Te Ngāngara | Limbic capitalism in Aotearoa

Māori youth (14-20 years), social media and unhealthy product marketing

A descriptive report on the use and social media activity of Māori youth exposure to marketing of vape, alcohol, and tobacco products on social media; engagement with this marketing; and vaping, drinking, and smoking behaviours.

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Executive summary

Young people actively use social media for many reasons, including for expressing identities, building and maintaining relationships with friends and whānau, connecting to broader social networks and engaging in civic, commercial, political, and cultural activities and issues of the day. Some have noted that not participating in life online can mean young people miss out on key areas of contemporary life. Our project, *Te Ngāngara: Social media and digital marketing,* sought to gain insight into how young people connect to the internet and how they engage with social media platforms, including what platforms they use, how often they use them, and what they use them for. We were also interested in how much they see and engage with the marketing of legal psychoactive products – specifically alcohol, tobacco, and vape products – on social media. We explored changes in these activities through the Covid-19 lockdowns, and also looked at drinking, smoking and vaping behaviours. The research employed an online survey, digital ethnographic interviews and in-depth group discussion methods, and culturally-relevant methodologies.

This report focuses on the survey findings for Māori respondents. It provides an overview of the methods employed in undertaking the survey, a detailed description of the sample, and findings relating to respondents' Internet access and use, their social media activity, their exposure to social media marketing of vape, alcohol, and tobacco products, their engagement with this marketing, and vaping, drinking, and smoking behaviour.

Methods: An online survey was developed, piloted and then finalised. Its 6 sections explored demographics; internet access and use; social media content, use, and activity; marketing exposure and engagement; Covid-19 changes; drinking, smoking and vaping behaviours. The survey and data collection procedures were approved by a University ethics committee. Recruitment took place online and in high schools during 2022. In total 3698 respondents aged between 14 and 20 years (M=17) of whom 851, just over a quarter were Māori, completed the survey. Among the Māori participants there were a range of gender identities, including wahine/female (58%), 36% tane/male and 6% who identified as non-binary, transgender, agenda, intersex, or something else with 1.8% unsure of gender.

Key findings: Māori respondents were highly engaged internet users. They accessed the internet through a range of hardware devices both inside and outside of the home, including their own mobile phone. They were online a lot of the time, with 93% reported using the internet several times a day or almost constantly. They were also high users of social media platforms, using between 1-18 different platforms in the past month (mean=6.3; median = 6). The most commonly used platforms were Instagram (94%), YouTube (82%), TikTok (80%), Facebook (78%), and Snapchat (72%). Instagram and TikTok were used more than other platforms to comment, tag, react, and like content. For creating and sharing their own content, participants used Instagram and Snapchat, and to a lesser extent TikTok. For chatting with friends, whānau, and family, Snapchat was used by over two-thirds of the respondents, followed by Instagram by almost half of the respondents. On the social media platforms they used frequently, 39% reported seeing vape product marketing, 43% saw alcohol marketing, and 11% saw tobacco marketing ,all primarily on Instagram, YouTube, Facebook and TikTok. A subset of these participants also engaged with this marketing content in various ways. Within the sample, 66% of young people reported having ever vaped, 77% had drunk alcohol, and 35% had smoked at least one cigarette.

Conclusions: Findings show that Māori youth in Aotearoa are highly connected to the internet and are online for much of their time. They actively use multiple social media platforms, and some platforms are used continuously throughout the day. Many young people reported seeing alcohol and vape products ads within their social media feeds, and some engage with this marketing in a range of ways.

About the project

Young people actively use social media to form and express their identities (boyd, 2014; Dobson et al., 2018), develop intimate friendships (Bennett & Robards, 2014; Niland et al., 2015), maintain relationships with whanau (O'Carroll, 2013), connect to broader social networks (Bennett & Robards, 2014; boyd, 2014), and engage in civic, commercial, political, and cultural activities and issues of the day (Goodwin, 2011). Such is the extent of social media engagement that participation has become all but mandatory for many young people (Robards, 2014). Not participating means they miss out on key arenas of contemporary life where they can exercise considerable autonomy and self-determination (Goodwin, 2011; O'Carroll, 2013), that impact identity, self-efficacy, and general wellbeing. These opportunities for agency are important in the colonial context of Aotearoa, where the distinct needs and interests of young people, particularly Māori, often go unrecognised and under-served (Goodwin, 2011; O'Carroll, 2013).

Our project explored the digital landscapes that enable the algorithmically targeted marketing of legal psychoactive products, particularly alcohol, tobacco, and vapes, to young people. The purposive design, production, marketing, and sale of such products that stimulate habitual consumption and pleasure to maximise profit has been called 'limbic capitalism' (Courtwright, 2019). Corporations have been said to intentionally cultivate people's habitual use of these highly addictive products that stimulate the limbic system of the brain, the part of the brain that is linked to pleasure and emotions, to maximise their profits (Babor et al, 2022) despite overwhelming evidence that they have serious negative impacts on people's health (Courtwright, 2019; Lyons et al, 2023).

We have argued that marketing of legal but psychoactive products on social media intensifies limbic capitalism processes because social media platforms, and the smartphones that they are hosted on, are also designed using a "limbic model of capturing attention, stimulating and exploiting circuits in the limbic brain" (Lyons et al., 2023, p.180). Social media marketing is more effective than more traditional forms, because social media platforms operate by converting the online activities of individual social lives into data. Limbic marketing processes the data to target individual users via machine learning based on their preferences, their behaviours, and their feelings (including pleasure and escape) in ways that sustain their attention, and that can pre-empt, shape, exploit and nudge their behaviours (Cohen, 2020).

This research sought to explore how young people manage their digital worlds in Aotearoa New Zealand, and how they engage with and respond to unhealthy commodity marketing online. It was designed to:

- examine young (14-20 years) people's Internet use and social media practices
- identify how digital marketing of alcohol, tobacco, and vape products gains their attention
- explore how social media encourage compulsive use, addictive behaviours, and consumption-based identity work
- examine what strategies young people use to navigate and resist digital marketing

We used online survey, digital ethnographic interviews and in-depth discussion methods, and culturally-relevant methodologies, to explore how experiences vary across key social and ethnic groups. This report focuses on findings regarding young Māori participants. It provides an overview of the methods employed in undertaking the survey and a detailed description of the 851 young Māori respondents who completed the survey. It describes findings regarding young Māori and their Internet access and use, social media activity, exposure to social media marketing of vape, alcohol, and tobacco products, engagement with this marketing, and vaping, drinking, and smoking behaviour. We have a companion report, *Te Ngāngara - Limbic capitalism in Aotearoa: Young people, social media and unhealthy product marketing* (April, 2024) that reports on the findings with the full sample of 3,698 young people who completed the survey.

Survey methods

A survey was designed to identify the digital landscape of young people's lives and how it impacts on their exposures to alcohol, vape, and tobacco marketing. The survey asked young people about their access to and use of the Internet, the social media platforms they use, the devices and technologies they employ, their extent of engagement on social media platforms, and their motivations for different engagements, platforms, and activities. We further explored how their social media practices changed during and after the Covid-19 pandemic and lockdowns.

Development of the survey

Following extensive discussion within the research group, reviewing of relevant literature, and discussion and feedback from Māori and non-Māori young advisors, a draft survey was developed in Qualtrics. The survey was piloted among the research team multiple times to ensure the flow and logic of questions worked. It was then piloted with a range of young people of different ages, backgrounds, and ethnicities. This involved one of the research team sitting with the young person while they completed the survey online and talking through any difficulties they encountered, any questions that were hard to understand, any formatting issues, and any questions that didn't work. Revisions were made to the survey based on this piloting (primarily around question framing, responses, prioritising te reo Māori as well as marginalised identities). The final version of the survey had six main sections as described below. The full survey is provided in Appendix A.

1. *Demographics*
   Questions asked for participants' age, gender (multiple responses allowed), ethnicity (multiple responses allowed), ethnic group they most strongly associate with, culture they most strongly identify with, sexuality (multiple responses allowed), student status (including part or full-time study; at high school, kura, university, wānanga, other; year of study), work/employment status, living situation (who lives in the household), geographic residence (rural/urban, part of NZ), parental status (if a parent, number of children), caregiver status, perceived socio-economic status (based on Svedberg et al., 2016), and languages spoken.

2. *Internet access and use*
   Questions focused on the devices participants use to connect to the Internet at home and when not at home, the type of Internet connection they have at home (broadband; mobile; if no connection, why?), how often they use the Internet, how much time they spend on the Internet on a normal day, the capacity of their main source of Internet connection, who pays for this, and what device they mostly use to connect to the Internet.

3. *Social media content, use, and activity*
   We asked participants about the social media platforms they have used in the past month, and responses to this question were inserted for all subsequent questions about their social media use, including how often they use each platform, how much time they spend on each platform, what they normally do on each platform, who they interact with on each platform, their main reasons for using each platform, their favourite platform and why (open response), whether there were any platforms they dislike but keep using and why (open response), and whether there were any platforms they had stopped using and why (open response).

   Participants were then asked about whether they follow "accounts on social media that create content in particular areas that you're interested in, and that have a reputation for their content (e.g. artists, celebrities, groups, events, peers)" and were asked to list up to three of their favourite accounts. The accounts given in response were inserted for further questions about what platforms they follow them on and what kind of content is shared on these accounts.

Participants were also asked if Māori content was important to them in their social media use, and if so what type of Māori content they engage with (open response), and why it is important to them (open response).

