

COVID-19 Narrowcast Messaging Research Study

Final Report

JULY 2021

PREPARED FOR

Convenience Advertising

PREPARED BY

Dr Shaun Ratcliff

COVID-19 Narrowcast Messaging Research Study

Final Report

Dr Shaun Ratcliff

July 2021

Contents

1 Executive Summary	2
1.1 Key findings	2
2 Introduction	3
2.1 About the author	3
2.2 Background	3
3 Data and methodology	7
3.1 The data	8
3.2 Methodology	8
4 Results	11
4.1 Visitation trends	11
4.2 Average dwell times in facilities	15
4.3 Campaign recall	18
4.4 The audience understanding of the messaging	26
4.5 Messaging effects	28
5 Conclusion and recommendations	33
5.1 Recommendation 1	33
5.2 Recommendation 2	33
5.3 Recommendation 3	33
5.4 Conclusion	34
6 References	35
7 Appendix: Survey Questions	36

1 Executive Summary

The aim of this report is to identify COVID-19 message impact on audiences in female, male and parent bathrooms over 10 sites. Using a targeted survey of groups that are traditionally difficult to reach — younger, less affluent respondents who speak a language other than English at home — it measures prompted and unprompted recall of surveyed respondents and gauges levels of usefulness, understanding and relevance of campaign placement in the bathroom environment by Convenience Advertising on behalf of the Department of Premier and Cabinet in Victoria and the Commonwealth Government in shopping centres across Australia.

1.1 Key findings

- There was a high recall and message uptake from both campaigns in bathrooms across the 10 sites where interviews took place.
- 52 per cent of respondents said they were able to recall an advertisement on the walls or anywhere else in the room when they were in a bathroom or parent room in the venue (figure 12).
- Of those who said they saw an advertisement, 89 per cent were able to recall the content of these advertisements or messages without any prompt, and 67 per cent recalled seeing advertisements with a message about COVID-19 or related safety and hygiene measures (figure 13); with the other 22 per cent recalling a message other than those contained in the COVID-19 campaigns.
- Among respondents who reported seeing the bathroom and parent room advertisements, men were more likely to recall COVID-19 ads than women (71 versus 63 per cent), but were also more likely to say they did not know what the messages contained (16 compared with 11 per cent). They were less likely to recall other messages not connected with COVID-19 (figure 15).
- There was little difference in unprompted recall between respondents who spoke only English and those who spoke a language other than English at home. Part of the reason may have been that the Victorian campaign (run in 5 of the centres) featured advertisements in languages other than English, with 48 per cent of respondents who reported speaking a language other than English at home being able to recall seeing an advertisement in a language they spoke, other than English (figure 15).
- Controlling for respondents' demographic backgrounds, an additional 5 minutes of average self-reported dwell time in these facilities was associated with an approximately 10 per cent increased probability of recalling the COVID-19 messaging unprompted (figure 17).
- 94 per cent of respondents understood the messaging related to COVID-19 (figure 19). Just 2 per cent interpreted the messaging they were shown to have some form of other (non-COVID-19) information, and another 5 per cent did not understand the advertising at all (due to rounding these percentages do not sum exactly to 100).
- 48 per cent of respondents reported that they changed their behaviour in regard to hand hygiene, mask-wearing or social distancing (figure 22).

2 Introduction

Convenience Advertising (CA) delivers place-based public health and behaviour change messaging in over 3,000 public bathroom environments across Australia. Since 2020, CA has undertaken four narrowcast COVID-19 messaging campaigns. This study focuses on two of these:

1. A campaign for the Victorian Department of Premier and Cabinet (DPC), targeting audiences in female, male and parent public bathrooms at 431 points across 34 shopping centres in metropolitan Melbourne. A4 posters provide visual and written messaging in a number of different languages to encourage behaviours such as face mask wearing, hand washing, social distancing and COVID-19 testing (figure 1). The campaign commenced on 7 February 2021 and remains in situ.
2. A Commonwealth Government campaign, run in 109 metropolitan and regional female, male and parent public bathroom venues across Australia. Static CaptiVision advertisements provide written messaging in Australian English to stay COVID-19 safe through physical distancing, good hygiene, isolating and testing if symptomatic and downloading the COVID-safe app (figure 2). The campaign began on 1 April 2020 and was originally intended to run until July 2020. However, the messaging campaign has been extended by CA free of charge as the COVID-19 health crisis continues.

For both campaigns, messages were located on the backs of cubical doors, above hand dryers, and at the entry and exit ways to the bathrooms and parent rooms. These placements were selected by CA to enhance the narrowcasting message, providing multiple points of contact during the time audiences spent in these facilities.

This report examines the impact of these COVID-19 messaging campaigns on audiences in 10 shopping centres across New South Wales (NSW), Victoria (VIC) and Queensland (QLD)¹. It involves a targeted survey of groups that are traditionally difficult to reach: generally younger, less affluent and culturally and linguistically diverse (CALD) audiences. Using the data generated from this survey, unprompted and prompted recall of the messaging from these campaigns is measured.

2.1 About the author

Dr Shaun Ratcliff is a quantitative political scientist at the United States Studies Centre at the University of Sydney and provides private consulting services for a range of clients. He has extensive experience coordinating large survey projects and analysing survey data. His research on how people respond to communications, their attitudes and trust in sources of information on health issues has been published in Australian and international journals, and popular media. He is currently working with colleagues at La Trobe and the University of Melbourne on citizens' attitudes toward COVID-19 and government responses to the pandemic in the United States and Australia.

2.2 Background

COVID-19 is a new disease of the coronavirus family, which causes respiratory illness that can range from mild to very severe. The first reported case of COVID-19 was in December 2019, and it was declared a global pandemic by the World Health Organisation on 11 March 2020. The virus is communicable, and can be spread from the infected person through close contact; droplets from coughing and sneezing; or touching objects that contain infected droplets then touching the mouth and face. To limit the spread of COVID-19, the Australian Department of Health recommends practicing good hygiene, social distancing, mask wearing, and getting a COVID-19 test when showing any sign of cold or flu symptoms, physically isolating from others until a negative result is received (Australian Government Department of Health 2021a).

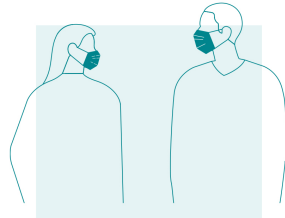
¹See table 1 below.

DOING THE RIGHT THING
 KEEPS US ON TOP OF
 CORONAVIRUS

ਸਹੀ ਚੀਜ਼ ਕਰਦੇ ਰਹਿਣਾ ਸਾਨੂੰ ਕੋਰੋਨਾਵਾਇਰਸ ਤੋਂ ਬਚਾਅ ਕੇ ਰੱਖਦਾ ਹੈ

حجرتا لے صحیح کر سوندا، حجتا کرنا
 كوروناس وائرس نه كابلدا

ਫੇਸਮਾਸਕਾਂ ਨੂੰ ਅਨੁਮਾਨਿਤ ਖਰੀਦ ਕੇਂਦਰਾਂ ਵਿੱਚ ਵੀ ਪਹਿਨਣਾ ਜ਼ਰੂਰੀ ਹੈ



Face masks must be worn inside shopping centres

ਖਰੀਦਾਰੀ ਕੇਂਦਰਾਂ ਅੰਦਰ ਚਿਹਰੇ ਵਾਲੇ ਮਾਸਕ ਪਹਿਨਣੇ ਲਾਜ਼ਮੀ ਹਨ

مونت كوروناس وائرس نه كابلدا، حجتا لے صحیح کر سوندا

ਸ਼ਾਪਿੰਗ ਸੈਂਟਰਾਂ ਵਿੱਚ ਵੀ ਫੇਸਮਾਸਕਾਂ ਪਹਿਨਣਾ ਜ਼ਰੂਰੀ ਹੈ

STAY SAFE
 STAY OPEN

Go to coronavirus.vic.gov.au/translations

Authorised by the Victorian Government, Melbourne



Figure 1: Example of Convenience Advertising Victorian Department of Premier and Cabinet COVID-19 CALD campaign ad (in English, Vietnamese and Punjabi).



Australian Government

OFFICIAL MEDICAL ADVICE

Don't risk it. Always follow the health advice.



It's up to all of us to keep each other safe. You must continue to practise good hygiene, physical distancing, and if you're even slightly unwell, get tested and stay at home. Don't risk it.

The sooner we **all do it,**
the sooner **we'll get through it.**



Have the App
Visit australia.gov.au

Authorised by the Australian Government, Canberra

Figure 2: Example of Convenience Advertising Commonwealth COVID-19 campaign ad.

The narrowcast messaging campaigns aim to raise awareness about COVID-19 safe behaviours and testing using a social marketing approach. This is a framework that applies commercial marketing principles with behavioural interventions informed by psychology, sociology, anthropology and communications theory (Kotler and Zaltman 1971). Groups within a population are targeted by campaigns designed to deliver behavioural or attitudinal responses that support improved public health and wellbeing outcomes (French 2017).

Social marketing has been recognised in public health as a valuable tool for addressing key social and health challenges. It has been successfully trialled in a variety of health interventions ranging from encouraging people to increase physical exercise, improve their diet, to changing behaviours around alcohol and tobacco misuse. Reviews of these interventions in the United Kingdom found that social marketing can be effective across a range of target populations including youth, adult, minority and disadvantaged groups in schools, workplaces, churches, supermarkets and media-based settings, with both narrow and broad focused campaigns providing a “very promising health behaviour intervention approach” (Gordon et al. 2006).

Supporting multicultural communities during COVID-19 has been a priority of the Victorian Government which includes delivering community-specific, in-language health advice at the local level (Australian Government Department of Health 2021b). More than 49 per cent of Victorians indicated they were born overseas or have a parent who was born overseas in the 2016 Census and according to the Victorian Multicultural Commission, there are 2.2 million CALD Victorians and 1.6 million Victorians that speak a language other than English at home (Victorian Multicultural Commission 2020, 4). It was observed that the second wave of COVID-19 infections in Victoria had a disproportionate impact on CALD and migrant communities, with ‘hotspot’ infection areas during the month of June 2020 having a high proportion of CALD residents (Department of Health and Human Services 2020, 2). Consequently, the DPC narrowcast advertising campaign has a key role to play in targeting CALD communities to address these unique challenges.

3 Data and methodology

A targeted sample of 300 visitors to shopping centres in NSW, VIC and QLD is used to measure the impact of the COVID-19 messaging campaigns. These surveys were conducted by CA, and fielded in the centres shown in table 1 between 30 March and 07 May, 2021. Each survey consisted of intercept interviews conducted by university students contracted by CA. Respondents were recruited outside the parent rooms, and female and male bathrooms, at venues where the Victorian or Commonwealth COVID-19 public awareness campaigns were currently running. Each respondent was asked to complete a short, structured questionnaire with a live interviewer, with all results recorded digitally using an iPad. The location of these centres and the respondents interviewed in them are shown in figure 3.

