reflected premium brands and luxury forms of consumption (expensive spirits, cocktail bars, and inner-city boutique food outlets) whereas others are targeted by chain fast food franchises and ads oriented around sales promotions and discount offers.

For instance, where some collections, like Josephine's and Deborah's above featured many chain fast food restaurants, others like Saskia's (22, female, Melbourne) reflected a middle class, urban, femme cafe culture (see Figure 58). Bright colours dominate, lighting is often sunny and natural, with gourmet, sweet foods being the ads' focal point. The food typically shown is plated up for dine-in, with extra garnishes and trimmings, positioning the dishes within a social, feminised brunch culture.

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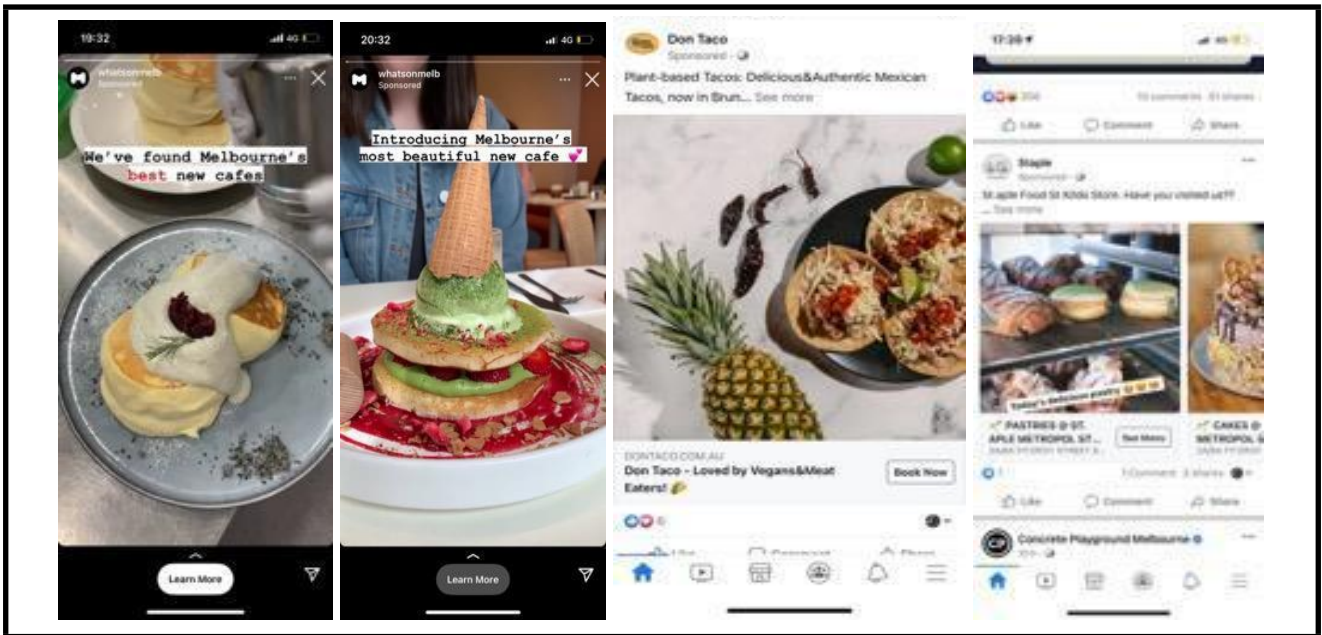
Figure 58: A collection of cafe ads sent in by Saskia.

There was a broader skew towards female participants in advertising for cafes and restaurants, which is reflected in the gendered persona of the ads sent to us by Saskia. Female participants (n=57) sent us more images for cafes and restaurants than males (n=40).

In contrast, we received 10 times as many sports betting ads from male participants (n=203) as female participants (n=20). Sports betting ads typically positioned betting within a heteronormative "blokey" culture. Rowan (18, male, Melbourne), for example, sent us a collection of sports betting ads that assumed a familiarity with the language and personalities of male-dominated sports, like AFL and NRL, and presented an image of sport as the domain of men.
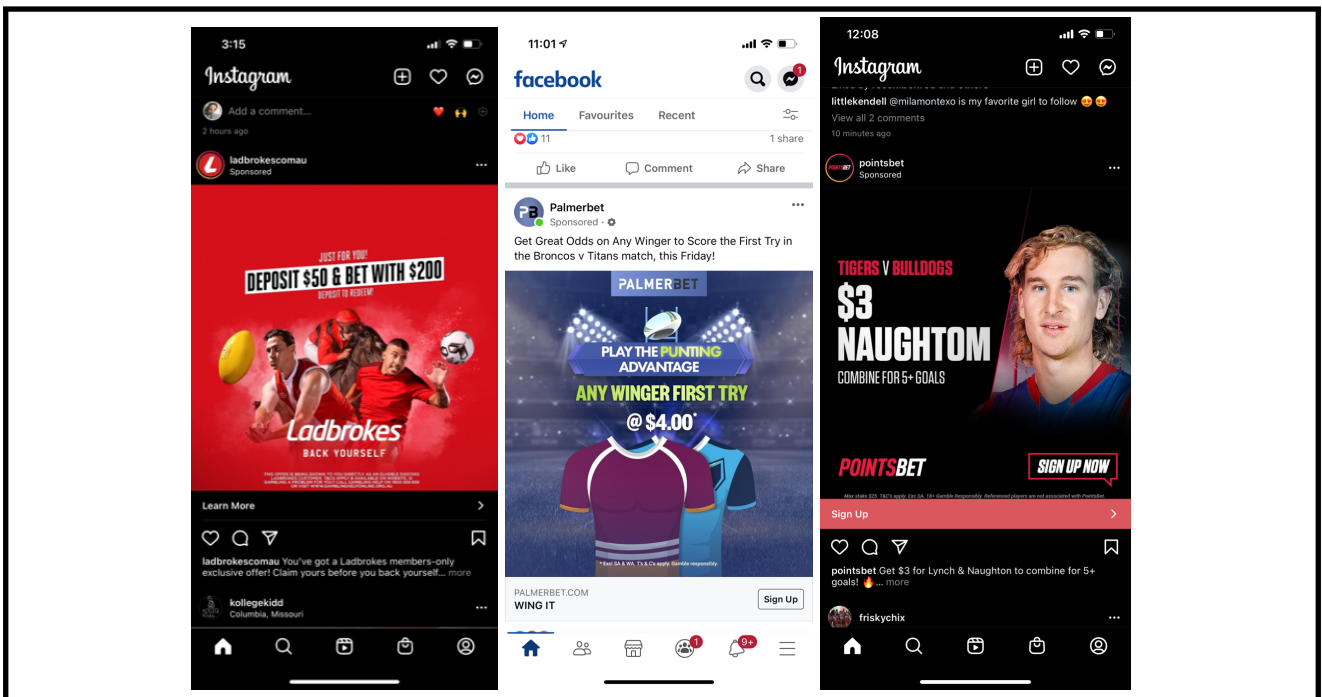
Figure 59: A collection of sports betting ads sent in by Rowan.

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These individuals' collections demonstrate how a data-driven advertising model learns to reflect our interests, predispositions, and identities. It also suggests that the model is no longer one where advertisers create ads and then target them on predefined criteria. Instead, there is now a complex feedback loop between the refinement of ad content, themes, and tactics and the data-driven optimization of audiences.

5.1.3   Brand culture and sales promotion

The collections of ads sent to us by young Victorians illustrate two predominant strategies used by unhealthy advertisers.

Firstly, unhealthy advertisers employ "brand" strategies that reflect our cultural taste and identities. Social media platforms have a participatory brand culture where advertisers offer their brands as cultural resources that we incorporate into our own identities, use to form and communicate our sense of taste and values, and consume as entertainment. Across the collections of ads sent to us we see repeated themes that reflect the "house style" of a given cultural moment. This is not new to digital media; advertisers have always reflected the cultural tastes, identities and politics of a given era (Frank 1998, Holt 2002). For instance, alcohol and nightlife ads repeatedly used themes related to nature, luxury and 90s and 00s aesthetics. These themes are shared among multiple brands in the collection. We can see how unhealthy advertisers use digital media platforms to integrate themselves "natively" into the stories we tell and share about ourselves.

Secondly, unhealthy advertisers employ "promotion" strategies that generate engagement and sales. These include representation of the product in standardised formats (like meal flatlays), price promotions, and the use of buttons and carousels that integrate advertising and retail. We also see advertisers employ "content calendar" strategies where they create ads targeted to particular events like Mother's Day, Easter or sporting events like the Australian Open.

These approaches reflect important features of advertising on digital platforms. Platforms incentivise advertisers to create content that generates engagement by being aesthetically appealing, timely and useful. Advertisers whose content is liked, shared, commented on, and engaged with by consumers are more likely to be promoted into users' feeds. Platforms need to create immersive and cohesive feeds that keep users tuned in, and so, they do not want advertising that disrupts the flow. Platforms have also created a new kind of advertising that is less organised around exposure, and more oriented to engagement and activation. Where broadcast and print media sold advertising based on reach (the number of "eyeballs" that looked at it), digital platforms sell advertising based on engagement. This means that advertisers do not just want people to look at their ads, they want them to take action: tap a button to learn more or purchase, like or share content, and so on. Platforms quantify their ads not just in terms of exposure, but also in terms of these forms of engagement.

Below we explore and illustrate examples of "brand" and "sales promotion" approaches used by unhealthy advertisers.

Brand culture

There were many strikingly similar themes used by multiple brands. These themes reflected cultural tastes, aesthetics and values. Taken together they illustrate how brands aim to make themselves part of the stories we tell about ourselves.

Many premium alcohol brands used "botanical" or "nature" themes in their advertisements (see Figure 60). These ads presented products surrounded or garnished with flowers, leaves and fruits. The colour palette of the ads reflected the colours of natural elements.
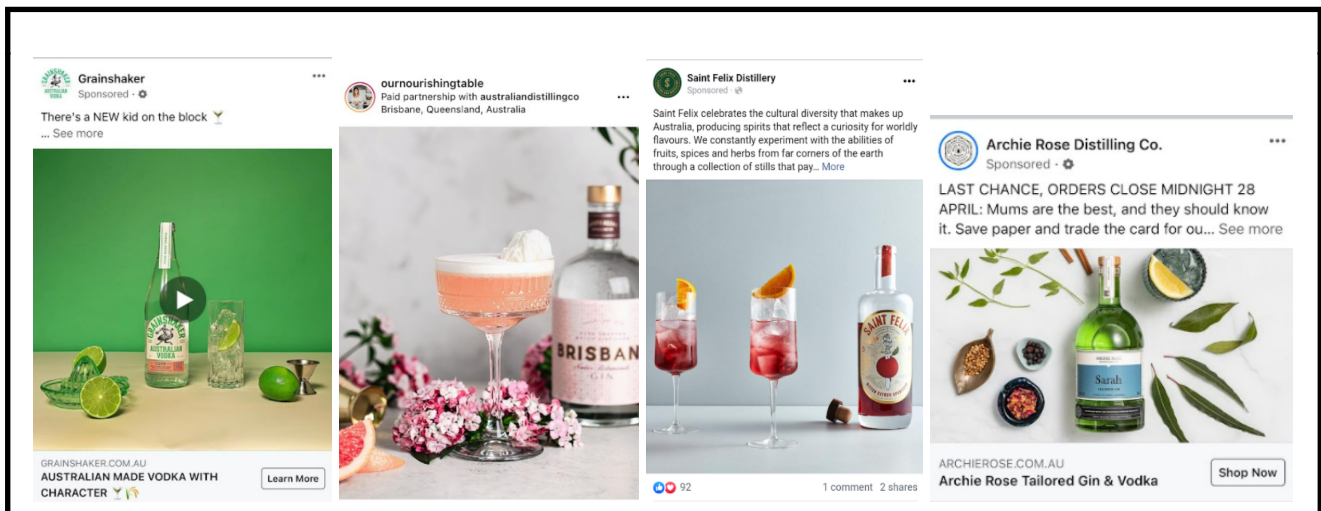
Figure 60: Alcohol advertisements with botanical and nature themes.