4. *Social media marketing exposure and engagement*
   To cover one of the key areas of investigation, participants were asked if they recalled seeing any vape product advertising on each of the social media platforms they reported using frequently, and then asked if they had engaged with vape products online, specifically if they had:
   - Liked a vape brand on social media
   - Shared something related to a vape brand, such as a status, picture, or video
   - Followed a vape brand on social media
   - Entered a competition linked to a vape brand on social media
   - Searched for vape adverts on websites or social media
   - Used an image filter or effect related to vaping
   - Engaged with other vape brand content
   - Purchased vape products online
   - Had any other engagement with vape brands (open responses)

   Participants were then asked to think about the accounts on social media that they follow because they're interested in their content and whether these accounts had shared information about a vape brand; shared something related to a vape brand, such as a status, picture, or video; shared content of themselves vaping; and/or shared other vaping content and what that was.

   These questions were repeated for the two other areas of investigation: alcohol advertising and alcohol brand engagement; and for tobacco products and tobacco brand engagement. They were then asked whether they had uploaded pictures or videos of themselves vaping, drinking alcohol, or smoking, and whether other people have uploaded pictures or videos of the participant vaping, drinking alcohol, or smoking.

5. *Covid-19 pandemic changes in social media use and marketing exposure*
   Participants were asked whether they changed their social media use during the Covid-19 lockdowns, and if so, the nature of this change. They were also asked about changes in seeing advertising of vaping, alcohol, and tobacco products during lockdown periods, as well as post-lockdown periods.

6. *Vaping, drinking, and smoking behaviour*
   In the final section participants were asked if they had ever smoked a whole cigarette, how often they smoke cigarettes now, if they had ever vaped, how often they vape now, if they have ever drunk alcohol, and how often they drink now. They were also asked the AUDIT-C three questions about drinking, including how often they drink, how many drinks they have on a typical day when they are drinking, and how often they had six or more drinks on one occasion in the past year.

At the end of the survey, all participants were offered the opportunity to enter a prize draw to win one of six prizes (3 x UE Booms, 3 x Skullcandy earphones) and on uptake were taken to a separate site to provide their details. They were also asked if they would like to take part in more research on this topic, and if they did, they were taken to a separate site to provide contact details.

Procedure & recruitment

To recruit participants aged 16-20 years, we worked closely with a digital marketing agency. Their brief was to disseminate the survey link on social media and Internet sites to recruit 1000 respondents, including up to 500 Māori and to provide a sample with diverse socio-economic status backgrounds, gender identities, and sexualities. The agency monitored and optimised the recruitment strategy over a 6-week period throughout late January – early March 2022. Examples of the images and strategies that we used for this online campaign are shown in Appendix B.

To recruit participants aged 14-15 years, and to manage ethical responsibilities around recruitment of this age group online, we contacted various high schools and kura across Aotearoa New Zealand from July – November 2022. We asked them to send out an email to parents and caregivers of Year 10 students that provided an overview of the research and the survey we were asking young people to take part in. Parents/caregivers were asked to contact the research team if they did not want the survey link sent to their young person. A week later Year 10 Deans or other key school/kura staff sent an email to Year 10 students which outlined the research, what taking part in the survey would involve, and a link to the online survey. As above, the prize draw and questions about further engagement with the research were proffered.

Ethical considerations

Survey participants aged 16-20 years were fully informed prior to taking part. The information sheet outlining the aims of the study and what participation would involve was on the survey landing page, and participants were required to agree to take part under these conditions before they were able to start the survey. The 14-15 year olds were recruited via schools and kura, and other relevant groups. The information sheet was provided to young people and their caregivers. Participant anonymity and confidentiality were maintained throughout. Survey responses were anonymous (IP addresses were not recorded) and analysed in aggregate. If participants entered the prize draw, they were required to provide their contact details on a separate link. This ensured it was not linked to their survey answers to maintain anonymity. Although the research does not ask about highly sensitive topics, at the end of the survey all participants were given information about where they could seek help (youth support services) if they needed it and were also given the contact details of the researchers on the team. The research processes were carefully designed to be inclusive from the outset, and the project incorporated key principles from Kaupapa Māori and Māori-centred research.

SECTION A: THE SURVEY SAMPLE

In total 3794 participants commenced the survey. We checked and cleaned the data, and deleted respondents who had no responses beyond the first section. The final dataset consisted of 3698 participants. Of the 3332 participants who responded regarding their ethnicity, 2453 (73.6%) selected one ethnicity and 879 (26.4%) selected more than one. A quarter of the sample (25.4%) selected Māori. See Table 1 for ethnicity details. We created a new variable with independent groups by recoding selection of Māori into the Māori category, and Pasifika into the Pasifika category, as shown in Table 1. With this recoding, 851 participants identified as Māori.

Table 1: Ethnicity information for the overall sample

	n	%
Ethnicity[1] (N=4441)		
Māori	856	25.4
Pākehā or New Zealand European	2248	66.8
Samoan	197	5.9
Cook Islands	108	3.2
Tongan	77	2.3
Niuean	44	1.3
Chinese	199	5.9
Indian	147	4.4
Other	520	15.5
Prefer not to say	45	1.3
Ethnicity[2] (N=3365)		
Māori	851	25.6
Pākehā or New Zealand European	1552	46.7
Pasifika	215	6.5
Other	704	21.2

[1] Multiple responses possible; [2] Recoded into distinct groups

Age and gender

The mean age of Māori participants was 17.3. There were good numbers of respondents across all ages from 14-20, as shown in Table 2.

Of the 849 Māori participants who responded regarding their gender identity, 825 (97.2%) checked one category and 24 (2.8%) checked more than one category. As shown in Table 2, over half of the sample were wahine/female (58%), 36% identified as tane/male, 6% identified as non-binary, transgender, agenda, fa'afafine, intersex, or something else, with 1.8% not yet sure of their gender. Gender information was subsequently recoded into 3 distinct groups.

Table 2: Age and gender information for the Māori sample

Age (N=851)	**n**	**%**
14	54	6.3
15	49	5.8
16	192	22.6
17	192	22.6
18	143	16.8
19	127	14.9
20	94	11.0
Gender[1] (N=849)		
Wahine/tamāhine/woman/girl	496	58.4
Tane/tama/man/boy	313	36.9
Transgender	18	2.1
Non-binary	22	2.6
Agender	2	0.2
Fa'afafine	1	0.1
Intersex	1	0.1
I'm not yet sure of my gender	15	1.8
Something else	9	1.1
Prefer not to say	7	0.8

[1] Multiple responses possible

Sexuality, perceived socioeconomic status, and place of residence

Most Māori respondents reported that they were heterosexual (68%) with 16% reporting that they were bisexual, and 4% not sure of their sexuality yet. Table 3 shows more details about sexuality responses.

There was a range of responses regarding perceived socioeconomic (SES) status, as shown in Table 3. The most common response to how well off the respondent perceived their family to be was 'fairly well off' (34% of the respondents), followed by 'not particularly well off' at 21%.

Almost 40% of respondents lived in a major city, and just over 86% lived in Te Ika a Māui/the North Island, as shown in Table 3.

Of the 773 respondents who responded about the languages they speak, 423 (55%) chose one language and 350 (45%) chose more than one. As shown in Table 3, 98% of the sample spoke English, and 44% spoke te reo Māori.

Table 3: Sexuality, perceived socioeconomic status, place of residence and languages spoken

	n	%
Sexuality (N=832)		
Straight (heterosexual)	568	68.3
Bisexual	129	15.5
Queer, pansexual, asexual, something else	47	5.6
Gay/lesbian	17	2.0
Takatāpui	11	1.3
Not sure yet	37	4.4
Prefer not to say	23	2.8
Perceived socioeconomic status (N=776)		
Not well off at all	73	9.4
Not particularly well off	161	20.7
Fairly well off	263	33.9
Rather well off	114	14.7
Very well off	25	3.2
Prefer not to say	140	18.0
Place of residence (N=800)		
Major city	312	39.0
Other city	123	15.4
Town	184	23.0
Small town	134	16.8
In the country	47	5.9
Location within Aotearoa (N=799)		
Te Ika a Māui/North Island	688	86.1
Te Wai Pounamu/South Island	103	12.9
Other - please state	8	1.0
Languages spoken[1] (N=773)		
Te Reo Māori	337	43.6
English	756	97.8
Sign language	43	5.6
Samoan	19	2.5
Mandarin	17	2.2
Another language	38	4.9

[1] Multiple responses possible

Student, work, parent, and caregiver status

Of the 831 respondents who replied regarding their student status, 74% reported that they were students, and most were studying fulltime, as shown in Table 4. Over half (57%) were at high school, and 34% were in tertiary education.

Table 4: Student status

Student status (N=831)	**n**	**%**
Student	614	73.9
Full-time	507	61.0
Part-time	99	11.9
Not a student	217	26.1
Place of study (N=601)		
High school	344	57.2
Kura	27	4.5
University	162	27.0
Polytechnic	40	6.7
Wānanga	2	0.3
Other	26	4.3
Year of study (N=601)		
Year 8	2	0.3
Year 9	25	4.2
Year 10	83	13.8
Year 11	36	6.0
Year 12	118	19.6
Year 13	115	19.1
1st year university/wānanga/polytechnic	102	17.0
2nd year university/wānanga/polytechnic	77	12.8
3rd year university/wānanga/polytechnic	33	5.5
Other	10	1.7

As shown in Table 5, most participants worked in part-time, paid employment (38%) or did not work in paid employment (34%). Almost 15% worked fulltime, with 10% receiving a government benefit. There were 37 parents in the sample, 25 of whom had one child, seven had two children, and five stated 'other' to number of children.