Location of study sites, respondents and neighbourhood language diversity

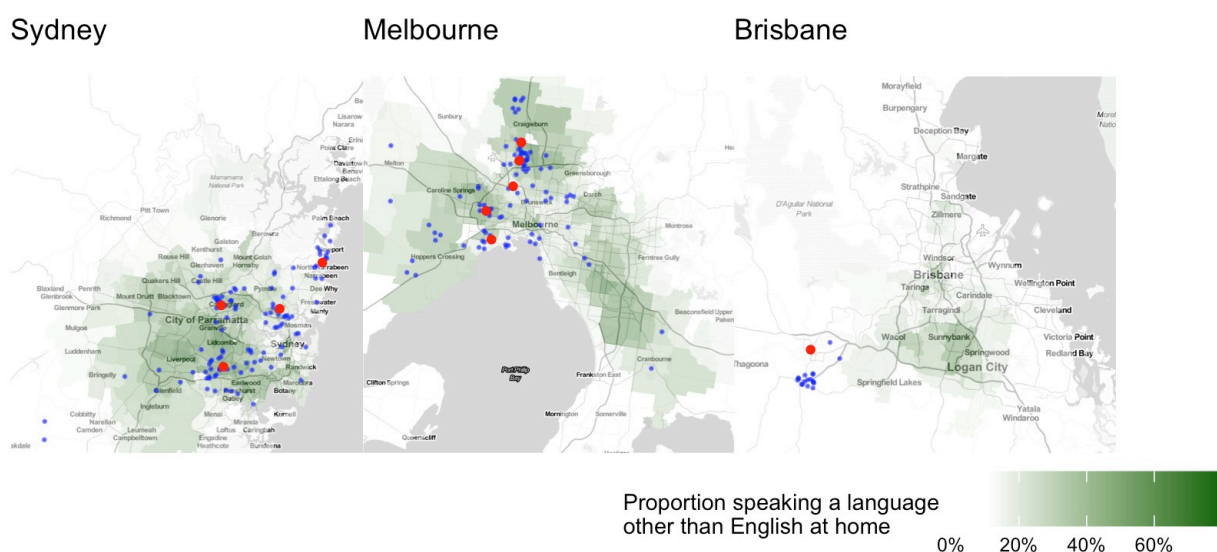


Figure 3: The location of a) study centres, represented by red points; b) respondents, represented by blue points; and c) the green shaded areas illustrate the proportion of the population that speaks a language other than English at home, by postcode (sourced from the 2016 Australian Census).

Table 1: CENTRES COVERED BY EVALUATION SURVEY

Venue	Sample size (N)	Advertising campaign
Broadmeadows	65	Victorian campaign
Sunshine Market Place	43	Victorian campaign
Bankstown Square	41	Commonwealth campaign
Altona Gate	32	Victorian campaign
Riverlink QLD	31	Commonwealth campaign
Chatswood Chase	30	Commonwealth campaign
Carlingford Court	28	Commonwealth campaign
Warriewood Square	20	Commonwealth campaign
Roxburgh Park	4	Victorian campaign
DFO Essendon	4	Both campaigns

^a Sites surveyed for the evaluation of the CA advertising campaigns, including the sample size for each centre and the campaign to which it belonged.

The survey covered 5 centres where CA was providing messaging for the Commonwealth COVID-19 awareness campaign, 4 centres that contained advertisements from the Victorian campaign, and 1 centre that included both (DFO Essendon).

The survey measured unprompted and prompted recall of the Commonwealth and Victorian COVID-19 campaigns and audience understanding of the messaging. It also asked respondents about their demographic characteristics, including gender, language spoken at home, age and household income, by venue. It questioned visitation trends to the centre where the survey was conducted, including the frequency of visits and the most common days and times that respondents visited the centre; and average dwell time in parent rooms and bathrooms.²

3.1 The data

The centres surveyed for this study are highly diverse. To ensure that the Victorian campaign was able to reach the CALD population that it targeted, the 5 Victorian sites were all in parts of the Melbourne metropolitan area where a high proportion of the population spoke a language other than English at home (illustrated by the postcodes shaded dark green in figure 3). This includes 9 centres that over-represent linguistically diverse populations, youth and lower income households. Respondents who speak a language other than English were over-represented at 9 of the 10 centres, women were over-represented at 8, respondents aged over 44 at 6 and respondents with household incomes less than \$60,000 at all 10 centres (figure 4). Two of the 4 centres in Sydney (Carlingford Court and Bankstown Square) were also in diverse parts of Sydney. This also ensures the Commonwealth campaign was able to reach a variety of diverse populations.

The use of facilities at venues where the campaigns are being evaluated are high across all, with some variation (figure 5). Half or more of respondents from all 10 venues reported using either the centre bathrooms or parent rooms at least once per visit. A significant number of these also reported uses of longer durations, with those at 8 of the 10 centres reporting the average duration of their facilities use being for five or more minutes, potentially increasing their exposure to the campaign messaging.

Due to the targeted nature of this study, the overall sample is generally younger, has a higher proportion of respondents who speak a language other than English at home and generally lower household incomes (see table 2). Across the sample as a whole, 43 per cent of respondents were aged over 44, compared to 52 per cent of adults (aged 18 and older) in the 2016 Australian Census. Of the respondents surveyed, 48 per cent spoke a language other than English at home, compared to 23 per cent of Australian adults. Conversely, 58 per cent were women, compared to 51 per cent of the Australian adult population, and 60 per cent reported their household income to be less than \$60,000 per year,³ compared to less than 30 per cent for the general public.

3.2 Methodology

These data are examined using the statistical software package *R*,⁴ to study the ability of respondents to recall the messaging from these two campaigns.

Descriptive statistics are used to examine visitation trends and dwell times in bathroom and parent room facilities, including the frequency of visitation, and the days and times respondents visit the centres covered in this report. The average dwell times in parent and bathrooms are also analysed. Finally, unprompted and prompted recall of the messages of these public health campaigns are tested, as are respondents' understanding of the messages communicated in these advertisements. These are examined with demographic breakdowns to study differences in visitation rates and recall by gender, language spoken at home, age and household income.

²The full questionnaire is available in the Appendix.

³This excludes the 55 per cent of respondents who did not report their household income.

⁴See <https://www.r-project.org/> for details.

Demographic features of sampled centres

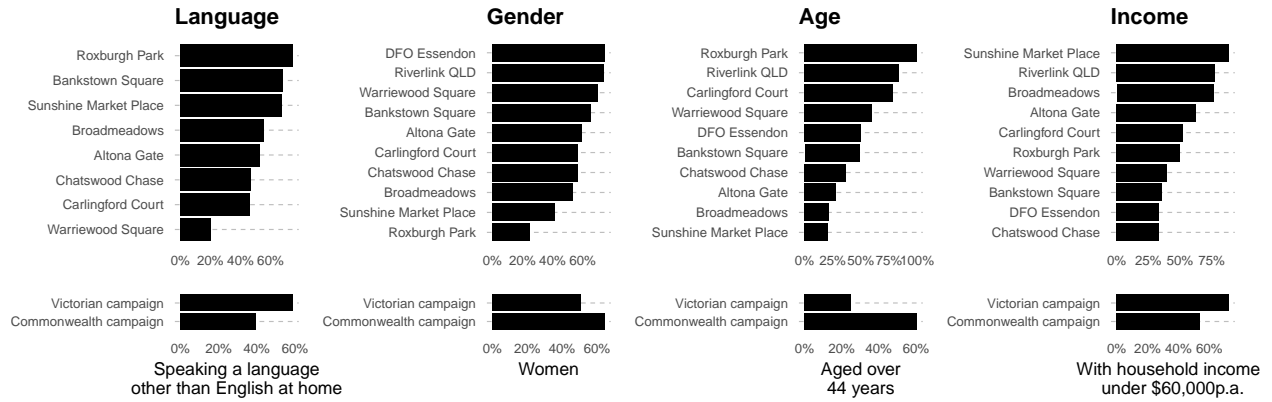


Figure 4: The demographic features of the shopping centres sampled for evaluation.

Facility use at sampled centres

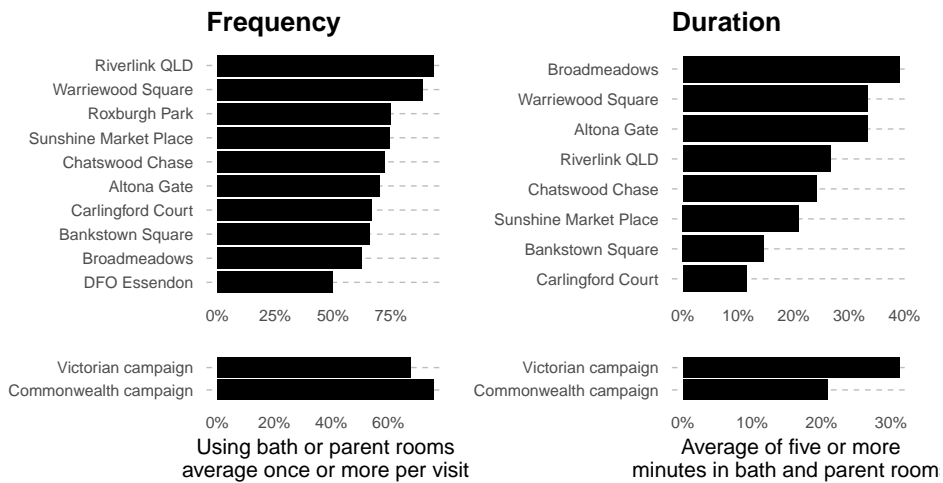


Figure 5: Facility use at the shopping centres sampled for evaluation.

Table 2: DEMOGRAPHIC CHARACTERISTICS OF STUDY RESPONDENTS

	N	Percentage
Language		
English only	156	0.52
Other languages	144	0.48
Gender		
Men	127	0.42
Women	173	0.58
Age		
18-24	65	0.22
25-34	53	0.18
35-44	52	0.17
45-54	38	0.13
55-64	44	0.15
Income		
65+	48	0.16
< \$30,000	42	0.14
\$30-60,000	39	0.13
\$60-90,000	28	0.09
\$90-120,000	15	0.05
> \$120,000	12	0.04
Not supplied	164	0.55

To examine the role possible exposure has on the ability of respondents to recall COVID-19 messages from these campaigns without prompts, a logistic regression model was also fit to these data. This model estimated the likelihood for unprompted recall of messaging specifically related to COVID-19 by respondents as a function of the average time they reported spending in the bathrooms or parent rooms of the venue at which they were surveyed.⁵

⁵Controlling for their demographic characteristics, the venue they were interviewed at and their frequency of attending the venue.