In Figure 60 above we see ads for spirits that each associate the product with nature, and each depict a "classy" cocktail-style serving suggestion. Three of the images present the product in a contemporary domestic setting, subtly implying the drink is being prepared in a cool and modern home kitchen. They associate alcohol consumption with nature and domestic leisure.

The association between alcohol and nature occurs in other ways too. The ads in Figure 61 below present the consumption of wine and spirits in outdoor settings: while camping, visiting a vineyard or visiting a mountain retreat. These images present the product as natural, restorative and part of domestic and weekend leisure. These ads also demonstrate how certain themes and aesthetics are bound to particular cultural backgrounds. The alcohol brands drawing on nature and botanical themes are all premium brands.
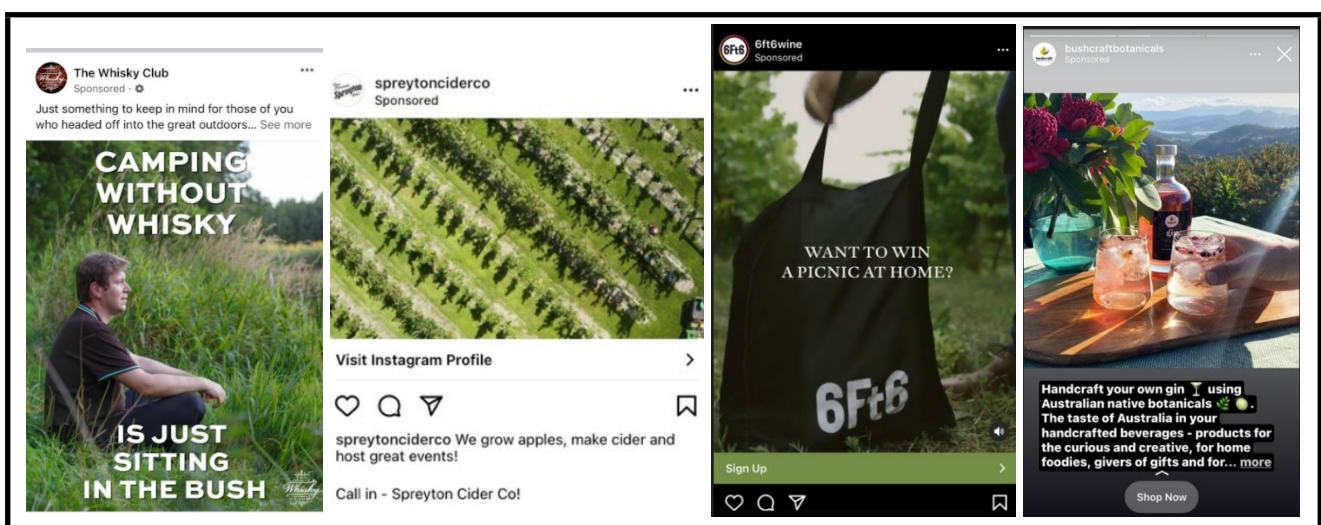
Figure 61: Alcohol advertisements with outdoor leisure themes.

Other premium alcohol brands associated themselves with hip cocktail bars and their vintage cool. The ads in Figure 62 below feature dark tones, soft lighting, bartenders and cocktails.

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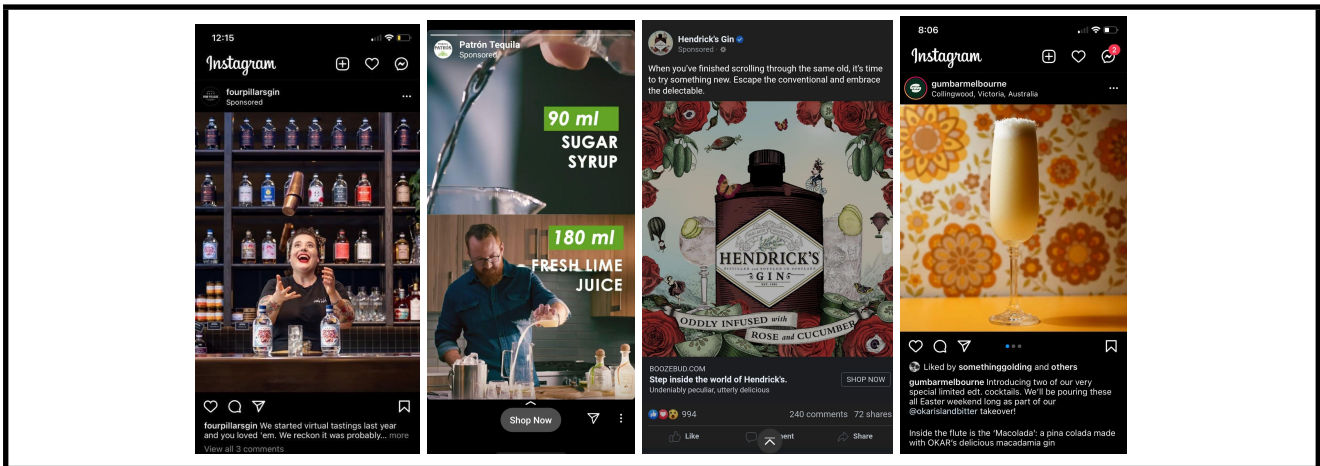
Figure 62: Alcohol advertisements with 'hip' themes.

There were also many alcohol ads which we labelled as "bougie" or "luxury" (see Figure 63).
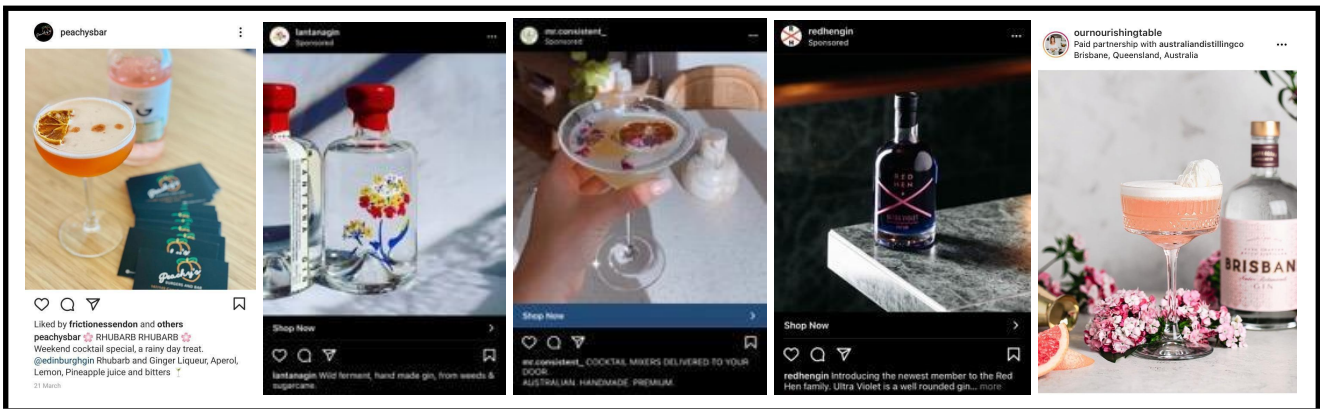
Figure 63: Ads featuring cocktails and bars.

Taken together these examples illustrate how alcohol brands position themselves as part of cultural identities and practices: drinking cocktails at home, alcohol as part of adventures in the great outdoors, and the hip social scene of inner-city and neighbourhood cocktail bars.

Advertisers also employed "femme" and "pink" themes in ads that targeted female participants (see Figure 64). These ads often featured women drinking, partying and socialising with pink cocktails, gins and wines.
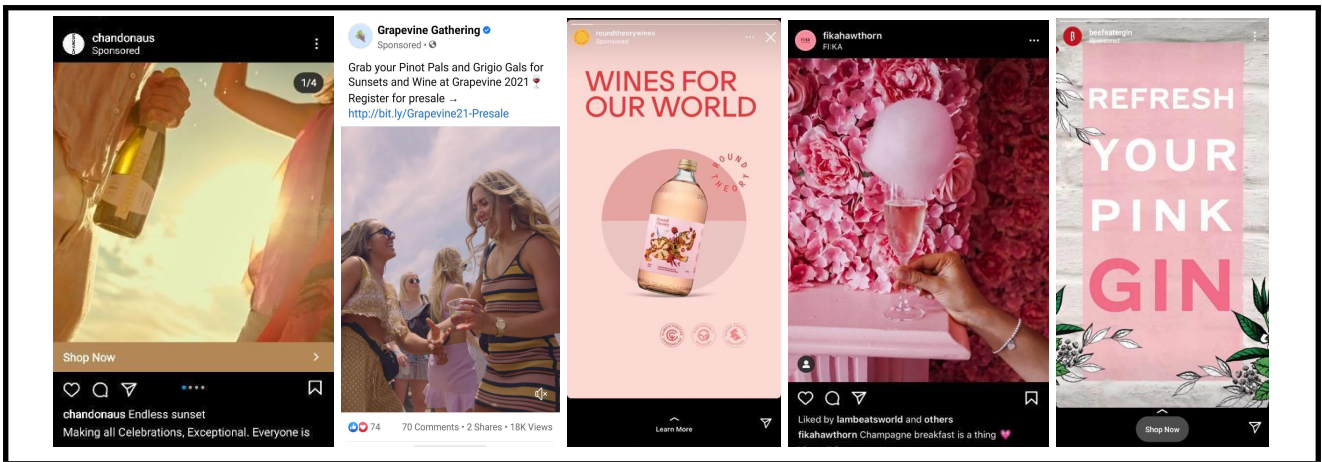
Figure 64: Ads with femme and pink themes.

Ads for seltzers strongly employed gendered themes (see Figure 65). Seltzers are depicted as part of women's social consumption, the drink *du jour* for hanging out with friends and enjoying summer pastimes like picnics, trips to the beach and hanging out poolside.
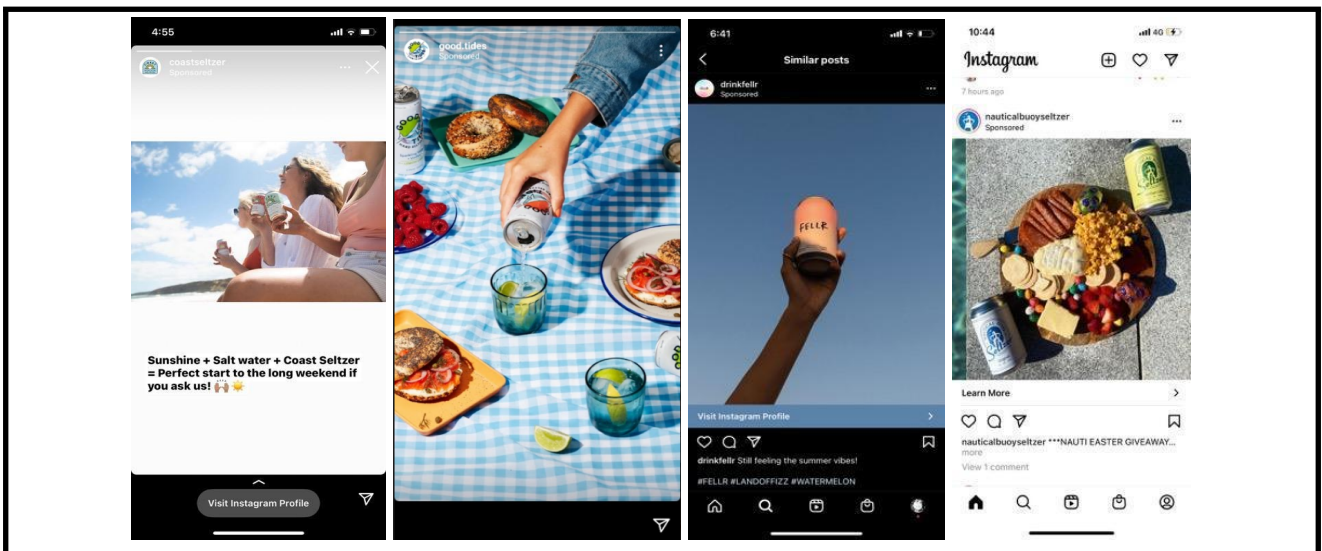
Figure 65: Seltzer ads that position the product within feminine social activities.