Of the 810 respondents who provided information on their living arrangements, 284 (35%) chose one category and 526 (65%) chose more than one. The greatest proportion of participants lived with their parents and siblings, and others lived in a range of living situations as shown in Table 5.

Table 5: Work, parent, caregiver status

	n	%
Work status (N=812)	**n**	**%**
Paid employment full-time	118	14.5
Paid employment part-time/casual	306	37.7
Not work in paid employment	272	33.5
Receive a government benefit	82	10.1
Other	34	4.2
Parent status (N=798)		
Parent	37	4.6
Not a parent	761	95.4
Caregiver status (N=792)		
Caregiver	47	5.9
Not a caregiver	745	94.1
Living arrangements[1] (N=810)		
Living with my parents	379	46.8
Living with one of my parents	196	24.2
Living with my sibling(s)	455	56.2
Living with my grandparent(s)	93	11.5
Living with another family member	93	11.5
Living with flatmates	85	10.5
Living with my partner/spouse	75	9.3
Living with my child/children	25	3.1
Live at a boarding school	5	0.6
Live in a university hall of residence	25	3.1
Live by myself	12	1.5
Move between households	36	4.4
No permanent residence	10	1.2
Living with – other	23	2.8

[1] Multiple responses possible

SECTION B: INTERNET USE AND SOCIAL MEDIA ACTIVITY

Devices used to connect to the Internet

Respondents provided information on the devices that they used to connect to the Internet when they were at home, and when they were not at home. As shown in Table 6, most respondents used their own mobile phone to connect to the Internet, both at home and outside of home. They also used laptops at home, and to a lesser extent outside of home. A small number used someone else's mobile phone both at home and outside of home to connect to the Internet. Respondents reported using their own mobile phone most often (82% of respondents).

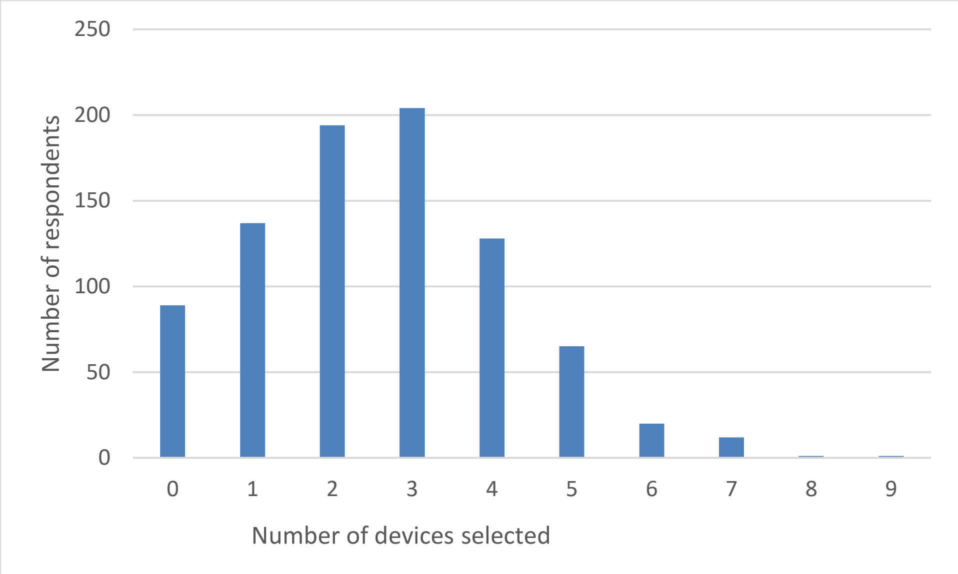
Table 6: Devices used to connect to the Internet at home, outside of home and most used device

	n	%
At home[1] (N=762)	**n**	**%**
Own mobile phone	722	94.8
Someone else's phone	80	10.5
Desktop computer	144	18.9
Laptop	478	62.7
Gaming console	260	34.1
iPad/Tablet	133	17.5
TV	367	48.2
Other	4	0.5
Don't access the internet at home	7	0.9
Outside home[1] (N=755)	**n**	**%**
Own mobile phone	704	93.2
Someone else's mobile phone	86	11.4
Laptop	259	34.3
School/work computer or laptop	175	23.2
Library computer	46	6.1
iPad/tablet	70	9.3
Other	10	1.3
Don't access the internet outside of home	12	1.6
Most used device (N=744)	**n**	**%**
Own mobile phone	612	82.3
Someone else's phone	13	1.7
Desktop computer	14	1.9
Laptop	59	7.9
Gaming console	21	2.8
iPad/Tablet	13	1.7
TV	10	1.3
Other	2	0.3

[1] Multiple responses possible

As shown in Figure 1, most respondents selected between 2-4 devices that they used at home.

Figure 1: Number of devices used at home



Internet access

Respondents provided information on how they connected to the Internet when they were at home, as well as their Internet capacity and who paid for it. Findings are shown in Table 7. Almost all respondents used wifi at home, and for most this was unlimited (80%). In terms of payment for internet, 65% of respondents' main Internet access was paid for by parents.

Table 7: Internet connection, capacity, and finance

Type of connection at home[1] (N=753)	**n**	**%**
Wifi broadband/fibre	716	95.1
Mobile phone data	360	47.8
Other	2	0.3
Can't connect to the Internet at home	2	0.3
Don't know	8	1.1
Internet capacity at home (N=749)	**n**	**%**
Unlimited	601	80.2
Limited (capped)	59	7.9
Don't know	89	11.9
Who pays for main source of Internet connection (N=747)	**N**	**%**
Respondent	149	19.9
Parent(s)	484	64.8
School/university	23	3.1
Work	4	0.5
Mainly use free public wifi	9	1.2
Other	78	10.4

[1] Multiple responses possible

Frequency and duration of Internet use

As shown in Table 8, most participants (93%) reported using the internet 'almost constantly' or 'several times a day'. When asked about how much time they spend on the Internet 'on a normal day', 91% reported 3 or more hours. Specifically, 451 (60%) stated they spent 5 or more hours per day on the internet, 232 (31%) 3-4 hours, 51 (7%) between 1-2 hours, and 12 (0.3%) less than one hour per day.

Table 8: Frequency and duration of Internet use

Frequency of use (N=753)	**n**	**%**
Almost constantly	460	61.1
Several times a day	238	31.6
About once a day	14	1.9
Several times a week	14	1.9
Less often	15	2.0
Don't know	12	1.6
Duration of use (N=750)	**n**	**%**
5 hours or more	451	60.1
3–4 hours	232	30.9
1–2 hours	51	6.8
Less than one hour	12	1.6
Less often than once a day	2	0.3
I never use the internet	2	0.3

Social media use

Respondents were high users of social media platforms and reported using between 1-18 different platforms in the past month (mean=6.3; median = 6), as shown in Table 9.

Table 9: Number of different platforms used in the past month

Number of platforms (N=733)	**n**	**%**
1	22	3.0
2	21	2.9
3	54	7.4
4	75	10.2
5	91	12.4
6	122	16.6
7	136	18.6
8	98	13.4
9	51	7.0
10	22	3.0
11	23	3.1
12	10	1.4
13	1	0.1
14	3	0.4
15	1	0.1
16	0	0.0
17	2	0.3
18	1	0.1

The most commonly used platforms were Instagram (94%), YouTube (82%), TikTok (80%), Facebook (78%), and Snapchat (72%) as shown in Table 10.

Table 10: Platforms used in the past month

Platform[1] (N=733)	**n**	**%**
Instagram	685	93.5
YouTube	604	82.4
TikTok	584	79.7
Facebook	572	78.0
Snapchat	528	72.0
FB Messenger	522	71.2
Pinterest	259	35.3
Discord	190	25.9
Twitter	172	23.5
Reddit	145	19.8
WhatsApp	113	15.4
Twitch	96	13.1
Tinder	48	6.5
Tumblr	37	5.0
LinkedIn	21	2.9
Grindr	15	2.0
Other	13	1.8
Hinge	9	1.2
WeChat	9	1.2
I don't use social media	1	0.1

[1] Multiple responses possible

In terms of how often the platforms were used (almost constantly; several times a day; about once a day; a few times a week; about once a week; a few times a month; about once a month; less often; don't know), Instagram, YouTube, TikTok, Facebook, and Snapchat, were used most frequently, as shown in Table 11 (results for the other platforms are provided in Appendix C (Table C1)).

Table 11: Frequency of platform use for Instagram, YouTube, TikTok, Facebook, and Snapchat (see Appendix C for other platforms)

	Instagram (N=675)		YouTube (N=596)		TikTok (N=574)		Facebook (N=563)		Snapchat (N=520)	
	n	%	n	%	n	%	n	%	n	%
Almost constantly	201	29.8	125	21.0	257	44.8	94	16.7	167	32.1
Several times a day	349	51.7	163	27.3	215	37.5	167	29.7	177	34.0
About once a day	84	12.4	122	20.5	46	8.0	120	21.3	81	15.6
A few times a week	23	3.4	116	19.5	28	4.9	82	14.6	44	8.5
About once a week	11	1.6	35	5.9	5	0.9	26	4.6	14	2.7
A few times a month	1	0.1	27	4.5	8	1.4	32	5.7	14	2.7
About once a month	1	0.1	3	0.5	6	1.0	19	3.4	6	1.2
Less often	3	0.4	3	0.5	7	1.2	17	3.0	17	3.3
Don't know	2	0.3	2	0.3	2	0.3	6	1.1	0	0.0

The average time users reported spending on the top 9 platforms each day varied: 3.3 hours (TikTok), 2.9 hours (YouTube), 2.3 hours (Instagram), 2.1 hours (Snapchat), 1.9 hours (Facebook). The minutes spent on platforms are shown in Table 12.