4 Results

4.1 Visitation trends

Using the data on visitations to the bathroom and parent room facilities, including the frequency of visitations, dwell times and the days and times respondents visit the centres being examined, a number of trends can be identified.

Overall, the vast majority of respondents on average use either the parent or bathrooms in the venue at least once per visit (figure 6). Just 8 per cent say they never use these facilities on an average visit to the centre, while just over half say they use them once, and 23 per cent more than once each time they visit the centre.

This is also broken down by respondent demographics: language spoken at home, gender, age and household income (figure 7); and also days and times of centre visits (figure 8).

Facility use was slightly less common between 9am and 9pm than early in the morning and later at night, but overall there was little variation in facility use by times and days respondents were most likely to visit the centres covered in this report.

Respondents who reported speaking only English at home were slightly more likely to visit the bathrooms or parent rooms more than once (25 per cent) or at least once per visit to the centre (53 per cent) than those who said they spoke a language other than English at home (of whom 20 per cent said they visited more than once and 45 per cent once per visit), and less likely to say they never used these facilities (6 per cent of those who speak only English compared with 45 per cent of those who speak another language at home).

It was found that 21 per cent of men reported using the bathroom or parent rooms on average more than once each time they visited the centre, and another 48 per cent at least once per visit. Just 7 per cent said they never did. Conversely, 24 per cent of women said they used these facilities more than once per visit to the centre, 50 per cent at least once per visit and 8 per cent never used these facilities.

There were no clear patterns between reported household income and facility use, but there was with age. Older respondents were more likely to use these facilities more frequently, with 26 per cent of those aged 65 and older reporting that they used the bathrooms or parent rooms more than once each time they visited the surveyed centres, compared to 12 per cent of respondents aged 18-24. Conversely, 4 per cent of respondents 65 and older said they never used these facilities, versus 14 per cent for those 18-24.

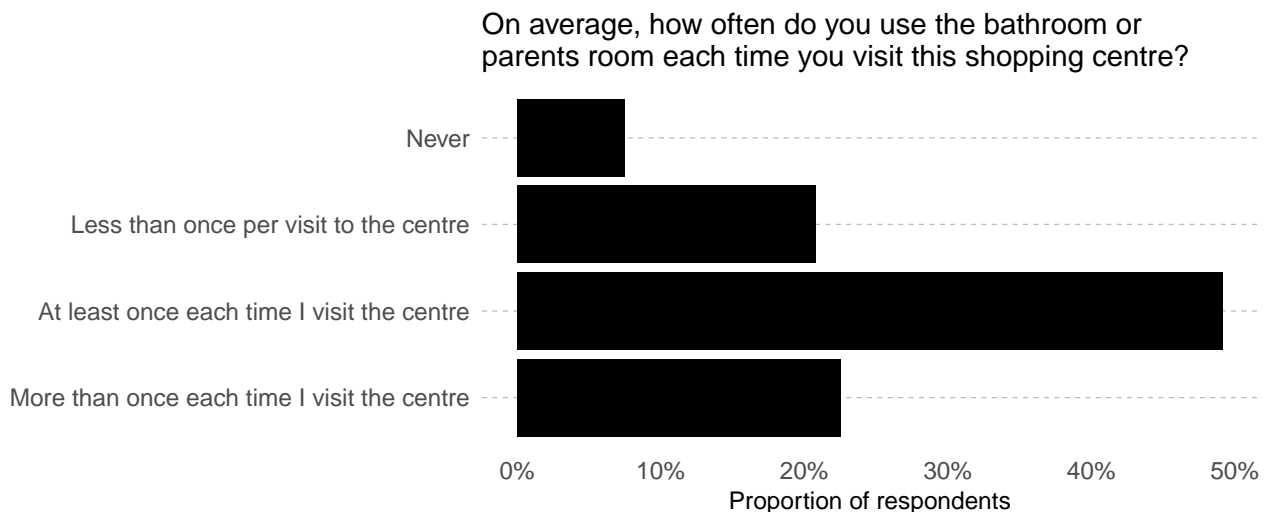


Figure 6: Frequency of bathroom and parent room visits.

Table 3: MOST FREQUENT DAYS AND TIMES OF CENTRE VISITS

	N	Percentage
Days		
Sunday	85	28.33
Monday	141	47.00
Tuesday	151	50.33
Wednesday	167	55.67
Thursday	168	56.00
Friday	152	50.67
Saturday	108	36.00
Times		
6am to 9am	32	10.67
9am to 12pm	180	60.00
12pm to 3pm	165	55.00
3pm to 6pm	81	27.00
6pm to 9pm	13	4.33
9pm to 12am	1	0.33

^a Respondents were able to nominate multiple days and times. Therefore, some are counted more than once and values sum to more than 100 per cent.

On average, how often do you use the bathroom or parents room each time you visit this shopping centre?

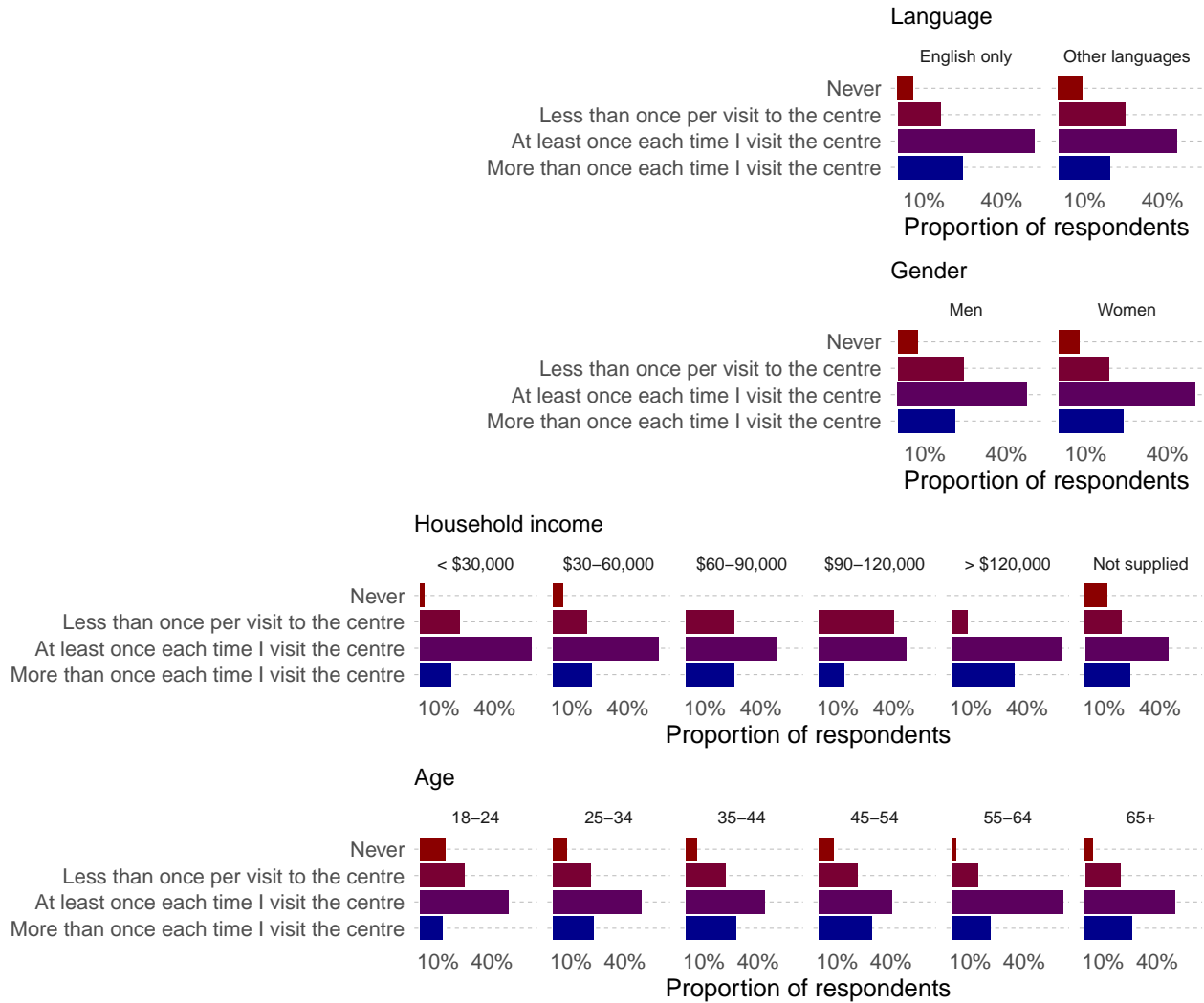


Figure 7: Frequency of bathroom and parent room visits by respondent demographic characteristics.

Frequency of visiting bathrooms or parents room by most common days and times of visit

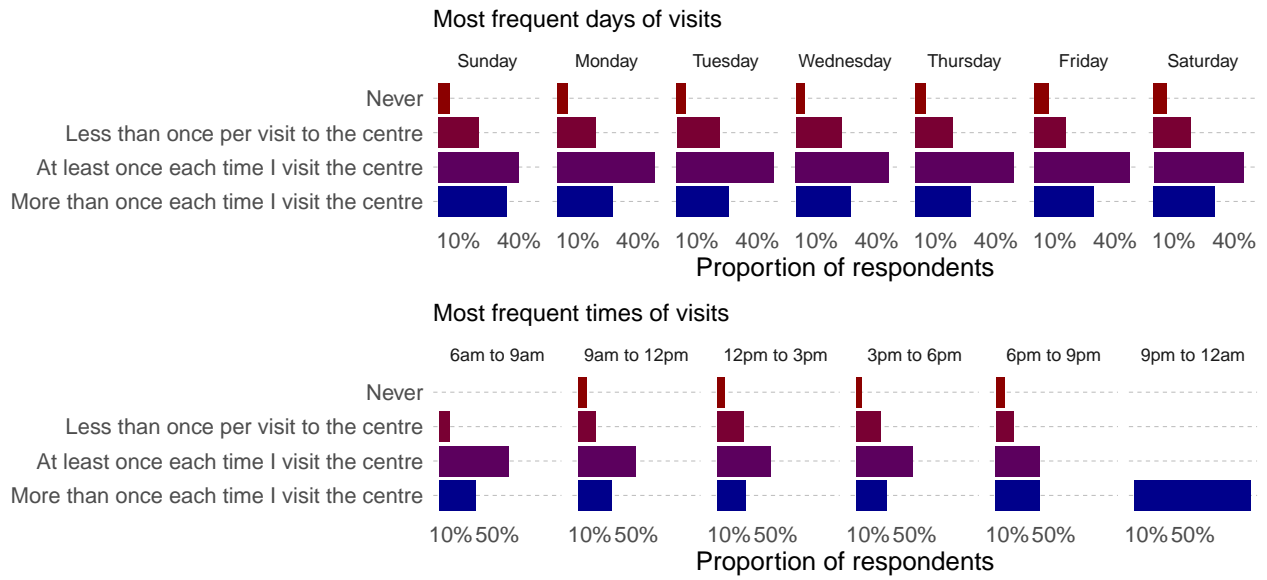


Figure 8: Frequency of bathroom and parent room visits by days and times respondents say they most often visit the shopping centre in which they were interviewed. Respondents were able to nominate multiple days and times, and therefore some are counted more than once.