Many of these ads also appealed to feminised tastes by emphasising sweet, fruity and artisanal flavours like exotic fruits (see Figure 66).
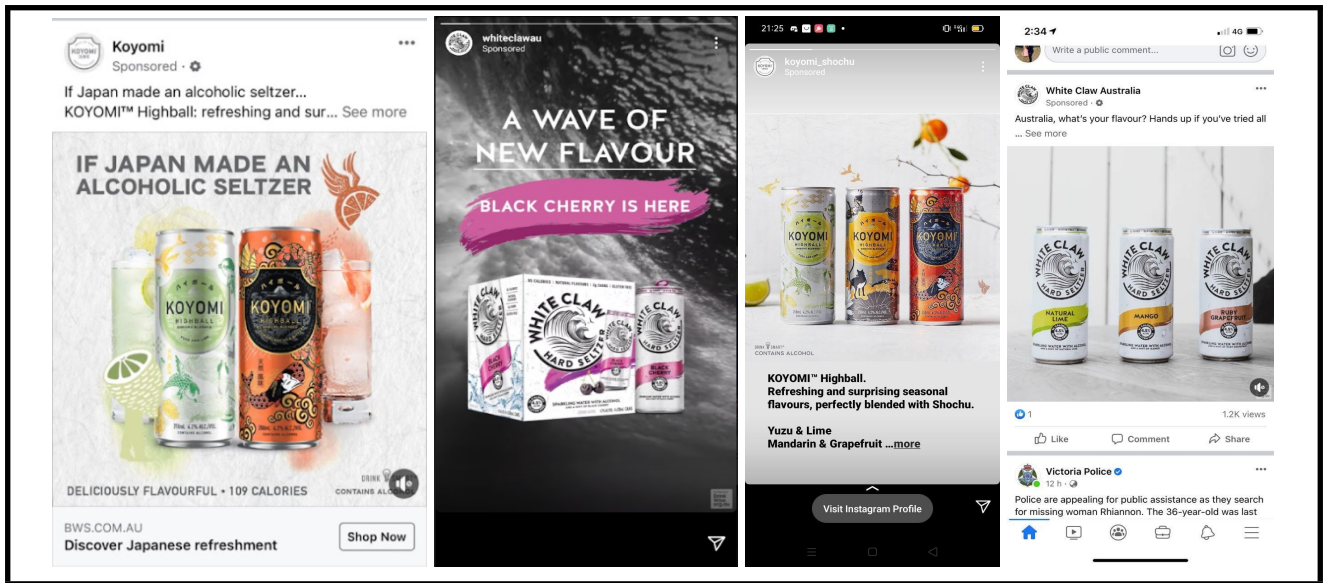
Figure 66: Seltzer ads featuring sweet, fruity and artisanal flavours.

Seltzer ads also appealed to feminised ideas about health and the body (see Figure 67). They depicted seltzer as the healthy choice of drinks. Ads frequently emphasised low calorie count, low sugar and lack of chemicals.
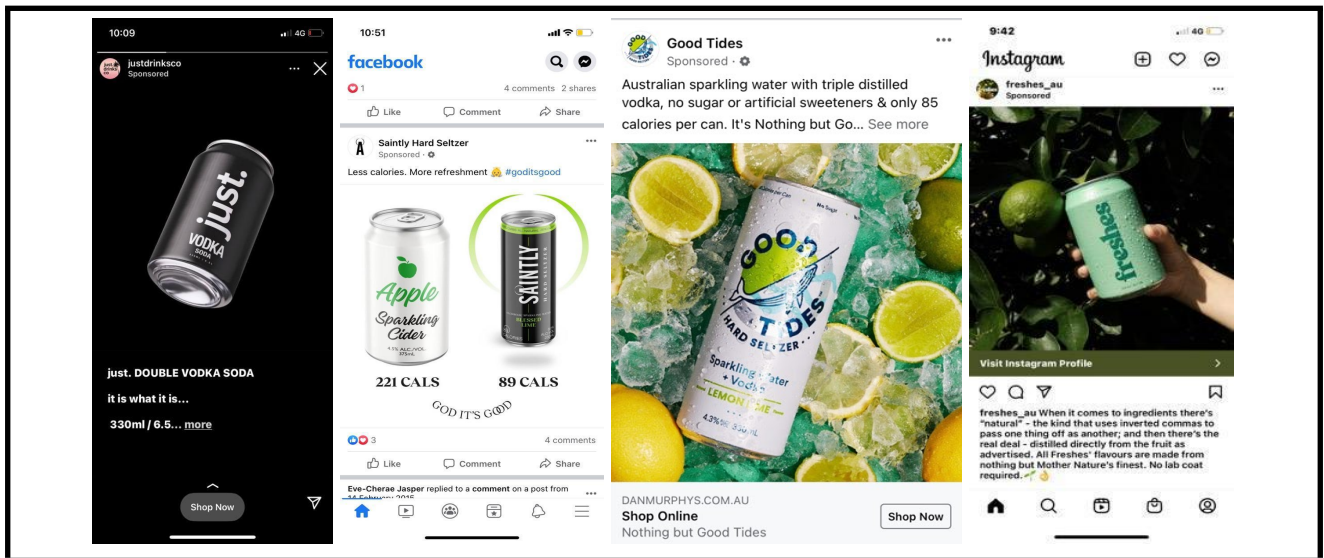
Figure 67: Seltzer ads featuring health-related appeals.

In addition to alcohol brands, several fast food brands also emphasised the "healthiness" of their products (see Figure 68). Guzman Y Gomez launched a campaign with slogans such as "who said fast food has to be bad food?" or "clean is the new healthy" and McDonalds often promoted the "healthier" items of their menus, such as salads.

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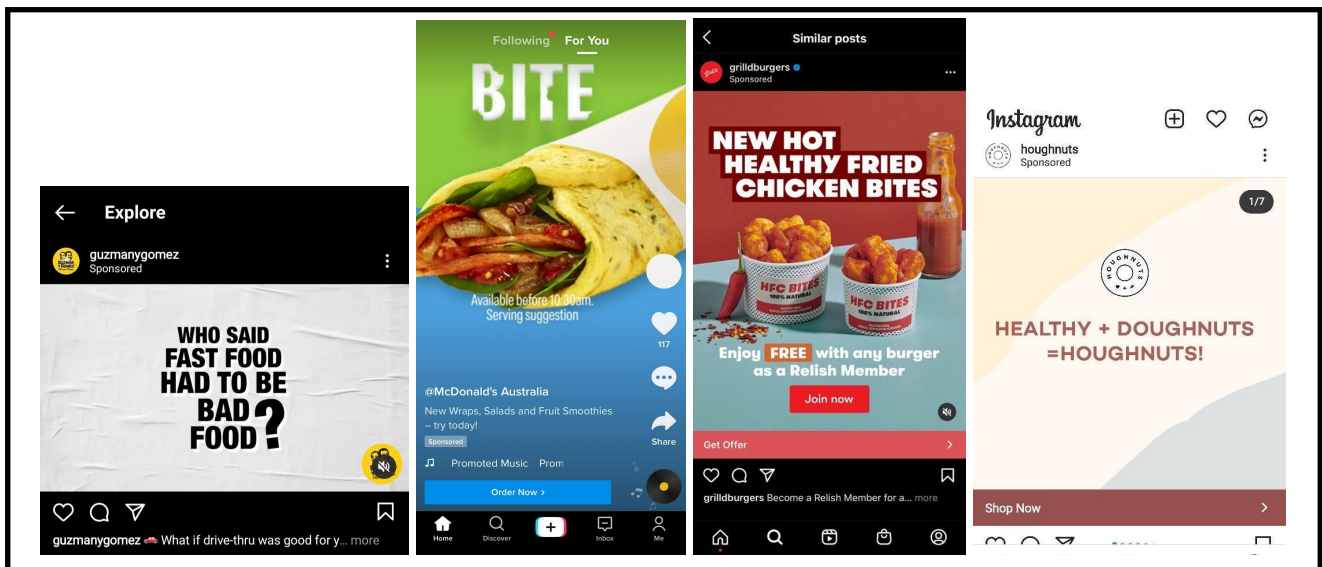
Figure 68: Health-related themes from fast food advertisers

Advertisers also reflected social and cultural values. LGBTQI+ "pride" was a common theme employed by many advertisers (see Figure 69). They employed "pride" iconography like rainbows, pride marches and protests, and nightlife in their advertisements. Some of these brands associate themselves with the values and politics of the pride movement. Absolut Vodka had a "The Colour Project" campaign that told the stories of "pride" activism and LGBTQI+ rights and sold an associated rainbow-themed bottle of vodka. Many brands advertised pride-themed products that printed rainbows on their product labels. Advertisers used LGBTQI+ identities and stories to associate themselves with hip lifestyles and striking aesthetics, but also to centre themselves as part of young people's lives and their expressions of identity and politics.
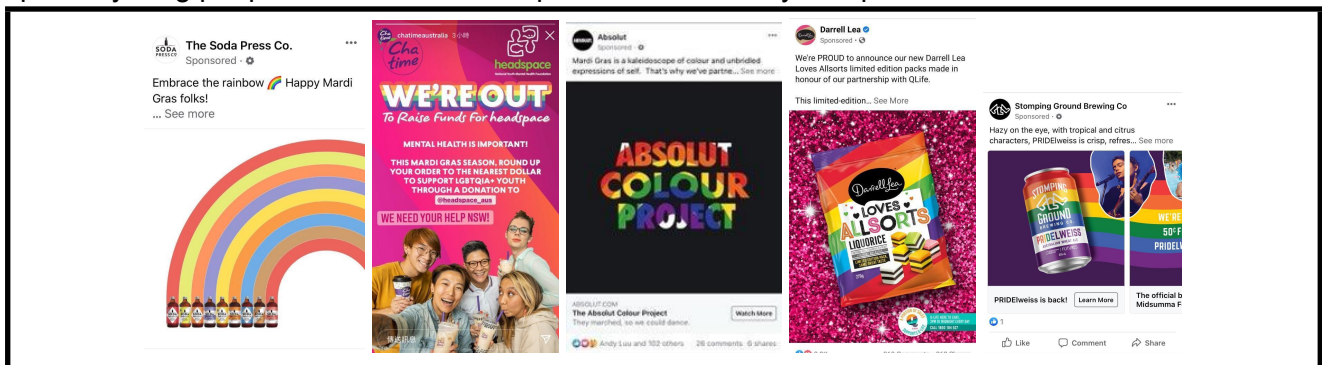
Figure 69: Pride-themed ads.

Brands and advertisers also employed nostalgia as a common tactic - using the styles, fashions and aesthetics of the past few decades in marketing campaigns to attract potential consumers (see Figure 70). We frequently came across 90s and early-2000s themed advertisements, especially for parties and club events. These images featured pop-cultural references, retro fashions as well as fonts and graphic design styles from this period.