Table 12: Minutes spent on each platform that was used daily

Platform	n	Mean	SD	Median	Mode
TikTok	434	195.06	163.48	150	120
YouTube	346	174.82	156.99	120	60
Instagram	549	138.91	138.69	90	60
Snapchat	356	124.48	139.64	60	120
Discord	77	118.17	119.73	60	60
Facebook	319	112.55	156.88	60	60
FB Messenger	312	106.61	160.01	40	60
Pinterest	50	60.92	50.55	60	60
Twitter	62	60.68	92.20	30	60

Activities on social media platforms

The activities that respondents engaged in while on the social media platforms they used regularly are shown in Table 13 for Instagram, YouTube, TikTok, Facebook, and Snapchat. Different platforms were used for different activities, as we would expect. Instagram, YouTube, TikTok, and Facebook were used by the majority of the participants to scroll, watch, and swipe through content. Instagram, TikTok, and Facebook were used more than other platforms to comment on, tag, react to, and like content. For creating and sharing their own content, participants used Instagram and Snapchat, and to a lesser extent TikTok. For chatting with friends, whānau, and family, Snapchat was used by over two-thirds of the respondents, followed by Instagram by almost half of the respondents.

Results for the activities undertaken on other platforms, namely FB Messenger, Pinterest, Discord, WhatsApp, and Twitter, are provided in Appendix C (Table C2). These results show that FB Messenger is used by 87% of users of these platforms to chat with friends and whānau, followed by 73.5% of Discord users.

Different platforms were used to interact with different groups of people, as shown in Table 14 for Instagram, YouTube, Snapchat, TikTok, and Facebook. All these platforms except YouTube were used by most of the participants to interact with friends. Instagram and Facebook were used the most to interact with whānau/family. In terms of interacting with brands, this was reported more for Instagram (47%) than the other platforms. In terms of interacting with creators/influencers, this was undertaken mostly on TikTok (70%) and YouTube (65%), followed by Instagram (57%). Over one-fifth of participants (22%) reported not interacting with anyone when they were using YouTube. Results showing who users interacted with on Messenger, Pinterest, Discord, WhatsApp, and Twitter are shown in Appendix C (Table C3). These results showed that of Twitter users, many interacted with creators/influencers (62%) and brands (22%).

Table 13: Who respondents interacted with on Instagram, YouTube, TikTok, Facebook, and Snapchat (see Appendix C for other platforms)

	Instagram[1] (N=615)		YouTube[1] (N=544)		TikTok[1] (N=517)		Facebook[1] (N=511)		Snapchat (N=468)	
	n	%	n	%	n	%	n	%	n	%
Scroll, watch, swipe	416	67.6	495	91.0	421	81.4	356	69.7	110	23.5
Comment, tag, react, like	226	36.7	120	22.1	237	45.8	185	36.2	28	6.0
Share content from others	131	21.3	19	3.5	146	28.2	66	12.9	28	6.0
Share my own photos and videos	196	31.9	11	2.0	99	19.1	62	12.1	139	29.7
Chat with friends/whānau/family	286	46.5	7	1.3	63	12.2	190	37.2	311	66.5
All of these	202	32.8	25	4.6	91	17.6	76	14.9	70	15.0
Other	10	1.6	19	3.5	10	1.9	38	7.4	25	5.3

[1] Multiple responses possible

Table 14: Who respondents interacted with on Instagram, YouTube, TikTok, Facebook, and Snapchat (see Appendix C for other platforms)

	Instagram[1] (N=588)		YouTube[1] (N=520)		TikTok[1] (N=496)		Facebook[1] (N=486)		Snapchat[1] (N=446)	
	n	%	n	%	n	%	n	%	n	%
Friends	564	95.9	54	10.4	361	72.8	424	87.2	418	93.7
Whānau/family	461	78.4	31	6.0	185	37.3	448	92.2	255	57.2
Peers	316	53.7	21	4.0	142	28.6	192	39.5	135	30.3
Groups	227	38.6	88	16.9	132	26.6	192	39.5	42	9.4
Brands	279	47.4	90	17.3	151	30.4	77	15.8	21	4.7
Influencers	335	57.0	336	64.6	348	70.2	86	17.7	35	7.8
Workmates	139	23.6	7	1.3	40	8.1	125	25.7	37	8.3
No one	4	0.7	116	22.3	27	5.4	6	1.2	10	2.2
Other	20	3.4	47	9.0	33	6.7	7	1.4	16	3.6

[1] Multiple responses possible

Main reasons for social media use

The main reasons for using different social media platforms were also examined, and findings are shown in Table 15 for Instagram, YouTube, TikTok, Facebook, and Snapchat. Instagram was mostly used for entertainment (64%) and interaction (54%), while YouTube and TikTok were used by over 70% of their users for entertainment. The highest use of Snapchat was for interaction by its users (63%).

In terms of using platforms for finding information, YouTube and Facebook were used the most (by 30% and 35% of their users respectively). In terms of using platforms to receive information, Facebook was used the most (31%) followed by YouTube (25%) and then Instagram (23%). In terms of using platforms due to boredom, TikTok was used the most (49.5% of its users), followed by Instagram (46%) and YouTube (44%). Almost a quarter of Facebook users said they used it for news (24%), followed by YouTube (18%) and Instagram (15%).

The main reasons that participants used FB Messenger, Pinterest, Discord, WhatsApp, and Twitter are shown in Appendix C (Table C4). These results showed that social interaction was a primary reason for using FB Messenger and Discord (66% and 69% respectively), while entertainment was a primary reason for using Pinterest (51%) and Twitter (49%). Twitter, Pinterest, and Reddit were also used for finding information (27%, 27%, and 26% respectively) and because of boredom (39%, 40%, and 37% respectively).

Table 15: Main reasons for using Instagram, YouTube, TikTok, Facebook, and Snapchat (see Appendix C for other platforms)

	Instagram[1] (N=570)		YouTube[1] (N=505)		TikTok[1] (N=481)		Facebook[1] (N=472)		Snapchat[1] (N=434)	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Entertainment	367	64.4	371	73.5	344	71.5	233	49.4	159	36.6
Activism	85	14.9	42	8.3	57	11.9	45	9.5	17	3.9
Social Interaction	308	54.0	22	4.4	91	18.9	191	40.5	274	63.1
Finding Information	118	20.7	153	30.3	71	14.8	165	35.0	27	6.2
Receiving Information	128	22.5	125	24.8	73	15.2	147	31.1	48	11.1
Boredom	262	46.0	222	44.0	238	49.5	174	36.9	130	30.0
News	84	14.7	95	18.8	48	10.0	115	24.4	10	2.3
All of these	127	22.3	65	12.9	95	19.8	61	12.9	39	9.0
Other	14	2.5	16	3.2	5	1.0	30	6.4	24	5.5

[1] Multiple responses possible

Creator / influencer accounts followed by participants

Participants were asked to list up to three of their favourite accounts they follow on social media that create content in particular areas that they are interested in, and that have a reputation for their content. Of the respondents who answered this question, 70% said they followed such accounts, as shown in Table 16.

Table 16: Number of respondents following 'creator/influencer' accounts on social media

Response (N=593)	n	%
Follow creator accounts	415	70.0
Do not follow creator accounts	109	18.4
Do not know	69	11.6

Table 17 shows the platforms on which creator accounts are followed, for each of the three listed. Instagram was the platform that creators / influencers were most followed on, followed by TikTok and YouTube.

Table 17: Platforms on which 'creator/influencer' accounts are followed by respondents

Platform	Account 1[1] (N=282)		Account 2[1] (N=263)		Account 3[1] (N=225)	
	n	%	n	%	n	%
Instagram	225	79.8	198	75.3	173	76.9
TikTok	116	41.1	88	33.5	84	37.3
YouTube	104	36.9	84	31.9	75	33.3
Facebook	56	19.9	47	17.9	41	18.2
Twitter	20	7.1	14	5.3	17	7.6
Snapchat	20	7.1	13	4.9	12	5.3
Discord	9	3.2	7	2.7	9	4.0
Pinterest	8	2.8	7	2.7	7	3.1
Messenger	7	2.5	3	1.1	7	3.1
Twitch	5	1.8	5	1.9	6	2.7
Reddit	4	1.4	3	1.1	3	1.3
WhatsApp	1	0.4	1	0.4	2	0.9
Tumblr	1	0.4	2	0.8	1	0.4
Tinder	1	0.4	1	0.4	1	0.4
Other	7	2.5	3	1.1	11	4.9

[1] Multiple responses possible

Participants were asked about the kind of content that was shared by the creators / influencers they followed on social media platforms. Table 18 shows the responses for each of the three creator / influencer accounts listed by participants.