4.2 Average dwell times in facilities

While most respondents spend less than five minutes in the bathroom or parent room, more than a quarter of those who use these facilities spent five or more minutes in them (24 per cent 5-10 minutes, 2 per cent more than 10 minutes; see figure 9).

There was little difference in dwell times based on language spoken at home and respondents' age (figure 10). There was less variation by day of centre visits, and few clear patterns in dwell time by time of day that respondents usually visit (possible shorter times before 6pm, but these patterns are not strong; see figure 11). However, there was heterogeneity in facility dwell time by gender and household income (figure 10).

Men were considerably more likely than women to say they spend less than five minutes using bath and parent rooms (85 per cent for the former, 66 per cent for the latter), while women more likely to say they spend between 5 and 10 minutes using these facilities (31 per cent of women versus 15 per cent of men).

The relationship between income and dwell times were non-monotonic. Respondents who reported the highest and lowest household incomes were more likely to say they spent more time using these facilities compared to those with incomes in the middle. For example, 27 and 42 per cent respectively of those with annual household incomes of less than \$30,000 and more than \$120,000 said they spent 5 to 10 minutes using these facilities, compared with 19 per cent of those earning \$60,000 to \$90,000 (the middle group).

Conversely, just 81 per cent of respondents in households with incomes between \$60,000 and \$90,000 spent less than 5 minutes in these facilities versus 73 and 58 per cent of those with household incomes below \$30,000 and above \$120,000, respectively.

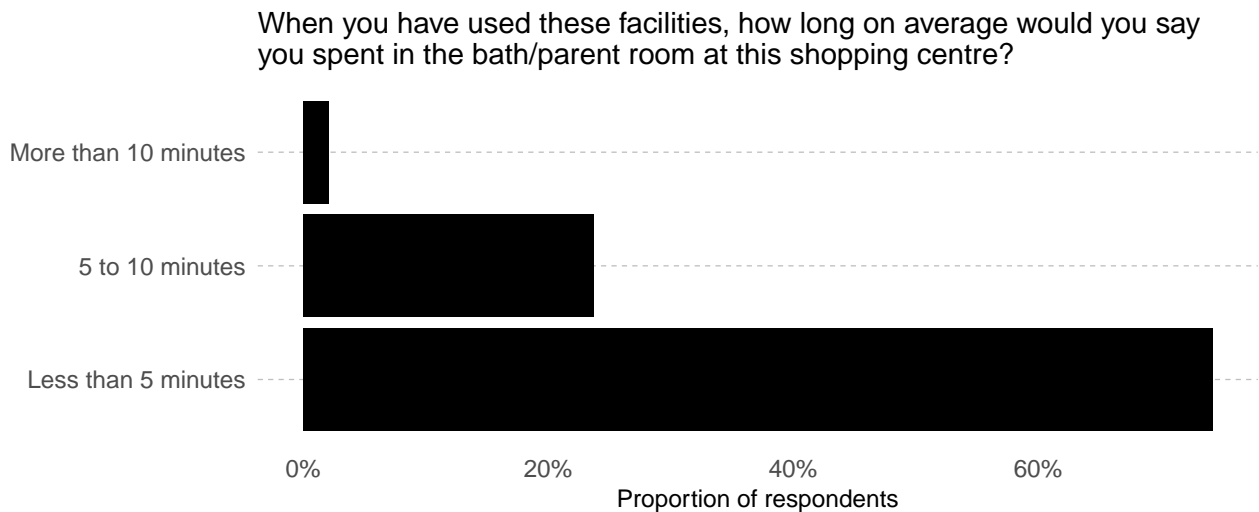


Figure 9: Average dwell time during bathroom and parent room visits.

Dwell times in bathrooms or parent rooms by demographics

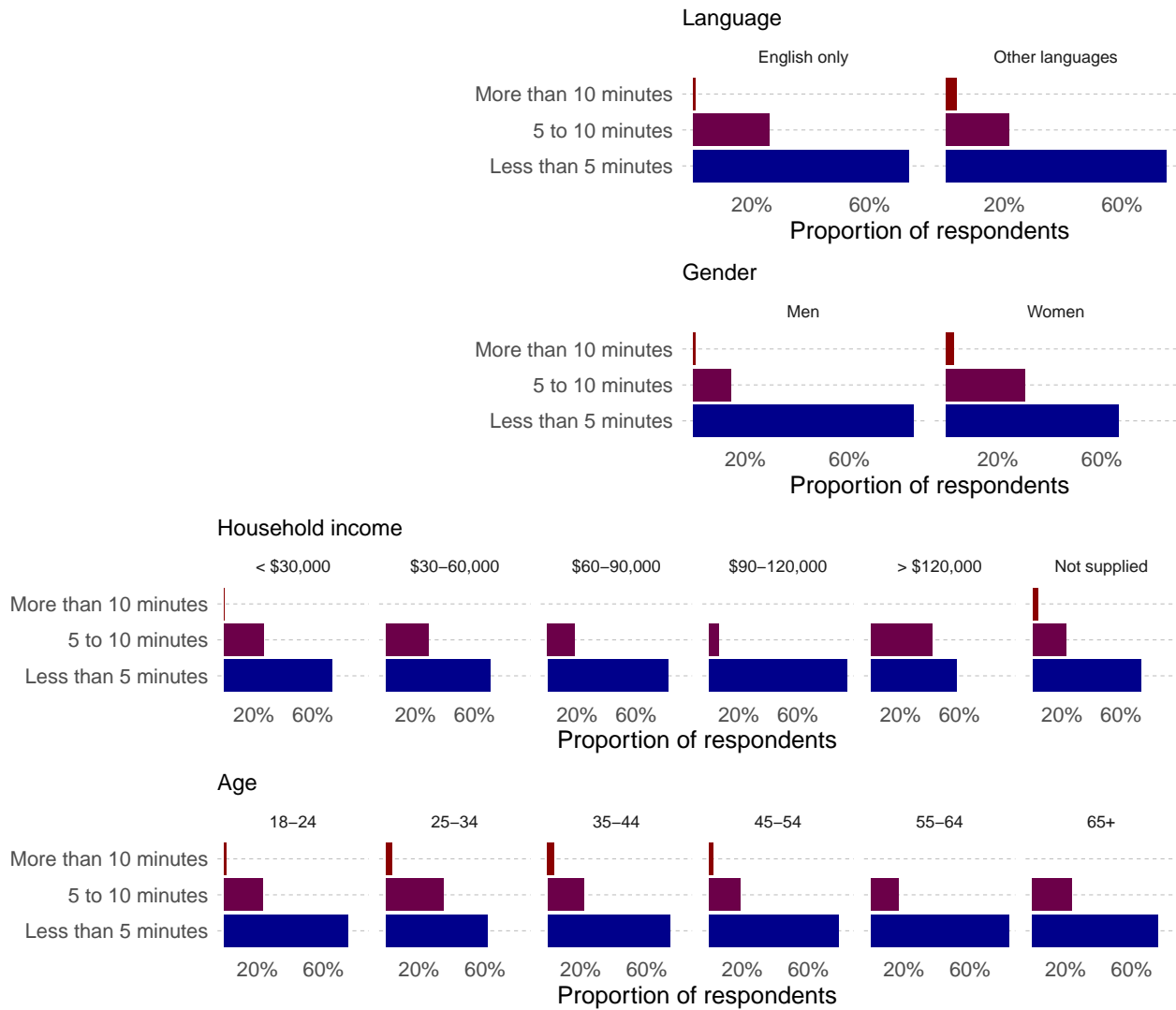


Figure 10: Average dwell time during bathroom and parent room visits by respondent demographic characteristics.

Dwell times in bathrooms or parent rooms by most common days and times of visit

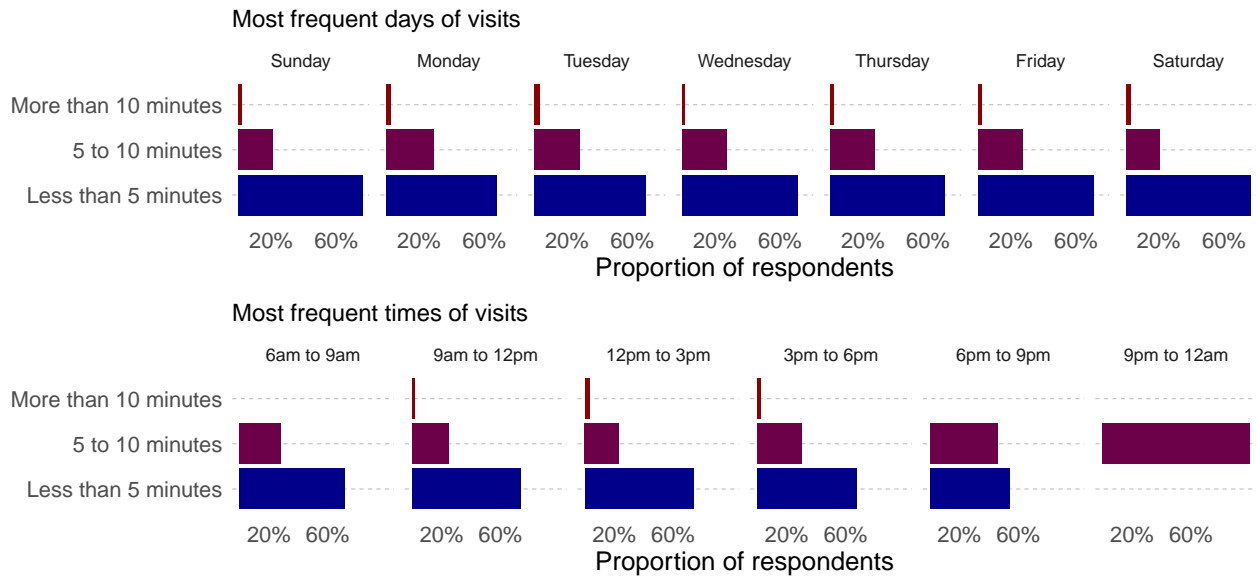


Figure 11: Average dwell time of bathroom and parent room visits by days and times respondents say they most often visit the shopping centre in which they were interviewed. Respondents were able to nominate multiple days and times, and therefore some are counted more than once.