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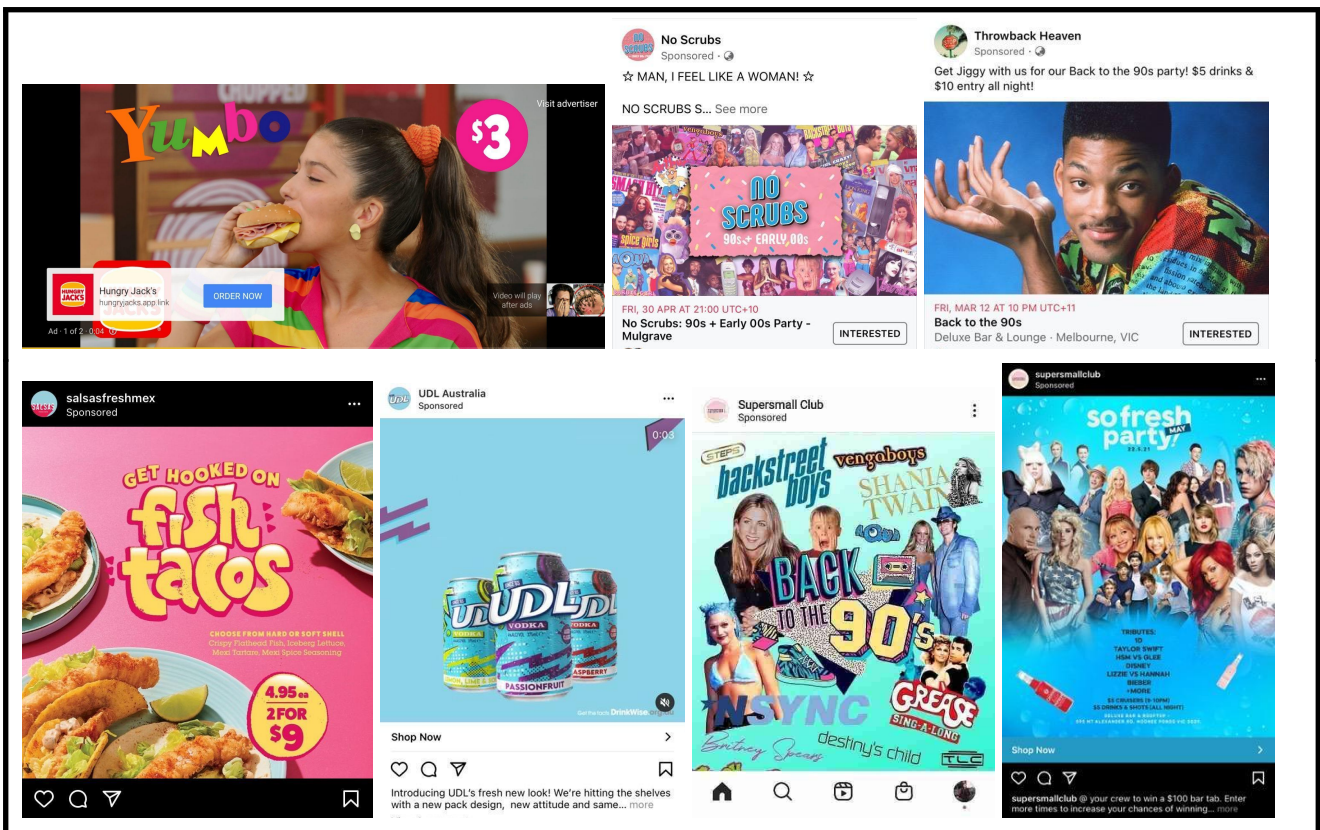
Figure 70: A selection of images that reflect a 90s and early 00s aesthetic.

As we discussed above (see Section 5.1.1) we often saw individual participants' collections repeatedly reflect these themes. The same participant would typically see multiple ads, from different brands, featuring a consistent set of themes and appeals. While one participant would see alcohol associated with nature, another would see it associated with feminine social pastimes, while another would see it associated with hip bars. Nadia (22, female, Melbourne) sent us a collection of ads that featured many hip bars, fancy cocktails, picnics and pink, sweet alcoholic drinks like iced tea, pink gin and cherry-flavoured seltzers (see Figure 71).
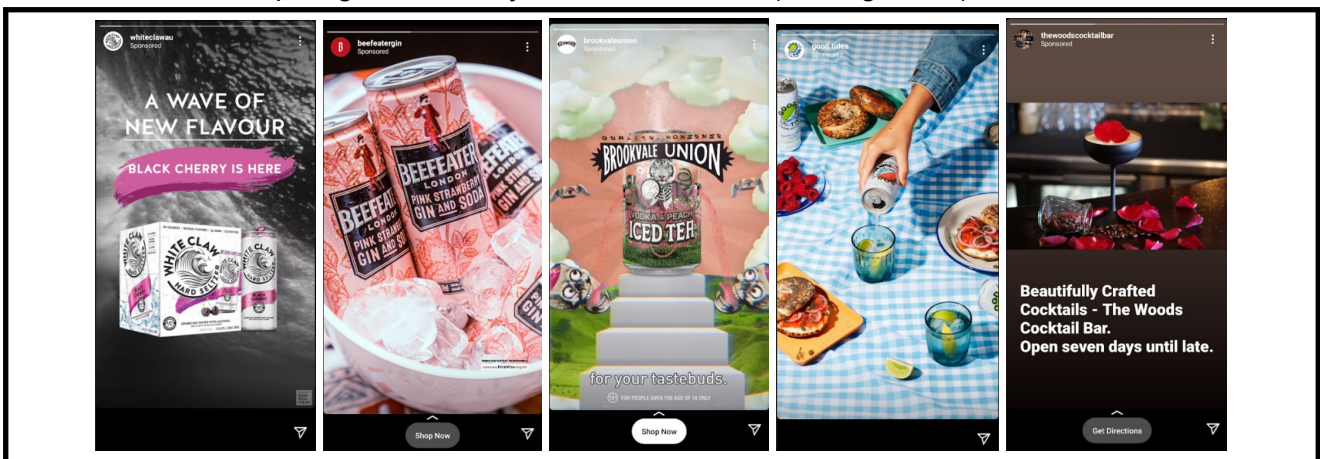
Figure 71: A selection of images sent in by Nadia.

We also see advertisers cannily appropriate currents in popular culture. For example, many advertisers drew on 90s and 00s aesthetics in their advertising. And, again, some participants saw a concentration of this theme. For instance, Penelope (19, female, Melbourne) sent us a collection of ads that included many ads for different nightclubs that featured a neon 80s and 90s aesthetics.

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Figure 72: Nightclub promotions with a neon 80s or 90s aesthetic.

In the examples above we see advertisers present their brands as part of our cultural identities, tastes, values and backgrounds. The data-driven model of digital platforms enables advertisers to learn and refine their association of particular themes with specific identities. Over time, the ads we see in our social media feeds reflect "who" we are, making unhealthy products seem like a natural or ordinary part of our cultural practices, our aesthetic sensibilities and even our political and ethical values.

Sales promotion
Advertisers also employ a range of sales promotion tactics on digital platforms (see Section 4.2.9). These tactics often work in conjunction with associating brands with our cultural identities.

In this section we offer a number of examples of these promotional tactics: presenting products, recipes and serving suggestions, price promotions and association with events.

1860 ads sent in by participants featured images of a product. There were three predominant tactics for presenting products.

Fast food outlets, restaurants and cafes would present their meals using a "flatlay" composition. Flatlays are images of food or fashion, arranged on a surface like a table, bed or floor and shot from above (see Figure 73). The objects are often arranged in a purposeful way with attention to form, pattern and symmetry. Flatlay compositions have a long history in design, art and retail merchandising. They have become an archetypal form of composition used by Instagram influencers to create and share images of food and fashion. Advertisers now replicate this "influencer-style" flatlay in their ads. While the images depict the product in an appetizing way, they also have a pedagogical function. That is, they "teach" and encourage consumers to take similar photos of their food and share them when they dine-in at restaurants and cafes. Importantly, flatlays are not like "food porn" images that are highly photoshopped and choreographed, they are designed to be replicated and shared by consumers.

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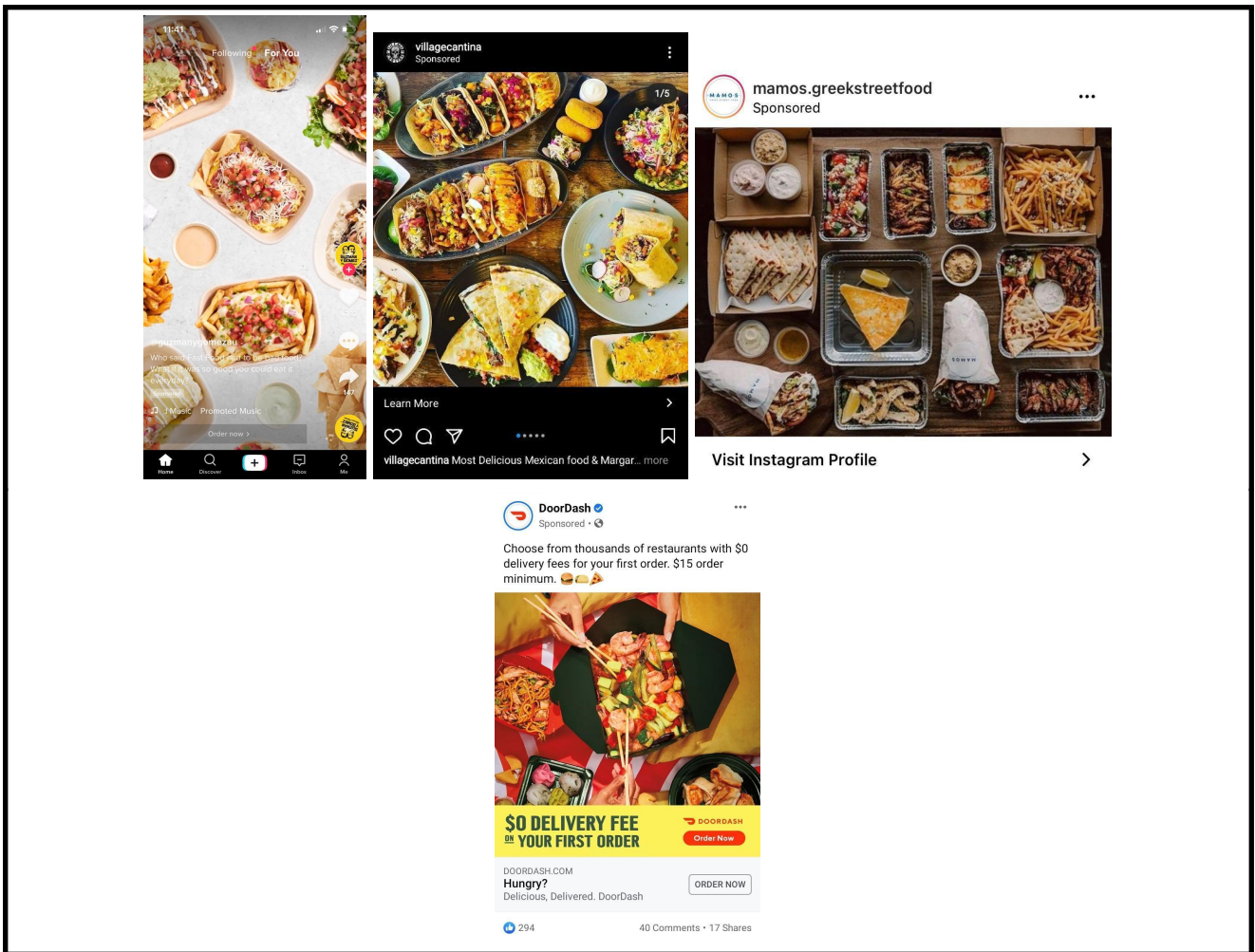
Figure 73: Flatlay images from food advertisers.