Table 18: Type of content shared by accounts followed by respondents

Platform	Account 1[1] (N=282)		Account 2[1] (N=263)		Account 3[1] (N=225)	
	n	%	n	%	n	%
Gaming	40	14.2	34	12.9	39	17.3
Music	75	26.6	59	22.4	57	25.3
Fashion	84	29.8	68	25.9	60	26.7
Art	50	17.7	43	16.3	45	20.0
Travel	64	22.7	61	23.2	45	20.0
Lifestyle	127	45.0	101	38.4	84	37.3
Activism	56	19.9	40	15.2	47	20.9
Food	52	18.4	37	14.1	31	13.8
Sports	58	20.6	50	19.0	42	18.7
Comedy	99	35.1	73	27.8	67	29.8
Health	56	19.9	46	17.5	41	18.2
Other	59	20.9	48	18.3	47	20.9

[1] Multiple responses possible

Importance of Māori content in social media

Participants were asked if Māori content was important to them in their social media use. Responses are shown in Table 19. Over a quarter noted that Māori content was very (27%) important to them, while a further 22% noted it was a little important to them.

Table 19: Importance of Māori content to social media use

Response (N=565)	n	%
Yes, very	155	27.4
Yes, a little	124	21.9
No, not really	27	4.8
No, not at all	216	38.2
I don't know	43	7.6

Changes in social media use due to COVID-19 lockdowns

The participants were asked questions about changes in their social media use during the COVID-19 lockdowns. Table 20 shows that 64% of participants indicated that their social media use changed during this time.

Table 20: Changes in social media use in COVID-19 lockdowns

Response (N=527)	n	%
Yes	338	64.1
No	145	27.5
I don't know	44	8.3

As shown in Table 21, of those who answered that their social media use had changed, just over 88% said that it had increased, with 71% responding that it increased a lot more than before the lockdowns.

Table 21: Amount of change in use compared to before the COVID-19 lockdowns

Response (N=338)	n	%
A lot more	241	71.3
A little more	57	16.9
A little less	20	5.9
A lot less	17	5.0
Other	3	0.9

SECTION C: SOCIAL MEDIA MARKETING EXPOSURE AND ENGAGEMENT

Vape product advertising

Participants were asked if they recalled seeing any vape product advertising on social media. Of the 851 participants, 795 (93%) responded yes or no for at least one platform. Of these, 311 (39%) responded they had seen vape advertising on at least one platform, and 484 (61%) responded they had not seen vape advertising on at least one platform. Of the 311 responders who said they had seen vape product advertising, 191 were aged 14-17 years (39% of respondents aged 14-17 years), while 120 were aged 18-20 years (33% of this age group). In summary, over a third of respondents had seen vape advertising on social media.

Table 22 shows the top 5 platforms that respondents reported viewing vape advertising. Of the 308 participants who responded to this question, approximately 67% of the respondents indicated that they saw vape product advertising on TikTok and 65% saw it on Instagram.

Table 22: Top 5 platforms for seeing vape advertising

Platform[1] (N=308)	n	%
TikTok	205	66.6
Instagram	200	64.9
Facebook	116	37.7
YouTube	113	36.7
Snapchat	91	29.5

[1] Multiple responses possible

Participants were also asked how they engaged with vape advertising. Responses are shown in Table 23. The most common engagement with vape advertising was to purchase a vape product (52%), followed by liking a brand (47%) and searching for vape ads online or on social media (41%).

Table 23: Engagement with vape advertising

Activity[1] (N=198)	n	%
Purchased products online	103	52.0
Like a brand on social media	92	46.5
Searched for ads online or on social media	82	41.4
Share something related to brand	78	39.4
Engaged with other brand content	64	32.3
Used a related image filter or effect	60	30.3
Follow a brand on social media	50	25.3
Enter a competition online or on social media	25	12.6

[1] Multiple responses possible

Participants were asked whether the creator / influencer accounts they followed on social media platforms shared any vape content. Table 24 shows the types of content shared on these accounts; the most common content seen by respondents was the creator/influencer sharing their own personal vaping.

Table 24: Vaping content shared by the creator / influencer accounts followed by respondents

Platform	Account 1[1] (N=22)		Account 2[1] (N=15)		Account 3[1] (N=12)	
	n	%	n	%	n	%
Shared brand info	4	18.2	5	33.3	5	41.7
Shared something related such as status, picture, or video	8	36.4	7	46.7	3	25.0
Shared personal vaping content	15	68.2	12	80.0	9	75.0
Shared other content	6	27.3	4	26.7	2	16.7

[1] Multiple responses possible

Alcohol product advertising

Of the 851 participants, 846 (99.4%) responded yes or no to having seen alcohol advertising for at least one platform. Of these, 367 (43%) responded that they had seen alcohol advertising on at least one platform and 479 (56%) responded that they had not seen alcohol advertising on at least one platform. Of the 367 yes responders, 200 were aged 14-17 years (41% of the age group), while 167 were aged 18-20 years (46% of this age group).

Table 25 shows the top 5 platforms where respondents reported viewing alcohol advertising. Of the 364 participants who responded to this question, 73% reported that they saw alcohol product advertising on Instagram, while 60% had seen it on Facebook and 52% on YouTube.

Table 25: Top 5 platforms for seeing alcohol advertising

Platform[1] (N=364)	n	%
Instagram	266	73.1
Facebook	220	60.4
YouTube	189	51.9
TikTok	167	45.9
Snapchat	96	26.4

[1] Multiple responses possible

Participants were also asked how they engaged with alcohol advertising. Responses are shown in Table 26. The most common engagement with alcohol advertising was to like an alcohol brand on social media (66%), followed by sharing something related to a brand such as a status, picture, or video (55%) and following an alcohol brand on social media (37%).

Table 26: Engagement with alcohol advertising

Activity[1] (N=228)	n	%
Like a brand on social media	151	66.2
Share something related to brand	125	54.8
Follow a brand on social media	85	37.3
Enter a competition on social media	79	34.6
Engaged with other brand content	78	34.2
Searched for ads online or on social media	77	33.8
Purchased products online	65	28.5
Used a related image filter or effect	60	26.3

[1] Multiple responses possible

Participants were asked whether the creator / influencer accounts they followed on social media platforms shared any alcohol content. The types of content shared on these accounts is displayed in Table 27; this shows that the most common content shared was influencers' personal drinking.

Table 27: Alcohol content shared by the creator / influencer accounts followed by respondents

Platform	Account 1[1] (N=57)		Account 2[1] (N=47)		Account 3[1] (N=41)	
	n	%	n	%	n	%
Shared brand info	12	21.1	16	34.0	14	34.1
Shared something related such as status, picture, or video	24	42.1	17	36.2	12	29.3
Shared personal drinking content	43	75.4	37	78.7	31	75.6
Shared other content	13	22.8	11	23.4	13	31.7

[1] Multiple responses possible

Tobacco product advertising

Participants were asked if they recalled seeing any tobacco product marketing on social media. Of the 851 participants, 592 (69.6%) responded yes or no for at least one platform. Of these, 93 (11%) responded that they had seen tobacco advertising on at least one platform and 499 (59%) responded that they had not seen tobacco advertising on at least one platform. Of the 93 yes responders, 65 were aged 14-17 years (13% of this age group), while 28 were aged 18-20 years (8% of this age group). In summary, about 11% of responders had seen tobacco advertising.

Table 28 shows the top 5 platforms where respondents reported viewing tobacco advertising. Of the 89 participants who responded to this question, approximately 55% indicated that they saw tobacco product advertising on Instagram, 49.4% on Facebook and 47% on TikTok.

Table 28: Top 5 platforms for tobacco advertising

Platform[1] (N=89)	n	%
Instagram	49	55.1
Facebook	44	49.4
TikTok	42	47.2
YouTube	36	40.4
Snapchat	22	24.7

[1] Multiple responses possible

Participants were also asked how they engaged with tobacco advertising. Responses are shown in Table 29. The most common engagement with tobacco advertising was to use an image filter or effect related to smoking (51%), followed by sharing something related to a tobacco product such as a status, picture, or video (44%), followed by liking a tobacco product on social media (41%).

Table 29: Engagement with tobacco advertising

Activity[1] (N=59)	n	%
Used a related image filter or effect	30	50.8
Share something related to brand	26	44.1
Like a brand on social media	24	40.7
Searched for ads online or on social media	12	20.3
Follow a brand on social media	11	18.6
Enter a competition online or on social media	11	18.6
Engaged with other brand content	8	13.6
Purchased products online	14	23.7

[1] Multiple responses possible

Participants were asked whether the creator / influencer accounts they followed on social media platforms shared any tobacco content. The types of content shared on these accounts is displayed in Table 30; this shows that the most common content shared was influencers' own smoking.

Table 30: Tobacco content shared by the creator / influencer accounts followed by respondents

Platform	Account 1[1] (N=19)		Account 2[1] (N=11)		Account 3[1] (N=14)	
	n	%	n	%	n	%
Shared brand info	8	42.1	1	9.1	5	35.7
Shared something related such as status, picture, or video	6	31.6	2	18.2	2	14.3
Shared personal smoking content	10	52.6	9	81.8	9	64.3
Shared other content	4	21.1	1	9.1	4	28.6

[1] Multiple responses possible

Changes in vape, alcohol, and tobacco advertising due to COVID-19 lockdowns

Participants were asked if during the COVID-19 lockdowns they recalled seeing any changes in advertising of vaping, alcohol, and tobacco products on social media compared to before lockdown. Table 31 shows the changes. In all three cases, the majority of participants reported either no change or that they did not know. In terms of those who saw more advertising, 20% reported seeing more alcohol advertising and 11.4% more vape advertising. Only 3% said they saw more tobacco advertising.