4.3 Campaign recall

Overall, 52 per cent of respondents said they were able to recall an advertisement on the walls or anywhere else in the room when they were in a bathroom or parent rooms in the venue (figure 12). Those respondents who reported seeing an advertisement were asked to recall the content of the ads or messages without any prompt. If they recalled seeing more than one, they were provided the opportunity to do this for two different ads. Responses were unconstrained and recorded as free text. These responses were coded as being related to the campaign material if they included contents from the campaign material, including directly mentioning COVID-19 or coronavirus, mask wearing, social distancing, being tested for COVID-19, or hygiene related matters (most frequently hand washing). Any other response was coded 'Other,' and those who did not answer or could not provide a substantive response were categorised as 'Do not know.' Of those who said they saw an advertisement, 89 per cent were able to recall the content of these advertisements or messages without any prompt and 67 per cent recalled seeing advertisements with a message about COVID-19 or related safety and hygiene measures (figure 13).

Respondents were also asked whether the advertising they saw in the bathrooms and parent rooms were digital or poster advertising, or a combination of both. The answers to this question are shown in figure 14. Respondents who reported seeing both were more likely to recall seeing messaging related to COVID-19 unprompted (85 per cent), while those who said they saw either a poster or a digital advertising had lower (but still high) rates of unprompted recall (78 and 67 per cent respectively).

There was some demographic variance in these results. This is shown in figure 15.

Of those respondents who reported seeing the bathroom and parent room advertisements, men were more likely to recall COVID-19 ads than women (71 versus 63 per cent), but also more likely to say they did not know (16 compared with 11 per cent). They were less likely to identify other messages not connected with COVID-19, though.

Higher income respondents were more likely to recall COVID-19 messaging (100 percent for those with household incomes above \$120,000). Those who did not report their income were least likely to be able to do so (88 per cent for those on less than \$30,000). Those who did not provide their income were the most likely to not be able to identify the messages of the advertisements they had seen (22 per cent).

Older respondents were more likely to recall COVID-19 messaging than younger respondents, with 89 per cent of respondents aged 65 and older identifying the message in the advertisements they saw as being about COVID-19, and just 11 per cent could not identify the ads at all. Conversely, 59 per cent of those aged 18 to 24 were able to make this observation, while 19 per cent said they did not know.

Significantly, there was little difference between respondents who spoke only English and those who spoke a language other than English at home. Part of the reason for this may have been that in many of the Victorian centres, the Victorian DPC campaign featured advertisements in languages other than English, including Vietnamese, Tagalog, Punjabi, Assyrian and Amharic, with 48 per cent of respondents who reported speaking a language other than English at home being able to recall seeing an advertisement in a language they spoke, other than English.

There was high unprompted recall rates for both the Victorian and Commonwealth campaigns (figure 16). At sites covered by the Commonwealth COVID-19 campaign, 43 per cent of respondents recalled seeing an advertisement in one of the venues' bathrooms or parent rooms. Of those who saw an ad or message, 98 per cent said they could recall its message, with 82 per cent recalling a message about COVID-19 without prompt. At centres covered by the Victorian campaign, 61 per cent of respondents recalled a bathroom or parent room advertisement or message. Of these, 82 per cent could recall the message of the ad they saw, with 56 per cent able to provide an unprompted recall of a message related to COVID-19.

When you were in the bathroom at this centre, did you see any ads on the walls or anywhere else in the room?

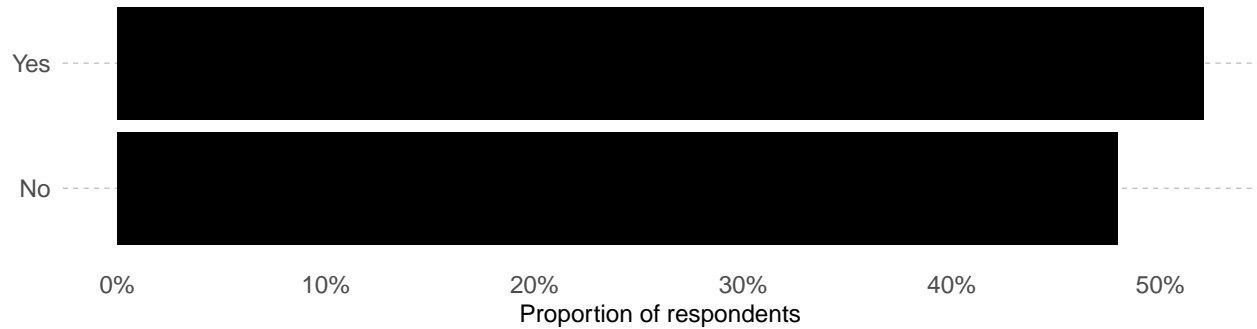


Figure 12: Proportion of respondents who said they saw ads on the bathroom or parent room walls.

Can you tell me briefly what the ad was about?

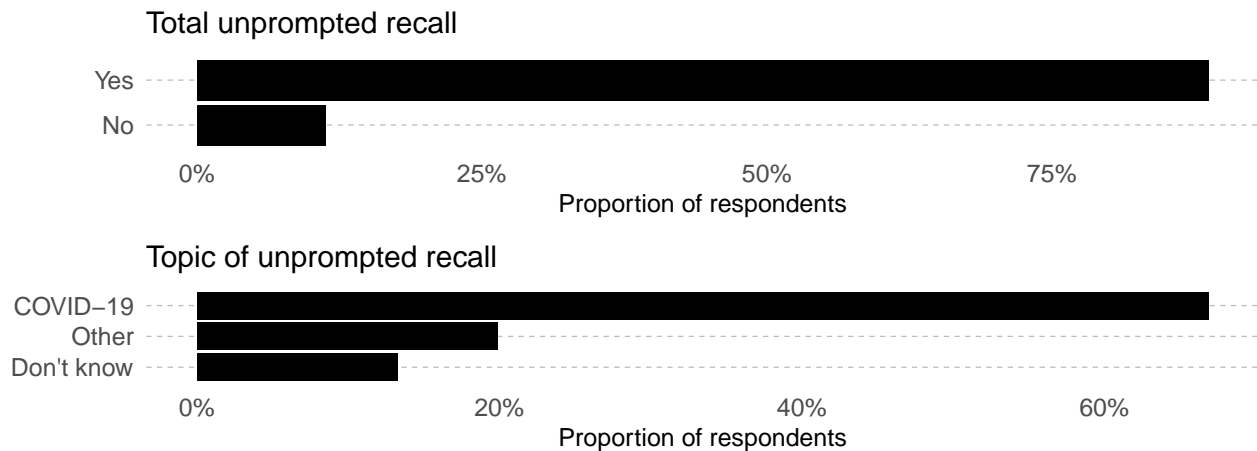


Figure 13: Unprompted recall of bathroom and parent room advertising. Each plot shows what proportion of respondents who said they saw advertising in centre bathrooms or parent rooms could recall the content of these advertisements or messages. Those respondents coded as answering COVID-19 answered with either some combination of covid, coronavirus, or covid-safe measures, including social distancing, hand washing and mask-wearing.

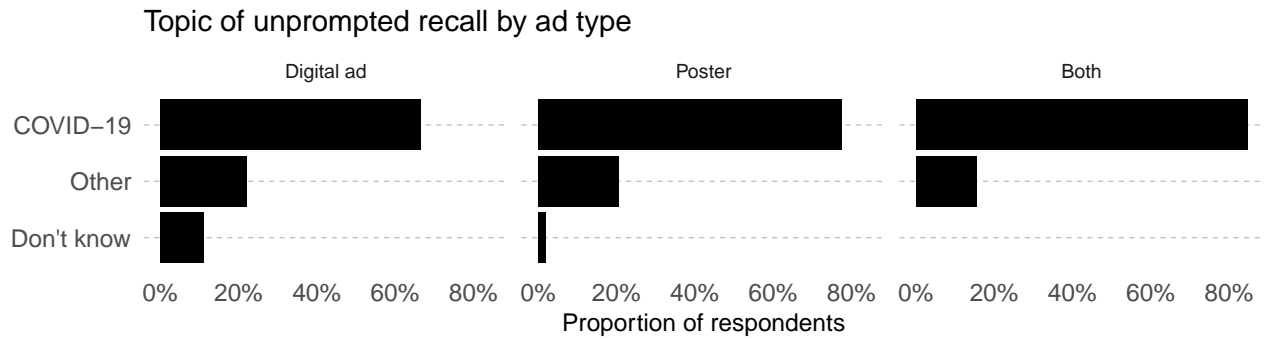


Figure 14: Topic of unprompted recall of bathroom and parent room advertising by advertisement type. Results are the proportion of respondents who said they saw advertising in centre bathrooms or parent rooms. Those respondents coded as answering COVID-19 answered with either some combination of covid, coronavirus, or covid-safe measures, including social distancing, hand washing and mask-wearing.

Can you tell me briefly what the ad was about?