Fast food outlets, restaurants and cafes also used food styling or "food porn" tactics. These are images where food is styled to look appetizing, fresh, and succulent (see Figure 74). This tactic reflects how food has traditionally been depicted in print and television advertising, and was mostly used by major corporate brands and fast food chains.
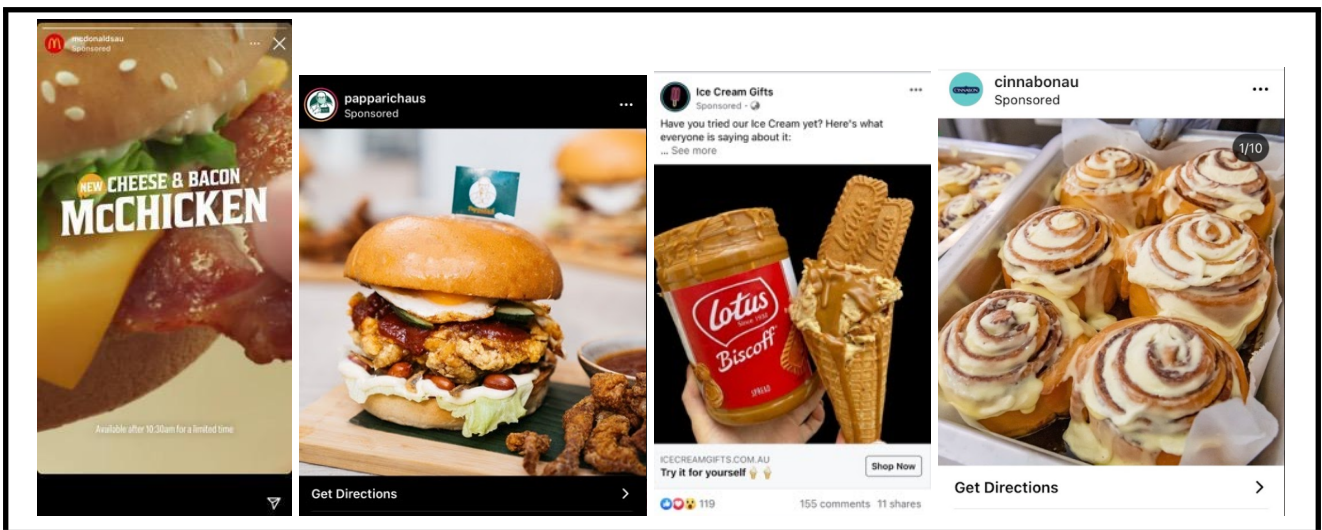
Figure 74: Food styling or food porn.

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Alcohol brands and retailers frequently advertised their products with "serving suggestions". These included images of the product served in a glass as a cocktail or with garnishes and video recipes (see Figure 75). The video recipes function as both "instructions" and "entertainment". They appear as short videos that consumers might watch for a few seconds while scrolling through a feed, learning "ambiently" how to use the alcohol. These recipes were also typically accompanied by "shop now" buttons where consumers could immediately purchase the alcohol.
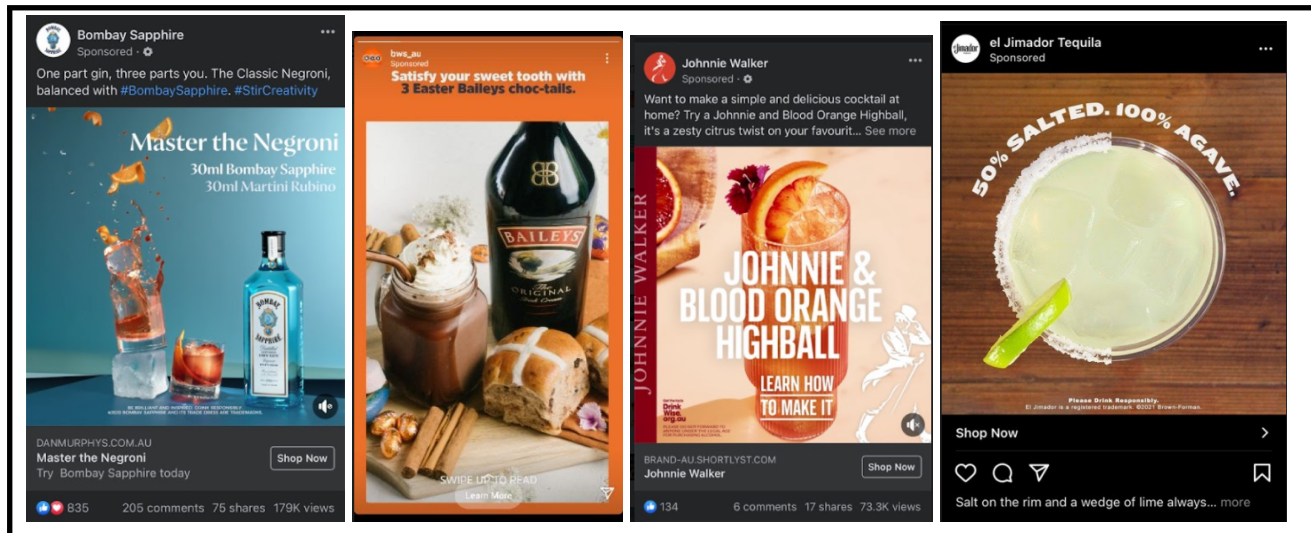
Figure 75: Alcohol recipes with shop now buttons.

Fast food retailers, cafes and restaurants, nightclubs, bars and pubs, home delivery services and sports betting services all used various sales promotion tactics including price promotions, discounts, special offers, bonus offers and competitions (see Figure 76).

These tactics tended to be used by "high volume" rather than "premium" brands. And, just as we saw some consumers targeted predominantly with "premium" advertising, others were targeted predominantly with ads that featured sales promotion offers from major corporate chains and delivery services.

These ads highlight how digital media platforms now function as a new kind of direct marketing catalogue. Where once we'd receive catalogues and discount offers in our mailboxes, they now flow under our fingertips in social media feeds.
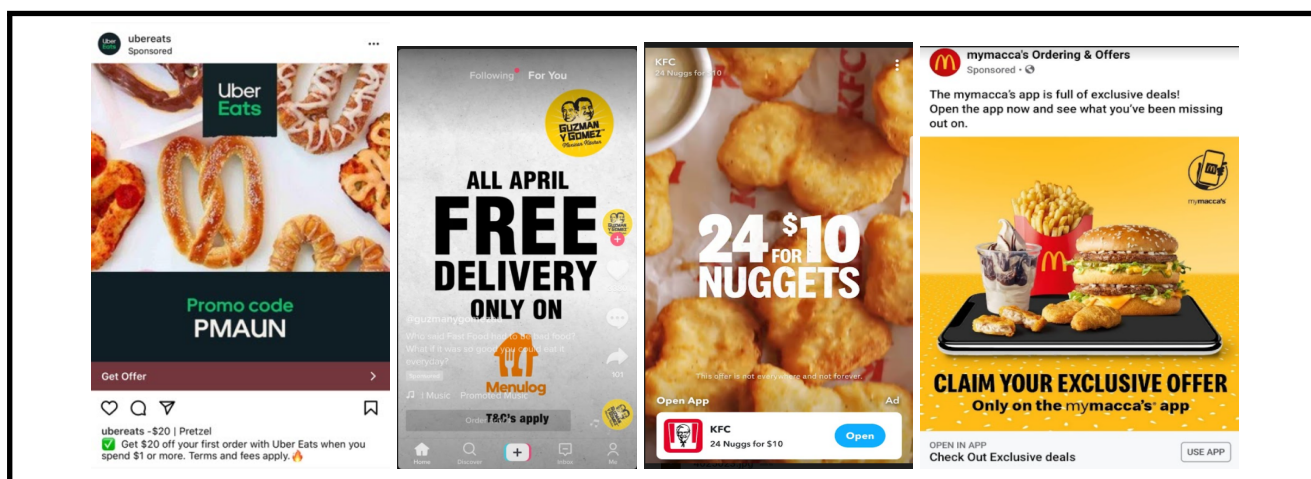
Figure 76: Sales promotion offers.

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Advertisers also used "content calendar" tactics where they produced ads and posts that referenced and piggy-backed on events on the social calendar like Easter, April Fool's Day and Mother's Day (see Figure 77). While advertisers have always produced advertising and products targeted to particular social occasions, this tactic becomes important on social media where advertisers need to produce a continuous feed of new content (rather than just have a single advertising campaign in market for an extended period). Advertisers use social occasions in a variety of ways. In some cases they offer discounts (like an "Easter sale"), in others they offer themed products (like an "Easter cocktail"), in others they associate their product with the occasion (like suggesting you buy ice-cream as a Mother's Day treat or gift) and in others they use the occasion as an opportunity to make engaging content (like creating an April Fool's joke). Over the course of a year, advertisers create a calendar or schedule of content timed to align with a range of social occasions.
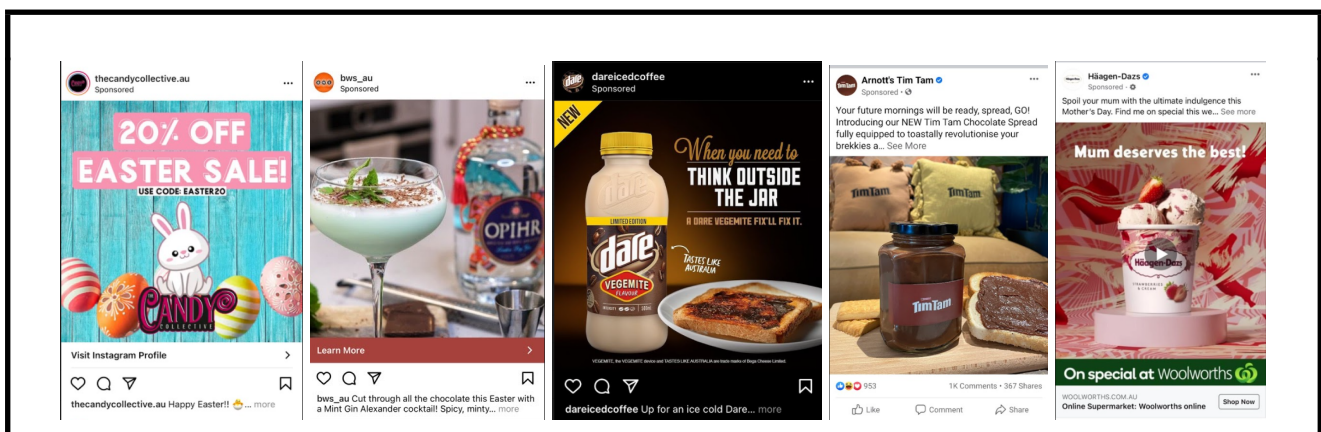
Figure 77: Creating ads that reference particular social occasions.

In this section we've overviewed a range of ways advertisers associate themselves with our cultural identities and employ tactics to generate engagement and sales on digital media platforms. We can observe digital platforms are central to both building brand identities and narratives and generating sales. In the following section, we detail how platforms are enabling harmful industries to more closely integrate these advertising tactics with retail.

5.1.4   Integration of advertising and retail

The ads sent to us by participants illustrate the increasing integration of retail into the advertising model of digital platforms via the use of "buttons" (see Section 4.2.10).

16% of ads on Instagram had a "buy" button and 46% had a "call to action" button like "learn more" that often connected users directly to a retailer's website.

15% of ads on Facebook had a "buy" button and 40% had a "call to action" button like "learn more" or "install app".

9% of ads on Snapchat had a "buy" button and 53% had a "call to action" button.

These buttons are an increasingly common and important part of unhealthy advertising on digital platforms because they directly link the moment of persuasion to the moment of purchase.

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The ad doesn't just function as a "text" that consumers view and make sense of it functions as a "store" that they tap on to buy the product.

Many advertisers used "buy" buttons like "buy now", "shop now", "order now" or "book now". They also used "call to action" buttons like "learn more" about a certain product or promotion or "sign up" for more information or a competition.

In Figure 78 below we can see buttons being used to get consumers to purchase alcohol, sign up for competitions, book tickets to an event, and install an app.
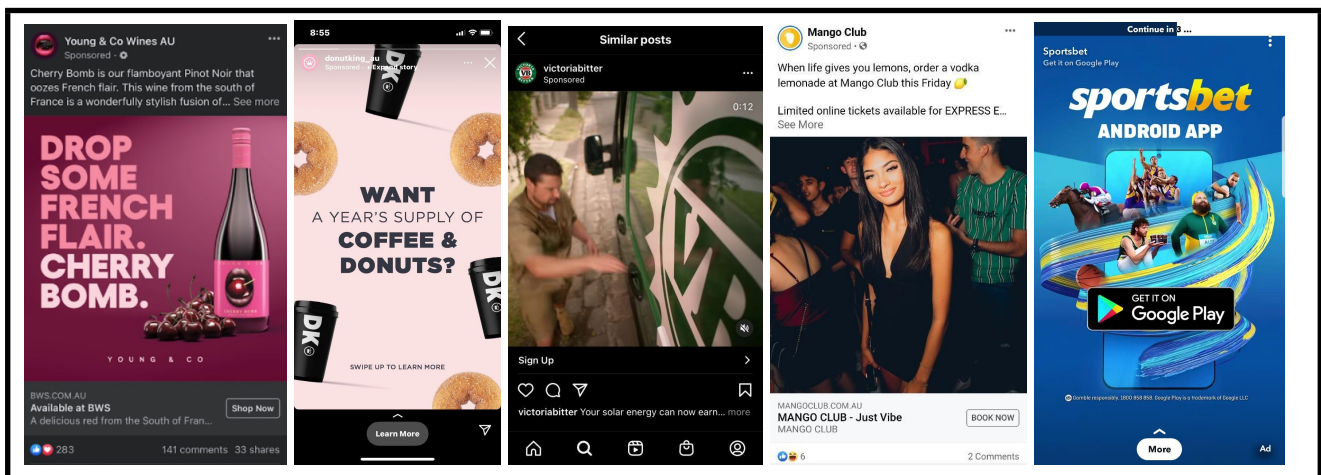
Figure 78: Ads with buttons.