Table 31: Changes in seeing vaping, alcohol, and tobacco product advertising during Covid-19 lockdowns (compared to before lockdowns)

Platform	Vaping[1] (N=525)		Alcohol[1] (N=517)		Tobacco[1] (N=523)	
	n	%	n	%	n	%
Saw more ads	60	11.4	103	19.9	17	3.3
Saw no change	223	42.5	207	40.0	261	49.9
Saw fewer ads	36	6.9	25	4.8	35	6.7
Don't know	206	39.2	182	35.2	210	40.2

[1] Multiple responses possible

When asked if they had seen changes in the marketing of vaping, alcohol, or tobacco products *after* lockdowns compared to before or during, of the 524 who answered, 19% said yes, 44% said no, and 36.6% said that they did not know.

SECTION D: VAPING, DRINKING, AND SMOKING BEHAVIOUR

Vaping

Participants were asked whether they have ever vaped. Of the 524 respondents who answered this question, 66% said yes and 35% said no. Those who said they had ever vaped were asked whether, and how often, they vape now, and responses are shown in Table 32. A third (almost 33%) said they did not vape now and 19% said they only vaped occasionally. In contrast, 10% said that they vaped most days and 25% responded that they vaped daily.

Table 32: Frequency of vaping

Response (N=343)	n	%
Never – I don't vape now	112	32.7
Occasionally	65	19.0
Once or twice a month	22	6.4
Once or twice a week	23	6.7
Most days	35	10.2
Daily	86	25.1

Drinking

Participants were asked whether they have ever drunk alcohol. Of the 524 respondents who answered this question, 77.1% said yes and 22.9% said no. Those who said they had ever drunk alcohol were asked how often they have a drink containing alcohol. Responses are shown in Table 33. Over one-fifth of respondents never drank or drank less than once a year (23%). Of those who drank more than this, the largest proportion (62%) drank 2-4 times a month or less while 13% drank alcohol on a weekly basis.

Table 33: Frequency of drinking

Response (N=404)	n	%
Never	17	4.2
Once a year or less	75	18.6
Monthly or less	129	31.9
2 to 4 times a month	120	29.7
2 to 3 times a week	41	10.1
4 or more times a week	13	3.2
I don't know	9	2.2

Smoking

Participants were asked whether they have ever smoked tobacco. Of the 524 respondents who answered this question, 34.9% said yes and 65.1% said no. Those who said yes were asked how often they smoked cigarettes now, and responses are shown in Table 34. Almost half said they did not smoke now (45%), 34% said they only smoked occasionally, while 7% said that they smoked daily.

Table 34: Frequency of smoking

Response (N=183)	n	%
Never – I don't smoke now	83	45.4
Occasionally	62	33.9
Once or twice a month	18	9.8
Once or twice a week	5	2.7
Most days	3	1.6
Daily	12	6.6

Sharing vaping, drinking, or smoking information on social media

Participants were asked questions in relation to whether they or others shared images of them vaping, drinking, or smoking on social media. In relation to sharing of their own images, out of the 195 respondents who answered this question, 55% said that they uploaded pictures of themselves vaping, 91% drinking, and 26% smoking. Similarly, images of the respondents drinking alcohol were the most uploaded by others. Table 35 contains these details.

Table 35: Uploading images of vaping, drinking, and smoking on social media

Platform	Uploaded own photo by self[1] (N=195)		Upload own image by others[1] (N=232)	
	n	%	n	%
Vaping	106	54.4	140	60.3
Drinking alcohol	177	90.8	219	94.4
Smoking	51	26.2	83	35.8

[1] Multiple responses possible

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Appendix A: Online Survey Te Ngāngara Marsden Project: Limbic capitalism and the digital landscape of young people's lives

<u>FRONT Section: Info and Consent</u>

About the project: In this survey we're trying to find out more about how young people access the internet, the social media platforms they use, what they use them for and why. We're also exploring how much marketing of vaping, alcohol and tobacco products rangatahi and young people see on social media.

Why we are doing this? This is the first stage of our research that aims to identify and challenge some of the practices on social media platforms that generate profit for various companies, but may potentially be harmful for young people and their wellbeing. Your participation will be really beneficial in helping us to get a wide range of views. This research has been approved by the Victoria University of Wellington Human Ethics Committee [#29931].

How can you help? If you're aged 16-20, use social media and can understand English, it would be great if you completed our survey. The survey will ask you some questions about yourself, your social media and internet use, and if you've seen content that includes vaping, drinking alcohol or smoking. It will take you about 15 minutes to complete. If you want to enter the prize draw for some awesome tech prizes, we'll ask for your contact details at the end of the survey (these will be kept separate from your survey responses which will remain anonymous).

What if I change my mind once I begin the survey? It's your choice and you can quit at any time without explanation. Taking part in the study is not expected to stress you out. But if any of the questions cause feelings of distress or discomfort, we provide information about available support services at the end of the survey and on our website.

What will we do with your data? People doing the survey will not be identifiable. Nobody, including the researchers, will know who you are. But by taking the survey, you are giving consent for us to use your responses in our research. Once you submit the survey, it will be impossible to remove your data. Please do not include any personal identifiable information in your responses. If you want to enter our prize draw, we will ask for your name and email on a different link at the end of the survey so that they are separate from your survey responses, and these details will be held in confidence and deleted after the draw.

What will the project produce? All information will be used as part of a bigger project about young people, social media and digital marketing in Aotearoa. We will update this website with summaries about the results of this research (so check back here in a few weeks!), and we will write reports, media articles, academic papers and give presentations about the findings.

Who can you contact if you have any questions or problems? If you have any questions, either now or in the future, please feel free to contact any of the members of our research team - all details are shown on our website and below.

Continuing with this survey implies consent. If you do not wish to continue with the survey, please close this browser window now.
o I have read and understood the information provided for this study and consent to collection of my responses

SECTION A: Demographics

Instructions: ***Kia ora! Thank you very much for agreeing to take part. In this first section, we ask some questions about you. Remember that any information you provide will be kept anonymous.***

Info / construct	#	Questionnaire item	Response format	Logic/flow	Notes
Age	A1	How old are you?	14, 15, 16, 17, 18, 19, 20		
Gender	A2	Which of the following best describes your current gender? Select all that apply	transgender, non-binary, wahine/tamahine/girl/woman, tane/tama/boy/man, agender, fa'afafine, intersex, I'm not yet sure of my gender, Something else, please state [open text], I'd prefer not to say		Adapted from Youth19
Ethnicity	A3	Which ethnic group(s) do you belong to? Select all that apply.	Māori, Pākehā or New Zealand European, Samoan, Cook Islands, Tongan, Niuean, Chinese, Indian, Other (please state) [open text], I'd prefer not to say	If more than one group ticked, go to A3a	
	A3a	Which ethnic group do you most strongly affiliate with?	Māori, Pākehā or New Zealand European, Samoan, Cook Islands, Tongan, Niuean, Chinese, Indian, Other (please state) [open text], I'd prefer not to say		
Culture	A4	What culture do you most strongly identify with?	Māori, Pākehā or New Zealand European, Samoan, Cook Islands, Tongan, Niuean, Chinese, Indian, Other (please state) [open text], prefer not to say		
Sexuality	A5	Which of the following best describes your sexual orientation? Select one answer only	Lesbian, gay, bisexual, straight (heterosexual), queer, pansexual, asexual, takatāpui, I'm not sure yet, something else (please state) [open text], I'd prefer not to say		Adapted from Youth19

Study status	A6	Are you a student?	Yes, no	If yes then go to A6a,b,c	
	A6a	Do you study full-time or part-time?	full-time, part-time		
	A6b	Which of the following do you attend?	high school, kura, university, polytechnic, wananga, other (please state) [open text]		
	A6c	Which year are you in?	Year 8, Year 9, year 10, year 11, year 12, year 13, first year university/wananga/polytechnic, second year university/wananga/polytechnic, third year university/wananga/polytechnic, other (please state) [open text]		
Work status	A7	What is your current work status?	paid employment full-time, paid employment part-time/casual, do not work in paid employment, receive a government benefit, other (please state) [open text]		
Living situation	A8	Who lives in your household (tick all that apply)?	my parents, one of my parents, my sibling(s), my grandparent(s), another family member, flatmates, my partner/spouse, my child/children, I live at a boarding school, I live at a boarding hostel, I live in a university hall of residence, I live by myself, I move between households, I don't have a permanent residence, other (please state) [open text]		
Rural/urban	A9	Where do you live?	major city (e.g. Ōtautahi / Christchurch; Te Whanganui a Tara / Wellington; Tāmaki Makaurau / Auckland), other city, town, small town, in the country		
Residence location	A10	Which part of Aotearoa NZ do you live in?	Te Wai Pounamu / South Island Te Ika a Maui / North Island Other (please state) [open text]		
Parental status	A11	Are you a parent?	Yes / no	If yes go to 11a	
	A11a	How many children do you have?	1, 2, other (please state) [open text]		

Caregiver status	A12	Are you a caregiver for anyone?	Yes / no	If yes go to A12a	
	A12a	Who do you care for?	Open text response		
Perceived SES	A13	How well off economically do you think your whānau/family is?	not well off at all, not particularly well off, fairly well off, rather well off, very well off *For analysis: clustered into three categories; low ("not at all" and "not particularly"), middle ("fairly") and high ("rather" and "very")*		Svedberg, P. et al (2016). *BMC medical research methodology*, *16*(1), 1-9.
Language	A14	What language(s) do you speak/use (tick all that apply)?	Te Reo Māori, Sign language, English, Samoan, Mandarin, other (please state) [open text]		

SECTION B: INTERNET ACCESS; SOCIAL MEDIA USE, CONTENT, ACTIVITY

Instructions: ***The next few questions ask you about your internet access and general internet activity.***