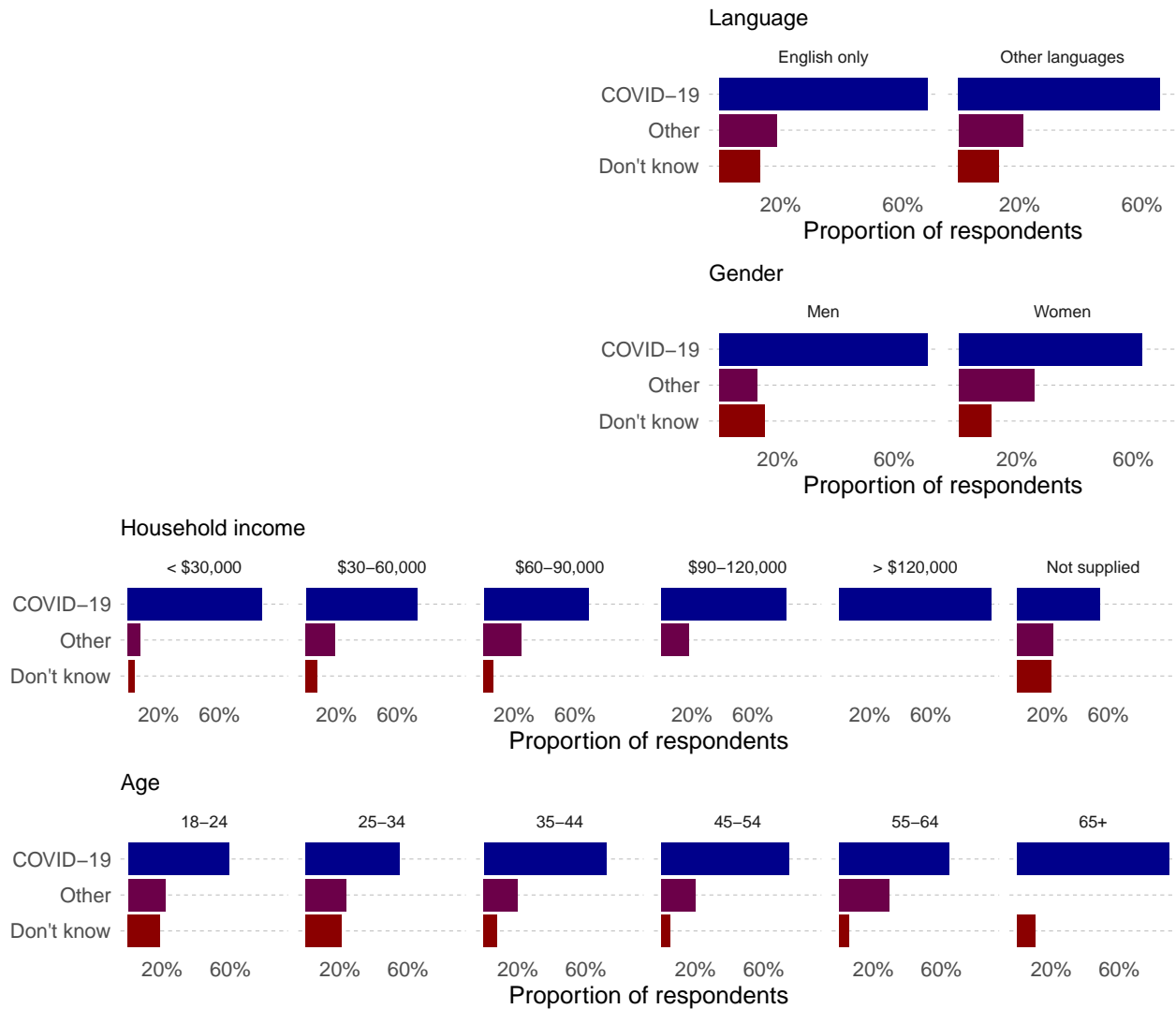


Figure 15: Unprompted recall of bathroom and parent room advertising by respondent demographics. Each plot shows what proportion of respondents who said they saw advertising in centre bathrooms or parent rooms could recall the content of these advertisements or messages. Those respondents coded as answering COVID-19 answered with either some combination of covid, coronavirus, or covid-safe measures, including social distancing, hand washing and mask-wearing.

Observed advertisement and unprompted recall by campaign

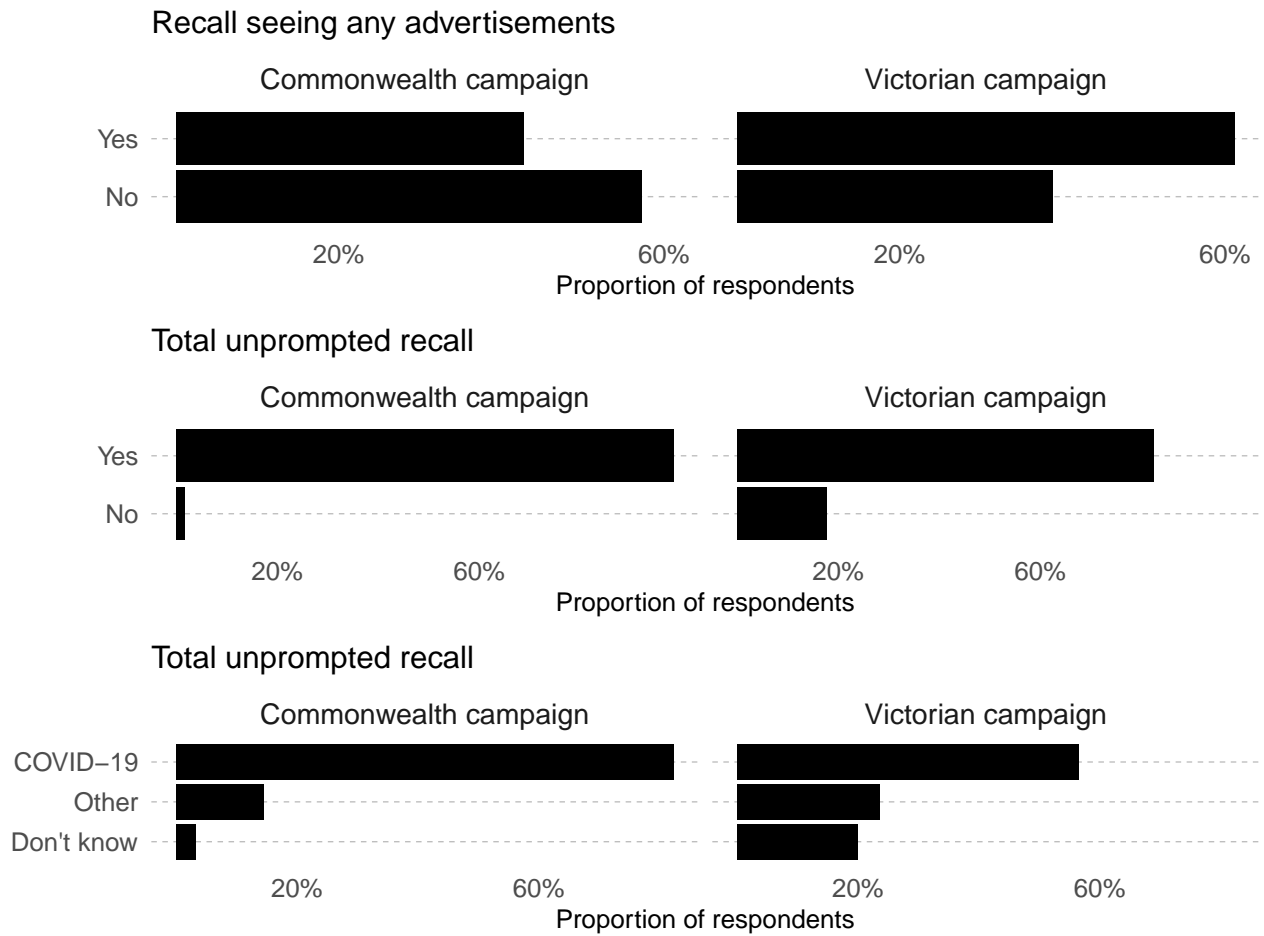


Figure 16: Ability to recall bathroom and parent room advertisements, and unprompted recall of messages, by respondent study site. The second and third rows of the figure show what proportion of respondents who said they saw advertising in centre bathrooms or parent rooms (shown in the first row) could recall the content of these advertisements or messages. Those respondents coded as answering COVID-19 (third row) provided a response that contained either some combination of covid, coronavirus, or covid-safe measures, including social distancing, hand washing and mask-wearing.

Table 4: MODELS ESTIMATING UNPROMPTED RECALL OF COVID-19 MESSAGING

	Estimate	(SE)
Intercept	0.67	0.66
Time in facilities	0.1	0.05
Frequency of visits	-0.2	0.25
Age 25-34	0.26	0.45
Age 35-44	0.39	0.51
Age 45-54	0.44	0.52
Age 55-64	-0.29	0.55
Age 65+	0.53	0.51
Gender Woman	-0.74	0.3
Other languages spoken at home	0.58	0.33
Household income over \$120,000	-2.23	1.21
Household income \$30-60,000	-0.18	0.53
Household income \$60-90,000	-0.38	0.58
Household income \$90-120,000	0.51	0.78
Household income not supplied	-1.46	0.47
Venue Bankstown Square	-0.56	0.55
Venue Broadmeadows	-0.8	0.5
Venue Carlingford Court	-2.36	0.75
Venue Chatswood Chase	-1.24	0.65
Venue DFO Essendon	-0.13	1.16
Venue Riverlink QLD	-0.1	0.65
Venue Roxburgh Park	-0.72	1.24
Venue Sunshine Market Place	-0.95	0.56
Venue Warriewood Square	0.16	0.7
Null deviance	374.04	
Deviance	319.11	

^a Estimating the likelihood for unprompted recall of COVID-19 messaging by respondents as a function of reported average time spent in bathrooms or parent rooms at the centre. The column Estimate contains the model coefficients, (SE) is standard errors. This model incorporates controls for age (baseline, 18-24), gender (baseline, men), language (baseline, English only), household income (baseline, earning less than \$30,000 per year) and the centre in which the interview took place (baseline, Altona).

A regression model was then fit to these data to test whether potential exposure to the messaging influenced recall. The model chosen was a logistic regression predicting the probability that a respondent would – unprompted – recall seeing advertising with messages related to COVID-19 from the bathrooms or parent rooms at the centre in which the survey was run, as a function of the average time they said that they had spent in that venue’s facilities. The results from this model are shown in table 4. The coefficient for ‘time in facilities’ indicates that there is a positive relationship between possible exposure to these ads (provided by spending longer in the facilities). In addition to providing a likelihood of unprompted recall of the COVID-19 messaging in these ads, these models take potentially confounding factors (frequency of visiting the centre, age, gender, language spoken at home, household income and the venue at which the respondent was interviewed) into account, allowing us to ascertain whether the relationship between time in the facilities and recall was robust to differences in the attributes of these respondents.

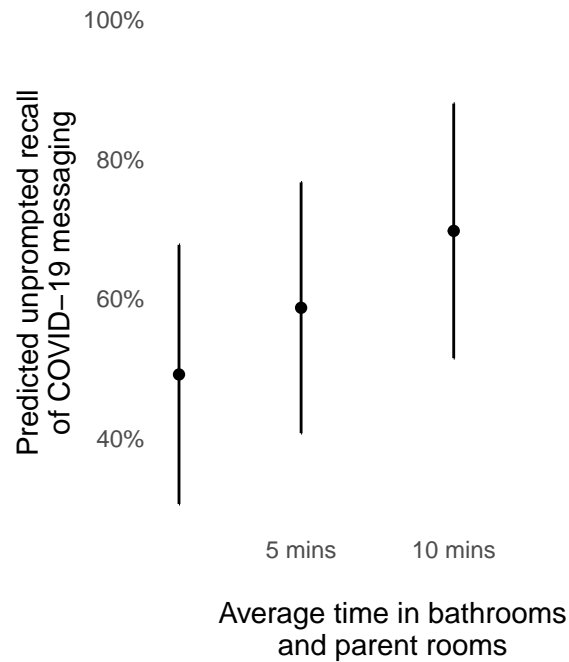


Figure 17: Predicted unprompted recall of COVID-19 messaging as a function of time in bathroom. Points are the predicted probability that a respondent would specifically recall COVID-19 messaging unprompted. Vertical bars are 80 per cent confidence intervals.