Buttons were also an important part of carousel posts (see Figure 79). These are ads that feature a series of images of products that users swipe through. Carousels were commonly used by alcohol retailers like Dan Murphy's and BWS, and alcohol and food home delivery services like Uber Eats, Easi, DoorDash and Jimmy Brings. Consumers swipe through a number of product options, and click on a button to order or buy them. The selection of products in a carousel is often dynamically customised. Each user sees a different selection of products based on their predicted preferences. For instance, male and female consumers might see a different selection of alcohol. Or, the selection of alcohol might be individually tailored based on previous purchases or searches.
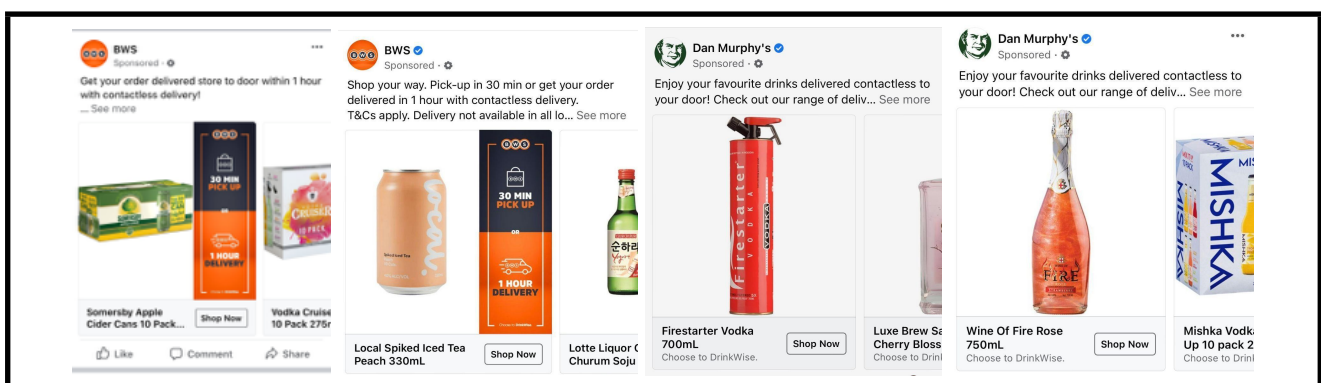
Figure 79: Carousels featuring multiple types of alcohol with "shop now" buttons.

Home delivery services use carousels in a similar way, with each different post being a different restaurant or product a user could order (see Figure 80). Buttons such as "order now" and "get offer" are placed under each image in the carousel.

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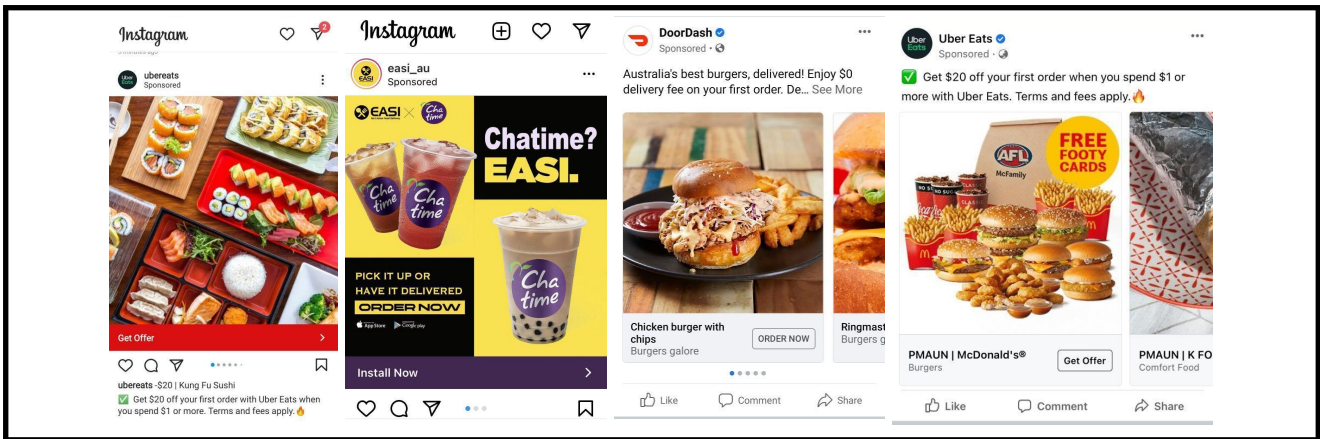
Figure 80: Food home delivery ads.

Buttons such as 'install now' and 'download' were frequently seen from sports betting, home delivery and fast food retailers (see Figure 81). In the case of food delivery and sports betting services they aim to drive growth in their user base.
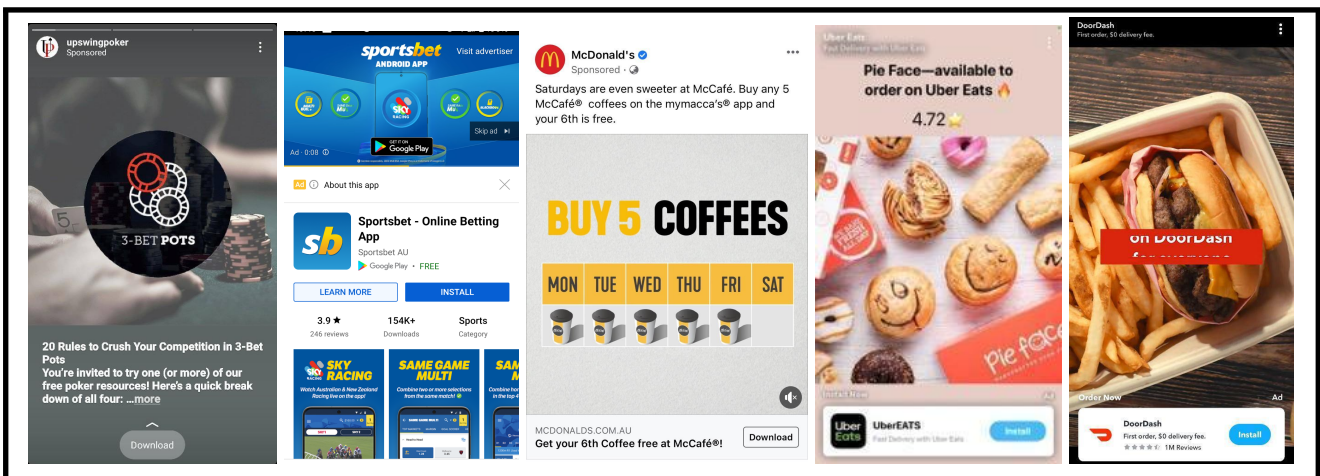
Figure 81: Ads with "install app" or "download" buttons.

Buttons are a critical step in making digital media platforms "shoppable" (Hund and McGuigan 2019). They indicate that we need to understand platforms as not just a new form of immersive, targeted, participatory and customised advertising. Instead, they are simultaneously also creating a new integration between advertising and retail. In not too long, we'll think of them as retail as well as advertising businesses. We need to anticipate that, if not already, they will soon be major actors in the retail and distribution of unhealthy products and services. The platform ad model is increasingly organised not only around targeting the ad, but procuring a tap on the button. Instagram's head, Adam Mosseri, explained in 2019 that the platform aimed to create a form of "native checkout" that would integrate shopping into the platform (Murphy 2019). Industry analysts anticipate that in time Instagram will make as much revenue from retail as it does from advertising. We need to ensure that efforts to reform harmful advertising on platforms account for this integration with retail.

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5.2   RQ2: Perceptions of young people towards covert and explicit digital marketing activities by these industries

Our participants were clear in wanting all marketing they saw on social media to be clearly identified as advertising. The majority (60.7%) reported encountering some material that they thought was advertising but wasn't always clearly labelled as such, and almost all (93.6%) thought that any sponsored content should be clearly labelled (see Section 4.1.12). Most of the screenshots sent to us in this study were clearly identified as marketing (i.e. 'overt'), but there were a number of examples that were more ambiguous, especially influencer content. But, as we discussed in Section 5.1.2, while particular posts might be distinguishable as ads, what always remains covert is how those ads are targeted, who they are being targeted at, and what impact they are having on consumption.

Our participants perceived these marketing activities as complex and nuanced, but mostly saw them negatively. When we look at the top "affective" or "feeling" responses to advertising from different unhealthy industries (see Section 4.1.14), the negative feelings were most prominent (annoying, manipulative, boring) but participants also sometimes saw these ads as creative and clever. A minority saw these as sometimes funny or enjoyable. For instance, for alcohol ads, the strongest affects[1] were annoying (average score of 2.92), creative (3.05), and manipulative (3.14). Unhealthy food and sugary drinks received the strongest "affective responses", likely due to their dominance in the newsfeeds of our participants, who saw them as manipulative (2.4), targeted (2.59), annoying (2.63), and also creative (2.94). Consistent with our other results, gambling ads were seen least favourably, with the strongest affects being annoying (2.89) and manipulative (2.90). Gambling and betting ads were not seen as very creative (3.77) compared with alcohol ads (3.05) and unhealthy food/drinks ads (2.94).

5.2.1   RQ2a: Extent young people aware of these marketing activities

Young people are largely aware of both overt and covert advertising activities, although how we define covert here is multifaceted. For instance, when it comes to overt activities, as described in Section 4.1.6, our participants reported seeing significant levels of "overt" unhealthy food and drink ads the most (including fast food restaurants, retailers, and delivery services), as these were the most dominant in their newsfeeds of our three industries of interest, followed by alcohol and gambling material.

The distinction between overt and covert however is less clear. On the one hand, our participants were aware that social media platforms directed advertising to them based on an opaque algorithm, which was not always accurate. In our SMS chats, we invited participants to reflect on why they might be seeing some ads or not seeing others. Christy (19, female) explained how she understood ads were "tailored to me", and when we asked about why she thought she didn't see gambling ads, she theorised, 'it kind of knows how I'm not very responsive at all or won't click on any gambling ads and most alcohol ones. Therefore, it kind of more focuses on the food side of advertising'. Similarly, Malvin (20, male) reflected on why he saw sports betting ads for sports he liked and not others, 'this would make sense in terms of personalised advertising since I've seen less soccer and more basketball adverts recently'. These kinds of reflections on how interests and likes allowed ads to be targeted were common.

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[1] Average affect scores: 1 = always; 2 = frequently; 3 = sometimes; 4 = rarely; 5 = never; a lower mean score across the sample as a whole equates to a higher average affect.

In our anonymous focus group discussion forum, one participant explained how targeted advertising can even be "useful":

> *I feel like I'm definitely targeted based on things I've purchased before. I don't really mind this. Yes, it can be annoying being spammed with ads for something when I've already purchased the product and aren't interested in buying again, but sometimes it's useful when ads are targeted to me based on previous purchase history because they're more relevant, so it can be helpful. (Anonymous focus group participant)*

There were also instances of participants reflecting on the limitations of these advertising profiles. Take Alex (23, non-binary, Melbourne) for instance. In our SMS chat, they explained 'I have celiac disease and a number of other allergies so I find I'm constantly being advertised "organic" or "natural" products regardless of if I can eat it or not… I always get advertised Ben and Jerry's… cookies and cream is an absolute hell combination for me'. Here, Alex is reflecting on the limitations of the "covert" targeting being employed here, pointing out that while they think it can be quite sophisticated in some ways (as in the examples from Christy and Malvin above), there are also clear limitations to what it can "know" about users.