Info / construct	**#**	**Questionnaire item**	**Response format**	**Logic/flow**	**Notes**
Access at home	B1	When you're at home, what devices do you use to connect to the internet? (select all that apply):	Your own mobile phone, someone else's mobile phone, desktop computer, laptop, gaming console, iPad/Tablet, TV, Other (please state [open text]		
Internet connection at home	B2	What type of internet connection do you use where you currently live? (select all that apply)	Broadband/fibre/wifi, mobile phone data, other (please state [open text], can't connect to the internet at home, don't know	If 'can't connect to the internet at home' go to B2a	Adapted from World Internet Project
Reason can't connect at home	B2a	Why can't you connect to the internet at home?	There's no mobile coverage in my region, we do not have broadband or wifi at home, other (please state) [open text]		

Internet away from home	B3	When you're not at home, what devices do you use to connect to the internet? (select all that apply):	Your own mobile phone, someone else's mobile phone, laptop, school/work computer or laptop, library computer, iPad/tablet, other (please state) [open text], I don't access the internet outside of home		Adapted from World Internet Project
Frequency of internet use	B4	About how often do you use the internet?	almost constantly, several times a day, about once a day, several times a week, less often, don't know.		From Pew research centre
Time spent on internet	B5	On a normal day, how much time do you spend on the internet?	'5 hours or more', '3–4 hours', '1–2 hours', 'Less than one hour', 'Less often than once a day' 'I never use the internet.'		From Youth19 Ball, J.,et al. 2021
Internet capacity	B6	What is the capacity of your main source of internet connection?	Unlimited, Capped (please specify the limit if known [open text]), Don't know.		
Payment	B7	Who pays for your *main* source of internet access?	myself, my parent(s), my school/university, my work, I mainly use free public wifi, other (please state) [open text]		
Main device	B8	What device do you use the most for connecting to the internet?	your own mobile phone, someone else's mobile phone, desktop computer, laptop, gaming console, iPad/Tablet, TV, Other (please state [open text]		

SECTION C: SOCIAL MEDIA USE, CONTENT, ACTIVITY

Instructions: ***Thanks for your responses so far. In the next section, we ask you about your social media use, including which platforms you visit, how often you visit them, and what you do when you visit them.***

Info / construct	#	Questionnaire item	Response format	Logic/flow	Notes
Social media	C1	Which of the following social media platforms have you used in the past month (select all that	Facebook, Instagram, Snapchat, YouTube, TikTok, WhatsApp, Facebook Messenger, Twitter, Pinterest, Reddit, LinkedIn,		

site use		apply)?	Twitch, Discord, Tumblr, Tinder, Hinge, Grindr, WeChat, Other (please provide [open text]), I don't use social media		
Frequency of use	C2	Thinking about the social media platforms you use .. About how often do you visit or use (list populated from responses to C1).	Almost constantly, Several times a day, About once a day, A few times a week, About once a week, A few times a month, About once a month, Less often, Don't know	If tick any of first 5 responses, go to C2a, otherwise go to C3	Adapted from World Internet Project
Duration of use	C2a	About how many minutes OR hours a day do you usually use (list populated from responses to C2)?	Open text response in minutes OR hours (two options)	Response options only for platforms noted in C2	
Activity on social media	C3	What do you usually do on the following social media platforms (list populated from responses to C1)?	Scroll/watch/swipe; Comment, tag, react, or like; Share content from others; Share my photos and videos; Chat with friends / whānau / family; all of these; other (please state) [open text]		
Following people on social media	C4	Who do you interact with on the following social media platforms (list populated from responses to C1)?	Friends; whānau/family; peers; groups; brands; influencers; workmates; no-one; other		
Reasons for social media use	C5	What are the main reasons for using the social media platforms you like? Select all that apply (list populated from responses to C1)	Entertainment; activism; social interaction; finding information; receiving information; boredom; news; all of these; other		Brailovskaia, et al., (2020) & Stockdale & Coyne (2020).
Favourite platform & reason	C6	Can you please briefly tell us which social media platform is your favourite and why? (If you'd prefer not to just leave this question blank)	Open text		
Disliked platforms	C7	Are there any social media platforms you dislike but you keep using?	Yes, no, don't know	If yes go to C7a	

reason for disliked platforms	C7a	Can you please briefly tell us which platform(s) you dislike and why you keep using it/them? (if you'd prefer not to just leave this question blank)	Open text		
Platforms stopped using	C8	Are there any social media platforms you have stopped using?	Yes, no, don't know	If yes go to C8a	
Reason for stopping	C8a	Can you please briefly tell us which platform(s) and why you stopped using it/them? (if you'd prefer not to just leave this question blank)	Open text		
Following creators/infl uencers	C9	Do you follow any accounts on social media that create content in particular areas that you're interested in, and that have a reputation for their content (e.g. artists, celebrities, groups, events, peers)?	Yes, no, don't know	If yes then go to C9a, b, c	
Creator names	C9a	Please list up to three of your favourite accounts that you follow on social media. (Feel free to open another browser tab or app and check the name/handle of these accounts). If you can only recall one or two accounts, please write the names below and click next. If you cannot recall any account names, please click next.	3 boxes for open text : • Followed account 1 • Followed account 2 • Followed account 3		
Creator SM platforms	C9b	What social media platform(s) do you follow these accounts on? [insert each account listed]	list populated from responses to C1, other	If 'other' go to C9c	
	C9c	You indicated you follow an account on a social media platform that isn't on our list. Please type the platform you see their content on below.	Open text for each account followed		
	C9d	What kind of content do the accounts you follow share? Select all that apply.	*Responses populated for each account listed* Gaming, music, fashion, art, travel, lifestyle, activism, food, sports, comedy, health, other	If 'other' go to 9Ce	

	C9e	You indicated other content that is shared by accounts you follow. Please describe this content below.	Open text for each account followed		
Importance of Māori content	C10	Is Māori content important to you in your social media use?	Yes very, yes a little, no not really, no not at all, don't know	If yes very or yes a little go to C10a & C10b	
Type of Māori content	C10a	Can you please tell us briefly what type of Māori content you engage with on social media? (if you'd prefer not to just leave this question blank)	Open text		
Reasons Māori content	C10b	Can you please briefly tell us why Māori content is important to you in your social media use? (if you'd prefer not to just leave this question blank)	Open text		

SECTION D: SOCIAL MEDIA MARKETING EXPOSURE AND ENGAGEMENT
Instructions: ***In this section, we're going to ask you about your experience of vape, alcohol and tobacco product marketing on social media.***

Info / construct	**#**	**Questionnaire item**	**Response format**	**Logic/flow**
Seen vape ads	D1	Do you recall seeing any vape product advertising on the following social media (list populated with responses from C1)?	Yes, No, Don't know	
Engagement with vape ads	D2	Have you done any of the following in the past six months? (tick all that apply)	• Liked a **vape brand** on social media • Shared something related to a **vape brand**, such as a status, picture or video • Followed a **vape brand** on social media • Entered a competition linked to a **vape brand** on social media • Searched for **vape adverts** on websites or social media. • Used an image filter or effect related to **vaping**	if 'engaged with other vape brand content' selected, go to D2a

			• Engaged with other **vape brand** content • Purchased **vape products** online	
	D2a	What other engagement have you had with vape brands on social media in the past six months?	Open text	
Creators and vape ads	D3	Thinking about the accounts on social media that you follow because you're interested in their content – have these accounts done any of the following?	• Shared information about a vape brand • Shared something related to a vape brand, such as a status, picture or video • Shared content of themselves vaping • Shared other vaping content	If 'Shared other vaping content' go to D3a
	D3a	you indicated other vaping content that is shared by accounts you follow. Please describe this content below.	Open text	
Seen alcohol ads	D4	Do you recall seeing any alcohol advertising on the following social media (list populated with positive responses from C1)?	Yes, No, Don't know	
Engagement with alcohol ads	D5	Have you done any of the following in the past six months? (tick all that apply)	• Liked an **alcohol brand** on social media • Shared something related to an **alcohol brand**, such as a status, picture or video • Followed an **alcohol brand** on social media • Entered a competition run by an **alcohol brand** on social media • Searched for **alcohol brand** adverts on websites or social media. • Used an image filter or effect related to **drinking alcohol** • Engaged with other **alcohol brand** content • Purchased **alcohol** online	if 'engaged with other alcohol brand content' selected, go to D5a
	D5a	What other engagement have you had with alcohol brands on social media in the past six months?	Open text	

Creators and alcohol ads	D6	Thinking about the accounts on social media that you follow because you're interested in their content – have these accounts done any of the following?	• Shared information about an alcohol brand • Shared something related to an alcohol brand, such as a status, picture or video • Shared content of themselves drinking alcohol • Shared other alcohol content- please state [open text]	If 'Shared other alcohol content' go to D6a
	D6a	you indicated other alcohol content that is shared by accounts you follow. Please describe this content below (if you'd prefer not to just leave this question blank)	Open text	
Seen tobacco product ads	D7	Do you recall seeing any promotion of tobacco products on the following social media (list populated with positive responses from C1)?	Yes, No, Don't know	
Engagement with tobacco product ads	D8	Have you done any of the following in the past six months? (tick all that apply)	• Liked a **tobacco product** on social media • Shared something related to a **tobacco product**, such as a status, picture or video • Followed a **tobacco product** on social media • Entered a competition run by a **tobacco product** on social media • Searched for **tobacco product** adverts on websites or social media. • Used an image filter or effect related to **smoking** • Engaged with other **tobacco product** content • Purchased **tobacco products** online	if 'engaged with other alcohol brand content' selected, go to D8a
	D8a	What other engagement have you had with tobacco products on social media in the past six months?	Open text	
Creators and tobacco product ads	D9	Thinking about the accounts on social media that you follow because you're interested in their content – have these accounts done any of the following?	• Shared information about a tobacco product • Shared something related to a tobacco product, such as a status, picture or video • Shared content of themselves smoking	If 'Shared other tobacco content' go to D9a