To better understand these results, the probability of a respondent recalling the COVID-19 advertising unprompted is predicted as a function of the average reported time spent in the bathrooms and parent rooms of these facilities. This is shown in figure 17. Each point in this plot is the predicted probability of recalling the COVID-19 messaging unprompted having spent 1, 5, 10 and 15 minutes in either the bathroom or parent rooms at the study venue. Vertical bars are 80 per cent confidence intervals.⁶ Comparing a respondent who spent 1 minute in these facilities versus 5 minutes, the predicted probability of messaging recall increased by 10 per cent, from 49 per cent to 59. A 14 minute increase in time spent in the bathrooms and parent rooms of these centres (from 1 minute to 15) was estimated to increase unprompted recall by 30 points, to 79 per cent.

⁶In many studies 95 per cent confidence intervals are standard. However, since the sample size in this study was used, 80 per cent was considered a more reasonable threshold.

Those respondents who could not recall seeing advertisements without prompts were shown a copy of the campaign material posted at that site, and were asked whether they remembered seeing that ad (figure 18). Of those who said they had not seen the ads when first asked, 55 per cent when prompted said they recalled seeing the ad they were shown.

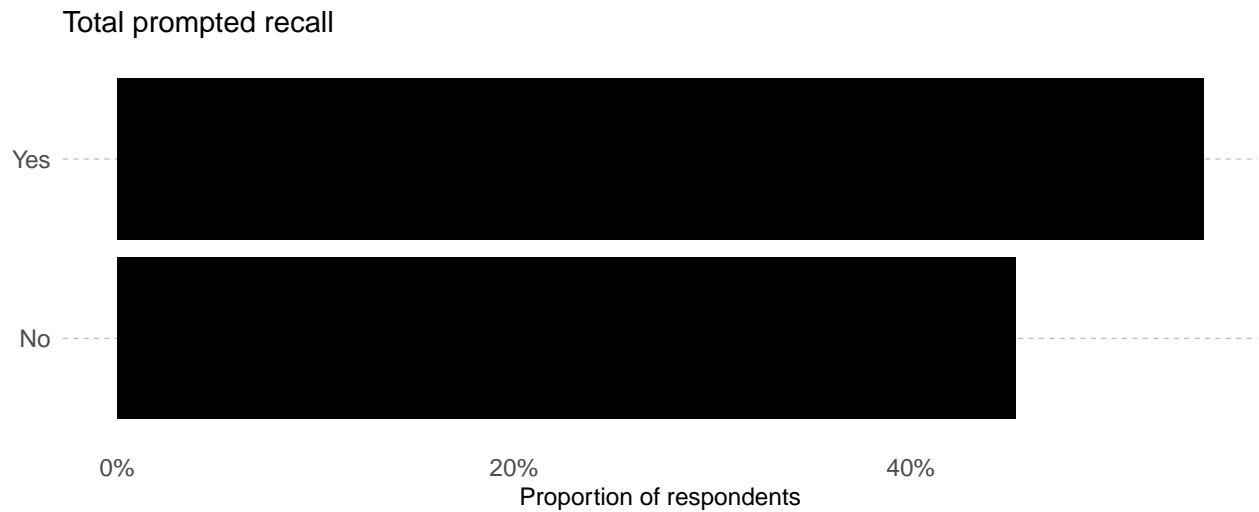


Figure 18: Prompted recall of bathroom and parent room advertising among respondents who could not recall seeing the ad unprompted. These respondents were shown a copy of the ad and asked if they remember seeing it.

4.4 The audience understanding of the messaging

Regardless of whether they recalled seeing the advertising initially, respondents were provided the campaign advertisements displayed in the bathrooms or parent rooms of the venue where they were interviewed, and were asked what they believed the main message in the ad was. Responses were unconstrained and recorded as free text. Three separate categories were used for those respondents who correctly understood the messaging: those who interpreted it to be about 'COVID-19 in general'; those who recognised specific 'COVID-19 related safety measures,' including social distancing, mask wearing and being tested if you have coronavirus symptoms; and hygiene-related interpretations, including hand washing. Those who provided another understanding of this messaging that did not include these interpretations was coded 'Other.' The small number of respondents who either did not answer the question or did not provide a substantive response were coded 'Do not know.'

Based on the data from this question, the vast majority of respondents understood the messaging related to COVID-19: 39 per cent of respondents provided general answers related to COVID-19, 22 per cent interpreted the messaging they were shown as providing some variation of COVID-safe advice (distancing, mask wearing, testing) and 33 per cent mentioned some form of hand washing or hygiene information (see figure 19). Just 2 per cent interpreted the messaging they were shown to have some form of other (non-COVID-19) information, and only 5 per cent did not understand the advertising at all.

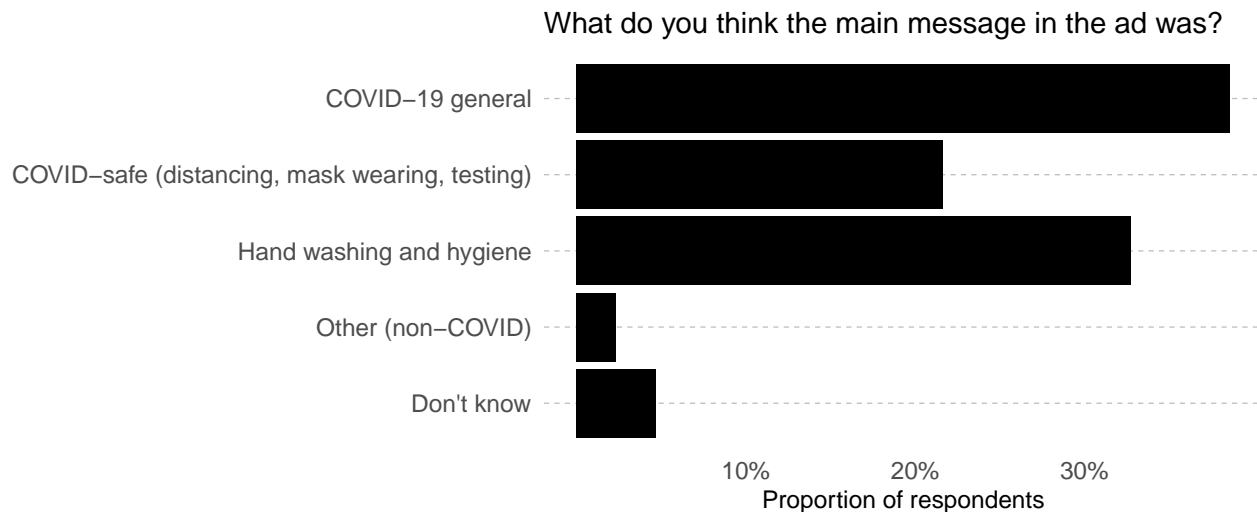


Figure 19: How respondents interpreted the main message of the advertising campaigns.

Examining respondents interviewed in venues that were part of the Commonwealth campaign, 6 per cent said they did not know what the message of the advertising was, and 4 per cent provided an answer other than COVID-19 (see figure 20).

Conversely, respondents surveyed in centres covered by the Victorian campaign, 3 per cent said they did not know what the message of the advertising was, and just 1 per cent provided an answer other than COVID-19.

While there was some demographic variation in the understanding of these messages, this was limited (figure 21). There was little difference between respondents who spoke only English and those who spoke a language other than English at home. Just 5 per cent of both groups were unable to interpret the advertising they were shown, and only 4 per cent of those speaking English provided another (non-coronavirus) interpretation, compared with 1 per cent of respondents who spoke a language other than English at home. Variation was also small along age and gender lines, but there was some indication that lower income respondents were less likely to understand the messages of the advertisements they were shown. Again the rates were very low, though. No respondents with reported annual household incomes over \$60,000 were unable to answer the question (although a substantial number in the highest income group

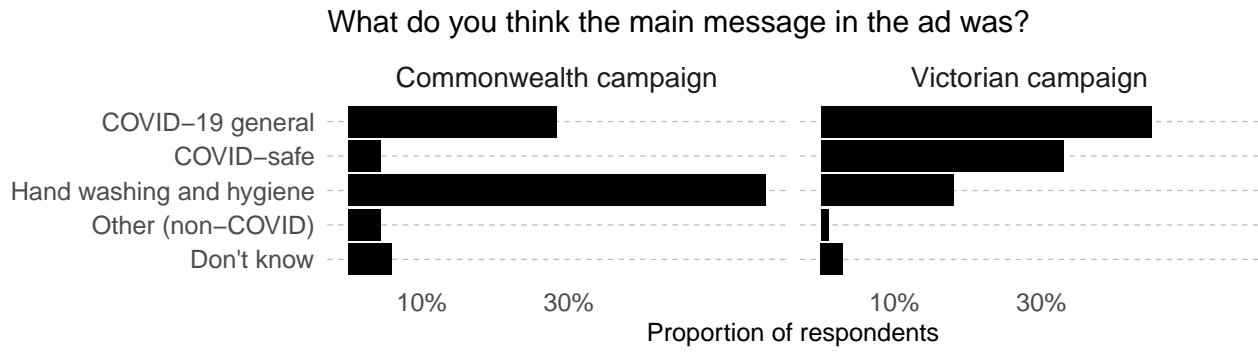


Figure 20: How respondents interpreted the main message of the ads by campaign. Each plot shows the proportion of respondents who provided one of four understandings of the ad they saw (or did not know).

provided a non-COVID-19 interpretation; however, the sample sizes were small), while among those who said their household income was below \$30,000 though, 12 per cent did not know what the message of the advertising meant, and 4 per cent provided another (non-coronavirus) interpretation.

What do you think the main message in the ad was?