So in this sense, they were aware of "covert" attempts to target ads based on their demographic profiles, likes and interests. The full extent of their understanding of Facebook's ad model for each user, however, is unclear, and requires further research (see Section 4.2.6). Future studies might reverse our data collection order, inviting participants to donate their Facebook ad preference data first then discuss it with researchers, to make sense of it together and to co-analyse and co-interpret how these profiles are generated, what their impact is, and how users perceive these advertising strategies.

The other way to interpret or think about covert activities is material that is advertising a brand, product, or service but is not clearly labelled as such. At one end of the spectrum this might be an Instagram post by an influencer (someone with more than 10,000 followers, as defined by Mavroudis & Milne 2016) that is not clearly labelled as a sponsored post but the influencer has received financial incentive or some other benefit from a formalised partnership. Another instance might be an influencer or an everyday person who has *not* been paid to promote something, but does so tacitly by posting about it - sharing a photo of a Corona on a beach, or a story about going through Maccas drive through late at night, or posting a geo-location check-in at a casino. Such practices are common on social media, and actively encouraged by advertisers, for instance through "brand activations" designed to be photographed and shared on social media (Carah & Angus 2018). We saw relatively little material of this kind, which could demonstrate this represents only a small portion of content or that participants did not send us this kind of content because they did not conceptualise this as "advertising" (despite us prompting them to include this kind of material) (see Section 4.1.8 for more findings on influencer content, and Section 5.5.1 for an extended discussion of the disclosure of commercial relationships by influencers and creators).

5.2.2   RQ2b: Extent these strategies perceived as problematic by young people

While our participants had mixed views on these ads, overall they were seen as negative (manipulative, annoying) but the stronger affective responses like "disturbing" were relatively weak (3.84 for gambling/betting, 4.11 for food/drinks, 4.19 for alcohol). In qualitative comments, there were some insightful and complex reflections on how these ads can be perceived and interpreted. Dewey (17, male, Melbourne) for instance, reflected on the reality that while we live in a 'free market and there is free speech', 'obesity is not good for individuals and not good for society' (see

). This kind of macro perspective on these unhealthy industries reveals a balancing act between freedom and the "social good".

In our anonymous focus group discussion forum, one participant explained how they were comfortable with targeted advertising, because it allowed them to use social media for "free":

> *I don't find the collection of my personal information that creepy or concerning. I am using a free platform and advertisements are how these platforms stay afloat. If I wanted them not to collect my data, I would assume that I'd have to find a platform that charged me so that they would be able to collect some form of revenue. (Anonymous focus group forum participant)*

This kind of rationalisation was not uncommon, and cuts to the heart of the social media operating model. This demonstrates our participants were aware of this model, and despite negative feelings towards unhealthy industry advertising on social media (it was manipulative and annoying), this was widely understood as the "cost" of using these platforms.

5.2.3   RQ2c: Differences in perceptions of marketing depending on the industry (e.g. food, alcohol, gambling), and/or on the strategies used (e.g. covert vs. explicit)

As demonstrated above, there were clear differences in perceptions of marketing from industry to industry. Gambling and sports betting were widely seen as the "worst" of our industries of interest, with 84.8% of participants supporting increased regulation of advertising from that industry (as we explore further in Section 5.6 below). Unhealthy food and alcohol tended to be more complicated, likely because these industries are bound up in and associated with positive experiences like being out with friends, celebrating, participating in nightlife, music festivals, and so on. This was a regular tension in our data collection, as participants would ask if an advertisement for a bar, nightclub or restaurant (locations they often viewed in positive terms) were within the scope of the study. We invited participants to send us these kinds of advertisements, but acknowledge the difficulty in separating the promotion of alcohol from the promotion of, for instance, a drag night at a bar or a screening of the football at a pub. Both contexts operate on the assumption that consumption of alcohol and/or unhealthy food is likely, and yet advertising for these spaces usually leverages the social and positive affective dimensions of being in these spaces (see Section 5.5.2 and Section 5.5.5).

In this way, while gambling and sports betting might appear to have little or no positive or productive aspects (with "traditions" like Melbourne Cup increasingly contentious and unpopular among young people), alcohol and unhealthy food or sugary drinks can be understood as pleasurable and connective (Brown & Gregg 2012).

5.3   RQ3: Impacts of covert and digital marketing activities on young people

The young people in this study often had divergent but considered views on the impact of marketing activities on both their perceptions of and consumption practices around brands, products, and services. Most participants (60%, see Section 4.1.11) thought that the marketing material they saw on social media **did** have an influence on their perceptions of brands and products, and their explanations were often quite reflexive:

> *I like to think that I am not easily swayed by marketing techniques but **realistically I definitely subconsciously fall victim to marketing on social media**. Seeing something*

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repeatedly all over social media will make me think that it's normal and therefore make me more inclined to purchase it, and additionally, seeing celebrities that I know and love, use a product will obviously make me subconsciously form a better opinion about a given product (Courtney, 25, Female, Melbourne)

Courtney's interrogation of "subconsciously fall[ing] victim to marketing" represents a considered engagement with the impact of these marketing activities. The somewhat paradoxical conscious interrogation of what she conceptualises as subconscious is interesting here, as while she admits they do have an impact, her awareness of this is also key to navigating or resisting these activities. The language of "fall[ing] victim" is also telling in terms of the emotional and attitudinal dimensions of this marketer/consumer relationship.

In terms of specific industries, there were a number of participants who reflected on how some forms of marketing differed:

> *It **glorifies** the action for example drinking with mates and drinking in general through online ads it makes it seem like something everyone should be doing, or betting it makes it seem like you will always win and beat the odds and with it get an intense rush. (Ronan, 17, Male, Regional City)*

> *Makes their products look more **enticing**. Makes gambling companies seem nicer and like the odds are good. (Arjun, 17, Male, Melbourne)*

Reflecting here on alcohol and betting/gambling advertising, Ronan and Arjun speak to the affective dimensions of these advertisements as they consider how they do have an impact on them: "glory", "intense rush", "enticing", "seem nicer". These are examples of our participants consciously unpacking the association marketers are attempting to make between products (like alcohol and gambling) and feelings.

There was also a smaller group (16%) who felt this marketing did not have an impact on them. Compared to the majority (62%) who acknowledged there was an impact, this smaller group explained how they rejected advertising:

> *I am very **self-aware** and I know what marketing of these products is trying to achieve. I don't fall susceptible to marketing because I have **self discipline**. (Zoe, 23, Female, Melbourne)*

> *Not particularly, many ads are often generic and have little to **no appeal** and thus becomes **repetitive** and at times paint a **bad image** for the brand. IE Hungry Jacks when the footy is on. (Aiguo, 17, Male, Regional City)*

Zoe is emphasising personal traits like self-awareness and self-discipline in countering the impact of advertising, whereas Aiguo suggests the ads have no impact because they are not appealing or even have a negative impact because of their repetitiveness. These were common themes in these responses.

The final group here (22%) had mixed views on whether or not these advertisements had an impact, generally reflecting on how advertising from some industries was more effective than others:

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*In general, yes, but since I already hold strong **negative opinions** or have decided I don't want to partake in drinking alcohol or gambling, I don't think that ads for those products/services **affect me** as much. For unhealthy food however, **if it's something I enjoy but don't get that often, I'd say that I am influenced by the ads I'm shown**, especially if there's a promotion or special offer being advertised (Kia, 18, Non-binary, Melbourne)*

Kia's response here demonstrates how they navigate advertising from industries differently. This was another common theme throughout the study, with the majority being non-gamblers (86.3%) and a number being non-drinkers or drinking less than monthly (35.2%), when they did see ads for these products they were able to dismiss them. Like Kia, however, most participants did consume unhealthy food or sugary drinks at least sometimes (99%) so they saw themselves as more "susceptible" to these ads having an impact on them.

5.3.1 RQ3a: Influence of theses strategies on young people's opinions of, or attitudes towards the product/brand

Promotions in some industries were more effective than others. For instance, when it came to alcohol promotions, most never (58.8%) or only rarely (29.4%) acted on these promotions, placing an order or resulting in a purchase. This was much higher however for unhealthy food and drink advertisements, with about a third (35.3%) saying promotions sometimes had resulted in an order, and 16.2% saying promotions frequently had an impact (see Section 4.1.11). As with the discussion above, exemplified by Kia's reflections on the impacts of social media advertising on their consumption practices, the influence on opinions of or attitudes towards products and brands varied considerably across our three industries of interest. Harry (18, male, regional city) explained that these perceptions and attitudes towards some brands could be shifted when these brands took political positions:

Progressive action taken by Ben & Jerry's Ice-cream strongly encourages me to eat their products. Their advertising represents their 'leftist' values as a stark contrast to many corporations which are overwhelmingly economically conservative. (Harry, 18, male, regional city)

Harry's comments suggest that brands "taking a stand" on different issues - from climate change to LGBTQ+ inclusion to the Black Lives Matter movement - can have a significant impact on how consumers perceive that brand, and subsequently their choice to consume or not. While the "politics of brands" is beyond the scope of this study, examining how these "stands" play out on social media would be a productive avenue for future research. However, as discussed in Section 5.2.3 above, it is clear from our research that some industries are better positioned to engage in this kind of politics. Given that our participants saw gambling and betting as highly extractive, exploitative, and resulting in little to no "social good", these brands would presumably find it more difficult to align themselves with causes like the ones Harry is flagging here. This can come with a range of challenges as well as opportunities, for instance with Coopers being boycotted in 2017 around the same-sex marriage "debate" when their product was included in a "Bible Society" video featuring MPs "keeping it light" when discussing the issue (BBC 2017). As an example of this, another participant in this study explained that sometimes when brands appear to "take a stand" that can also be understood as manipulative and suspicious:

> *The ad is advertising the vodka brand Absolut's supposed support of the LGBTQ+
> community. I think it is rather manipulative to advertise your support of minorities for the
> purpose of increasing revenues. Fine if they just posted it on their social media, but paying
> to advertise it is suspicious and makes it seem as though there is another motive behind it
> (Meghan, 18, regional Victoria)*

5.3.2 RQ3b: Influence of these strategies young people's emotions and/or behaviours (e.g. how does exposure to strategies make them feel, how have they acted as a result of exposure?)

Despite the algorithmic, covert, and opaque targeting of advertising on social media now being
understood as a reality in using these platforms - with 74.5% of our participants agreeing that
advertisers on social media "seem to know things about my interests or behaviours" - most of our
participants also saw these strategies as manipulative and creepy. About two thirds of our
participants agreed with the statement that alcohol, gambling, and unhealthy food and drinks were
manipulative or creepy. 65.2% said this before their week of data collection (survey one), and that
view only solidified to 66.2% afterwards in survey two (see Section 4.1.12). In our anonymous
focus group discussion forum, one participant explained:

> *I feel weird because the social media platforms are tracking all my moves, and sometimes
> creepy because all my social media accounts do not use [the] same email (Anonymous
> focus group forum participant)*

This feeling of being tracked and surveilled - not only within the platform itself, but also across
different platforms and websites - was common. The incredible breadth of tracking demonstrated in
Section 4.2.6, from the Facebook ad preference data donated by participants. Our study reveals
the extent of this with on average, each participant having 194 advertisers upload data about them,
with the advertising model generating 787 interests about them.

As with our discussion in Section 5.2.1, focus group discussion forum participants also reflected on
their mixed emotions when it came to these targeted advertising strategies, echoing the sentiment
in the quote above about these strategies being "weird" at the same time as potentially "helpful":

> *I personally noticed with my targeted ads for alcohol that they targeted my love for baking
> and deserts with the brand 'Baileys" appearing quite often on my pinterest. In a sense its
> helpful getting ads that are relevant to my interests, better than ads that aren't. But it's also
> weird to think about how my data is collected and then used to target these ads at me!
> (Anonymous focus group forum participant)*

As discussed earlier in Section 5.2, these emotions - like feeling advertisements were "creepy" or
"weird" - were also mixed with more positive responses. Some saw these advertisements as
sometimes creative, funny, clever, or enjoyable (see Section 4.1.14) although almost always the
strongest emotional responses were the negative ones, like annoying and manipulative.