			• Shared other tobacco content (please state) [open text]	
	D9a	You indicated other tobacco content that is shared by accounts you follow. Please describe this content below (if you'd prefer not to just leave this question blank)	Open text	
Own posting product use	D10	In the past 6 months, have you uploaded picture(s) and/or videos of yourself (tick all that apply)	Vaping, drinking alcohol, smoking, none of these	
Others posting product use	D11	In the past 6 months, have other people uploaded pictures and/or videos of you (tick all that apply)	Vaping, drinking alcohol, smoking, none of these	

SECTION E: COVID-19 CHANGES IN SOCIAL MEDIA USE

Instructions: ***These next questions ask you about your social media use during Covid-19 lockdowns***

Info / construct	#	Questionnaire item	Response format	Logic/flow
Change in social media use during lockdown	E1	Did you change your social media use during the Covid-19 lockdowns?	Yes, No, Don't know	If yes go to E1a
How social media use changed in lockdowns	E1a	During the Covid-19 lockdowns, how much did you use social media compared to before Covid?	a lot more, a little more, a little less, a lot less, other (please state) [open text]	
Vape Marketing and	E2	During the Covid-19 lockdowns, do you recall seeing any changes in advertising of vaping products on social media compared to before	I saw more vaping ads, I didn't see any change, I saw fewer vaping ads, I don't know	

lockdown		lockdown?		
Alcohol Marketing and lockdown	E3	During the Covid-19 lockdowns, do you recall seeing any changes in advertising of alcohol products on social media compared to before lockdown?	I saw more alcohol ads, I didn't see any change, I saw fewer alcohol ads, I don't know	
Tobacco product Marketing and lockdown	E4	During the Covid-19 lockdowns, do you recall seeing any changes in the promotion of tobacco products on social media compared to before lockdown?	I saw more tobacco promotion, I didn't see any change, I saw less tobacco promotion, I don't know	
Post lockdown change	E5	Have you seen any changes in the marketing of vaping, alcohol or tobacco products *post* lockdown compared to during or before lockdown?	Yes, No, Don't know	If yes go to E5a
Post lockdown explain	E5a	Can you please tell us briefly what kind of changes you have seen? (if you'd prefer not to just leave this question blank)	Open text	

SECTION F: VAPING, DRINKING, SMOKING BEHAVIOUR
Instructions: ***Finally, these last few questions ask about smoking, vaping, and drinking***

Info / construct	#	Questionnaire item	Response format	Logic/flow	Notes
Tobacco product smoking	F1	Have you ever smoked a whole cigarette (e.g. tailor made cigarettes, roll your owns)?	Yes, No	If yes go to F1a	From Youth19/HPA
Frequency of smoking	F1a	How often do you smoke cigarettes now?	Never - I don't smoke now; Occasionally; Once or twice a month; Once or twice a week; Most days;		

			Daily		
Vaping	F2	Have you ever vaped/used an e- cigarette?	Yes, No	If yes go to F2a, F2b	
Frequency of vaping	F2a	How often do you vape now?	Never - I don’t vape now; Occasionally; Once or twice a month; Once or twice a week; Most days; Daily		
Vaping nicotine	F2b	When you vape, does the vapour contain nicotine?	Yes, No, Don’t know		
Drinking alcohol	F3	Have you ever drunk alcohol (not counting a few sips)?	Yes, No	If yes go to F3a, b, c, d	
Frequency of drinking AUDIT-C #1	F3a	How often do you have a drink containing alcohol?	Never; Once a year or less; Monthly or less; 2 to 4 times a month; 2 to 3 times a week; 4 or more times a week; Don’t know		AUDIT-C Scoring: Never (0); Monthly or less (1); 2 to 4 times a month (2); 2 to 3 times a week (3) 4 or more times a week (4)
AUDIT-C #2	F3b	How many drinks containing alcohol do you have on a typical day when you are drinking? (count one drink as one can or small bottle of beer, one small glass of wine, one shot of spirits, one RTD - ready-made alcoholic drink)	1 or 2; 3 or 4; 5 or 6; 7 to 9; 10 or more		1 or 2 (0) 3 or 4 (1) 5 or 6 (2) 7 to 9 (3) 10 or more (4)
AUDIT-C #3	F3c	How often did you have six or more drinks on one occasion in the past year?	Never; Less than monthly; Monthly; Weekly; Daily or almost daily; Don’t know		Never (0) Less than monthly (1) Monthly (2); Weekly (3); Daily or almost daily (4); Don’t know

***Final* –** That's it! Thank you so much for filling this survey in. Your info will help us understand how young people in Aotearoa are using social media, and how much digital marketing of alcohol, vape and tobacco products is happening.

Appendix B: Examples of the images / strategies used in online recruitment campaign

	FB Messenger (N=514)		Pinterest (N=255)		Discord (N=186)		Twitter (N=168)		Reddit (N=140)	
	N	%	n	%	n	%	n	%	n	%
Almost constantly	107	20.8	15	5.9	29	15.6	6	3.6	5	3.6
Several times a day	175	34.0	26	10.2	34	18.3	27	16.1	9	6.4
About once a day	92	17.9	27	10.6	29	15.6	37	22.0	18	12.9
A few times a week	77	15.0	68	26.7	25	13.4	23	13.7	40	28.6
About once a week	30	5.8	49	19.2	23	12.4	31	18.5	18	12.9
A few times a month	17	3.3	41	16.1	24	12.9	22	13.1	23	16.4
About once a month	8	1.6	8	3.1	9	4.8	6	3.6	13	9.3
Less often	5	1.0	19	7.5	13	7.0	15	8.9	13	9.3
Don't know	3	0.6	2	0.8	0	0.0	1	0.6	1	0.7

Appendix C: Social media use and activities

Table C1: Frequency of platform use for FB Messenger, Pinterest, Discord, Twitter, and Reddit

Table C2: Activities undertaken while using FB Messenger, Pinterest, Discord, Twitter, and Reddit

	FB Messenger[1] (N=464)		Pinterest[1] (N=230)		Discord[1] (N=170)		Twitter[1] (N=153)		Reddit[1] (N=126)	
	n	%	n	%	n	%	n	%	n	%
Scroll, watch, swipe	30	6.5	180	78.3	30	17.6	111	72.5	98	77.8
Comment, tag, react, like	21	4.5	49	21.3	25	14.7	53	34.6	33	26.2
Share content from others	44	9.5	39	17.0	21	12.4	20	13.1	7	5.6
Share my own photos/videos	68	14.7	13	5.7	25	14.7	12	7.8	6	4.8
Chat with friends/whānau/family	404	87.1	3	1.3	125	73.5	3	2.0	5	4.0
All of these	34	7.3	9	3.9	23	13.5	14	9.2	5	4.0
Other	12	2.6	19	8.3	8	4.7	18	11.8	13	10.3

[1] Multiple responses possible

Table C3: Who respondents interacted with on FB Messenger, Pinterest, Discord, Twitter, and Reddit

	FB Messenger[1] (N=441)		Pinterest[1] (N=221)		Discord[1] (N=161)		Twitter[1] (N=146)		Reddit[1] (N=120)	
	n	%	n	%	n	%	n	%		
Friends	353	80.0	38	17.2	135	83.9	32	21.9	7	5.8
Whānau/family	397	90.0	13	5.9	33	20.5	11	7.5	4	3.3
Peers	107	24.3	8	3.6	35	21.7	16	11.0	4	3.3
Groups	74	16.8	24	10.9	30	18.6	31	21.2	28	23.3
Brands	11	2.5	27	12.2	9	5.6	32	21.9	6	5.0
Influencers	12	2.7	58	26.2	18	11.2	90	61.6	14	11.7
Workmates	85	19.3	3	1.4	4	2.5	5	3.4	2	1.7
No one	13	2.9	101	45.7	7	4.3	32	21.9	56	46.7
Other	4	0.9	25	11.3	9	5.6	17	11.6	28	23.3

[1] Multiple responses possible

Table C4: Main reasons for using FB Messenger, Pinterest, Discord, Twitter, and Reddit

	FB Messenger[1] (N=428)		Pinterest[1] (N=213)		Discord[1] (N=154)		Twitter[1] (N=141)		Reddit[1] (N=118)	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Entertainment	56	13.1	108	50.7	48	31.2	69	48.9	59	50.0
Activism	17	4.0	10	4.7	4	2.6	20	14.2	8	6.8
Social Interaction	282	65.9	4	1.9	106	68.8	26	18.4	7	5.9
Finding Information	75	17.5	58	27.2	15	9.7	39	27.7	31	26.3
Receiving Information	133	31.1	26	12.2	25	16.2	35	24.8	26	22.0
Boredom	33	7.7	86	40.4	29	18.8	55	39.0	44	37.3
News	26	6.1	3	1.4	6	3.9	41	29.1	25	21.2
All of these	40	9.3	10	4.7	11	7.1	22	15.6	14	11.9
Other	24	5.6	21	9.9	5	3.2	7	5.0	11	9.3

[1] Multiple responses possible