5.4 RQ4: Impacts of involvement on project participants, e.g. on their level of support for policy change

This study had a significant impact on the young citizen scientists who participated, both in terms
of their level of support for policy change, but also in terms of their understanding of how these

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industries operate, how the platforms work, and how they as consumers and platform users might respond.

First and foremost, by asking our participants to take screenshots of the unhealthy advertising they were seeing, they became much more aware of it in their everyday social media news feeds:

> *I had not realised how many of the ads I see were centered around food. It made me wonder if seeing these ads regularly contributes to my cravings or tendency to order out (Nadia, 25, Melbourne, Melbourne)*

> *Now that I actually paid attention to the ads (since I normally just don't pay too much attention normally) I was surprised how may there actually we're. They definitely were tailored to my interests (Stanley, 17, male, Melbourne)*

This also resulted in some reflection - both from participants, and our research team - on whether this data collection strategy actually increased and modified the algorithmic sorting of advertisements for our participants. For instance, pausing on and interacting with some ads was likely to register an "interest" in that product or kind of product, and thus serve more ads of that kind to participants. It remains an open question as to whether this study has had an enduring impact on the way these platforms see and serve ads to our participants, which is an important ethical consideration in future research.

Participating in the project also generally increased the extent to which participants thought the government should make laws that reduce or even ban marketing from these unhealthy industries, although this varied between industries. The industry that participants felt the strongest about increased regulation - gambling and betting - actually saw a small decline in support for regulation, from 82.8% to 80.9% (see Section 4.1.12) over the course of the study. This could be attributed to the relatively low presence of gambling and betting advertisements in the overall sample, compared to the high number of ads from unhealthy food and drink marketers for instance (see Section 4.2.4). In other words, they saw less of these kinds of ads during their week of data collection, so saw slightly less need for regulation, but overall they still felt most strongly about reducing or banning gambling and sports betting ads on social media.

Although support for reducing or banning alcohol and unhealthy food/drinks advertising was slightly weaker than for alcohol ads, the majority of participants were still in favour of more government regulation around the marketing activities of these industries, and in both cases this support solidified over the course of the study. Support for reducing or banning alcohol marketing on social media went from 65.7% support in survey one to 67.1% support in survey two. Support for reducing or banning unhealthy food and drinks marketing on social media went from 58.9% in survey one to 62.7% in survey two (see Section 4.1.12).

As reported in Section 4.1.13, there were nuanced and considered qualitative comments on regulation too, again varying from industry to industry. Aligning with the quantitative data, support for banning or reducing gambling and sports betting advertisement was strongest, followed by alcohol and unhealthy food and drinks. Also covered in Section 4.1.13, participants had ideas on how platforms and governments might adjust policy here, like 'make social media platforms let you choose if you want to see those types of ads' (Deborah, 20, female, Melbourne), 'increase advertisement costs for these kinds of marketing' (Rose, 19, female, regional city), and requiring that advertisements for unhealthy products also explain the risks as is now required on cigarette packets (Ruben, 19, male, Melbourne; and Sandra, 18, female, regional Victoria).

Beyond recognising the presence of unhealthy advertising in their own social media feeds and supporting changes in policies to reduce or ban this material, our participants also reported a range of other impacts of participating in the project. 62.4% reported talking to friends and family about unhealthy marketing on social media, 22.8% changed their advertising, data or privacy preferences on social media, and 16.8% said they even reported a post they had seen on their social media feeds (see Section 4.1.17). In summary, in addition to answering the research questions outlined here, this project has also achieved its objective of engaging young Victorians as active 'citizen scientists' in this research, not just as participants but as active agents of change with enhanced critical literacies.

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6   Conclusions

6.1   Further research

Our study offers an approach and findings to inform further research. Below we identify some key areas for future research that emerged in this project but that were beyond the scope of the study.

Gender, social background and identity
Unhealthy advertisers use digital media to target consumers based on their gender, social and economic background and identities. Further research with a larger sample of participants could quantify the extent to which the targeted advertising model of digital platforms targets, exploits and reinforces differences among consumers based on their gender and identity (including men, women, and non-binary people), social networks, economic circumstances, and predisposition to alcohol, unhealthy food and gambling consumption.

Understanding the use of data
Digital media platforms automatically generate "interests" they assign to consumers that identify their predispositions to alcohol, unhealthy food and gambling consumption. Some of these interests are implicitly associated with harmful forms of consumption. Platforms also allow advertisers to upload extensive data sets to enable them to track and target consumers. Further research could use the data donation method we have outlined in this study to develop a much broader understanding of the data platforms and advertisers collect and how they use it. This could be the centrepoint of future citizen research, where participants both donate this data but also are involved in co-analysing it with researchers, interpreting it together, and being involved in the outcomes of the research. This has great potential to engage and 'activate' young people with critical digital media literacies. Further research must go beyond quantifying the volume and content of harmful industries marketing on digital media to also account for its fundamentally data-driven nature.

Understanding volume of ads young Victorians see
In this study, alongside our citizen scientists, we generated a large collection of advertisements from young Victorians. This enabled us to examine the predominant formats and platforms that advertisers use, and the kinds of appeals and tactics they use on these platforms. Further research needs to examine the volume of unhealthy advertising in the social media feeds of consumers. While we asked participants to send us examples of ads they saw over the course of a week, a future study needs to attempt to quantify the amount of advertising being seen. This could involve a larger group of participants being assigned random periods in a day where they need to screenshot or screen record every advertisement they see over a short period. The other way to quantify exposure would be to demand through public accountability or legislation that platforms provide this information. Platforms already have this information, and for categories like political advertising they already make it publicly available for accountability reasons. The same should be implemented for harmful industries marketing.

Understanding harm
Our study illustrates that young Victorians are seeing a wide range of unhealthy advertising on digital media platforms. The advertising model of these platforms is data-driven, it is designed to learn consumer preferences and target them. Our study has illustrated that unhealthy advertisers are making extensive use of these platforms and that platforms have assembled enormous data sets about young Victorians. It stands to reason that the advertising models of platforms are tuned to disproportionately target high-volume and vulnerable consumers of alcohol, gambling and

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unhealthy food. Further research needs to explore these harms and the specific experiences of vulnerable consumers on digital media platforms.

Support for change

Our study illustrates the strong interest young Victorians have in collaborative research approaches to exploring harmful industries marketing, and their strong support for government action. Further research should continue to build these relationships to monitor and understand harmful industries' marketing and explore ways we can leverage their support for change into meaningful forms of action.

6.2   Critical issues and implications

Dominance of major digital media platforms

A small number of major digital media platforms - Facebook, Instagram, YouTube, Snapchat and TikTok - are now a fundamental part of the harmful industries' marketing apparatus. The collections that young Victorians sent us demonstrate the enormous volume of highly-optimised appeals that are targeted by unhealthy advertisers. Unlike advertising in broadcast, print and outdoor channels, advertising on digital media platforms is only visible to those who have been targeted. These platforms have extraordinary market power, yet their advertising models are not open to public scrutiny. This is a major challenge to public accountability and consumer protection.

Emerging tactics and formats

The advertising model of digital media platforms is both mature and dynamic. There are an established range of formats, while platforms continuously improve their capacity to use data to target consumers and develop new formats for engaging consumers.

The collections participants sent us illustrate how platforms "learn" about their preferences, identities, cultural tastes and social background. These detailed portraits of digital media users are then reflected in the flows of unhealthy advertising they are immersed in. The ads young Victorians receive reflect their gender, sexuality, social background, behaviours, location and cultural interests. Digital media platforms are integrating targeted advertising with retail. Many of the ads sent to us by participants contained "buttons" and "carousels" that functioned like interactive catalogues. Platforms are closing the gap between the moment of persuasion and the moment of purchase. No longer can we understand ads by examining how consumers are "exposed" to them and make sense of them. Instead, platforms sell ads based on engagement. Advertisers don't buy "eyeballs" but "fingers" that tap on the buy button.

In the case of unhealthy advertising digital platforms are not only critical to promoting products and services but also selling them.

Accountability and harm

Unhealthy advertising on digital platforms is "dark". It is not open to meaningful forms of public scrutiny, monitoring and accountability. Not only are the advertisements themselves difficult to track, more concerningly, platforms are collecting vast amounts of data about consumers and using it to build highly optimised relationships between ads and individual consumers. This use of data is entirely opaque.

We can reason that because the data-driven advertising model of digital media platforms is tuned to learn the preferences and predispositions of consumers it would disproportionately target high

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volume or highly susceptible consumers of unhealthy food, alcohol and gambling. Even limited reforms that platforms like Facebook have made to limit the targeting of underage consumers do not address the harms caused by continuous optimisation. There is a compelling case for independent monitoring and accountability and a strong consumer protection framework.

Young Victorians support for change

The young Victorians in our study expressed significant concern about unhealthy advertising on digital media platforms and a strong appetite for regulatory reform. The majority (81%) wanted to see policies change, and for governments to introduce regulations to reduce or remove advertising from unhealthy industries. This was strongest for gambling and betting advertising, which was seen as the most harmful with the least associated 'social good', but there was also majority support for reducing alcohol and unhealthy food and drink advertising. Our participants also had ideas on how to achieve this, from sliding scales where harmful industries pay more, to better protections for young people, and advertising that acknowledges the negative impacts of these industries in the same way cigarette packets have come to.

At the same time as they wanted change, there were also balanced views about how these industries also enable productive and pleasurable experiences, such as spending time with friends and family, and celebrating milestones. Our participants acknowledged it is difficult to disentangle the positive and pleasurable dimensions of these industries with the way they were being promoted on social media.

Value of citizen science in investigating digital marketing

Our study has demonstrated that young citizen scientists play a critical role in helping to uncover and map unhealthy advertising on digital media platforms. Not only were they able to collect ads that only they could see, by putting together extensive collections from their own digital media feeds we are able to see the patterns generated by the highly sophisticated data-driven advertising model. Additionally, the young Victorians in our study participated in frequently illuminating and insightful chats with us via SMS during their week of data collection that would not have been possible if they simply sent us these screenshots without the chance for us to discuss, invite reflection, and 'co-analyse' this material together.

We were engaged in a practice of "algorithmic gossip" ([Bishop 2019](#)), where we jointly made sense of how the ads young Victorians were seeing reflected their identities, preferences and behaviours. Gossip is a tactic used "from below", when powerful actors (such as social media platforms and harmful industries) refuse to disclose what is happening and how things work. While this method has proven to be a creative and revealing way of exploring how digital marketing works, it highlights the need for platforms to act in more socially responsible ways to enable a thorough public understanding of their advertising model.

A new kind of harmful industries advertising

On digital platforms harmful industries have created a new kind of advertising that is:
- Dark, ephemeral and impervious to public scrutiny.
- Tuned to target our identities, cultural interests and social backgrounds in highly customised ways.
- Compiling enormous sets of data about our interests, preferences and practices that are used to target us and exploit our vulnerabilities.
- Integrating advertising with retail so that the moment where we are exposed to messages is directly linked to immediate purchase.

- Moving beyond the logic of targeting consumers based on predefined criteria and interests, and moving toward practices of always-on optimisation that build audiences out of thousands of data points and automatically adapt the creative content to appeal to us based on our identities and preferences in particular times and places.

Through a partnership between VicHealth, our research team, and crucially the 204 young Victorian citizen scientists who participated in this project, we have been able to undertake a comprehensive and large-scale mapping of unhealthy industry digital marketing to young people. This has revealed a range of concerning features, from a growing ability to profile and target young people with harmful industries marketing, to underage users being targeted with alcohol and gambling advertising, through to major deficiencies in what Facebook claims is a 'public ad library'. Importantly, and more optimistically, however, this project also elevates an appetite for change and growing critical awareness among young Victorians.

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