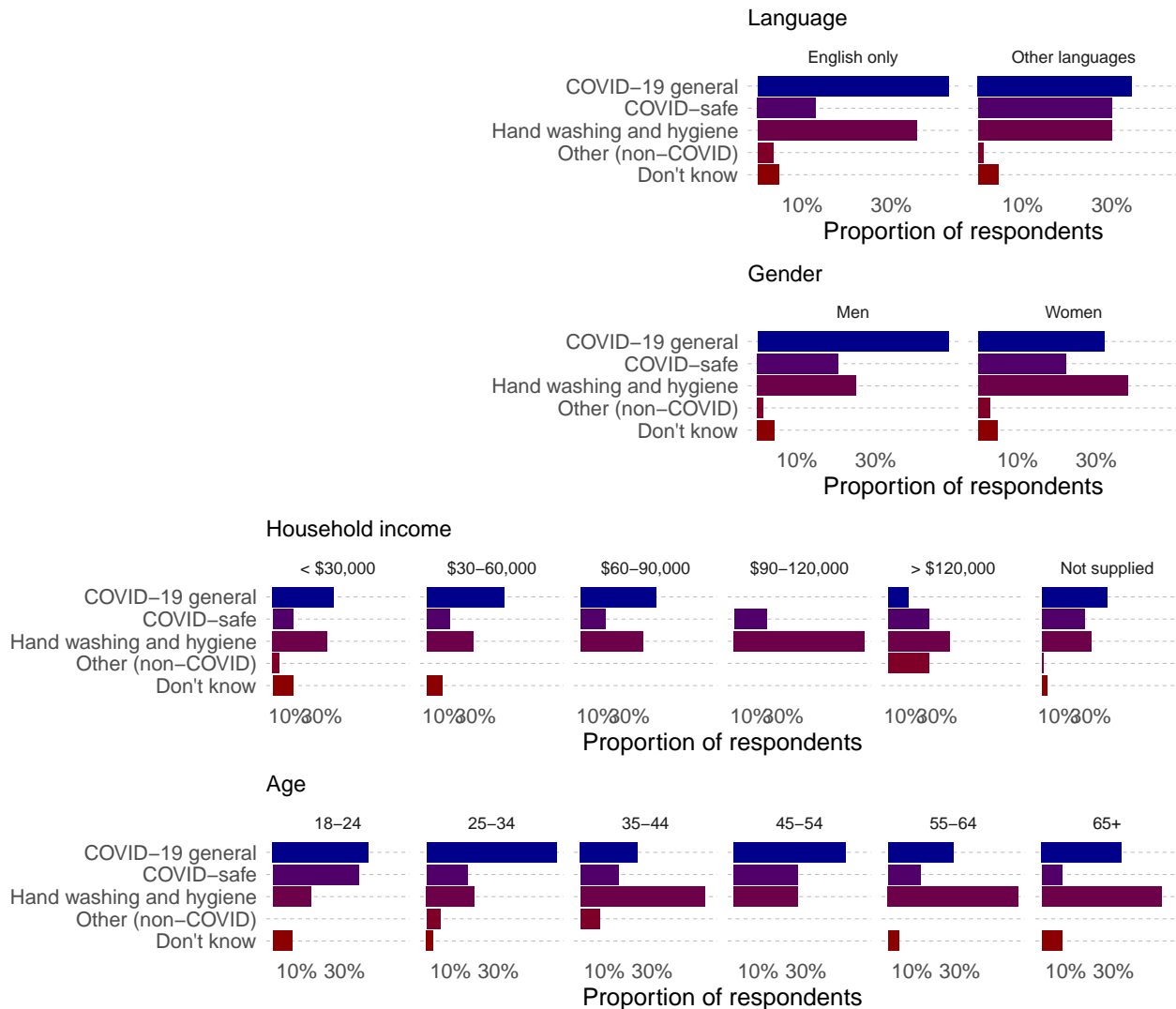


Figure 21: How respondents interpreted the main message of the ads by respondent demographics. Each plot shows the proportion of respondents who provided one of four understandings of the ad they saw (or did not know).

4.5 Messaging effects

The effects of the messaging campaign were then examined by asking respondents whether they took any particular actions in response to the advertising in the bathrooms of the study venues. Respondents were provided with three pertinent options: take a picture of the ad, go to the website listed in the ad or change their behaviour in regards to hand hygiene, mask wearing or social distancing.

Few respondents went to the website, and a little over a quarter said they took a photo of the ad (figure 22). However, almost half said they changed their behaviour as a result of seeing the messaging, with 48 per cent saying they changed their behaviour in regard to hand hygiene, mask-wearing or social distancing.

Figures 23 to 25 show the demographic breakdown for these results. There was little difference between English speaking respondents and those who spoke a language other than English at home, nor men or women in terms of who took a picture of the ad (figure 23), however respondents in the two highest household income brackets were more likely to have taken a picture than lower income audiences, and

those aged 35 to 44 and 45 to 54 reported taking a picture of the ad at higher rates than other age groups surveyed.

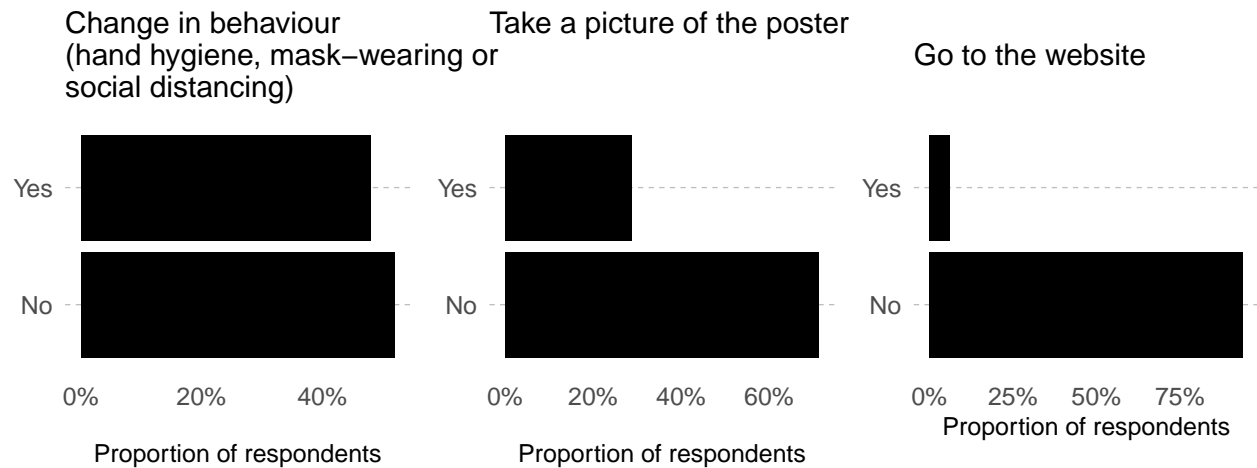


Figure 22: Self-reported action in response to messaging.

Across all demographic groups surveyed, few respondents visited the websites listed on the campaign ads (figure 24).

However, of the almost half who reported changing their behaviour in regards to hand washing, mask wearing and social distancing (figure 25), both English and non-English speaking respondents responded positively (47 and 49 per cent of respondents speaking English only and other languages at home, respectively); while men reported changing their behaviour at higher rates than women, at 57 per cent and 41 per cent respectively. This also varied across household income and age. Half or more of respondents earning less than \$30,000, between \$60,000-\$90,000 and \$90,000-\$120,000 per year reported changing their behaviour as a result of seeing the ad. This was lower than those with household incomes above \$120,000, 25 per cent of whom reported changing their behaviour concerning hand washing, mask wearing and social distancing. Respondents aged 65 and over were more likely to say they had changed their behaviour (60 per cent), followed by younger respondents (52 and 55 per cent for 18 to 24 year-olds and those aged 25 to 34, respectively). At 47 per cent, those aged 45 to 54 years were the age group least likely to say they had changed these behaviours.

Did you do any of the following in response to seeing the COVID-19 ad?
Take a picture of the ad

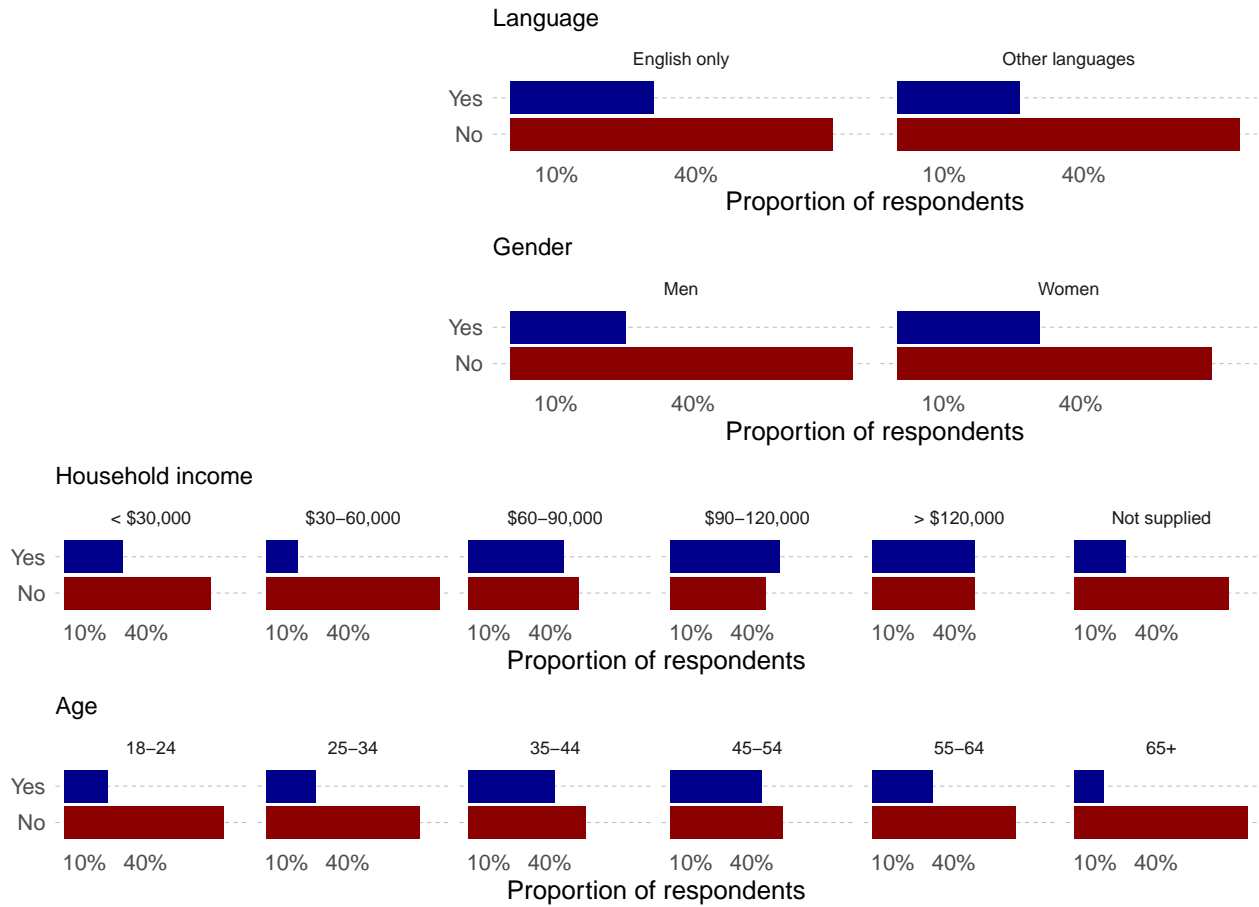


Figure 23: Proportion of respondents who said they took a picture of the campaign advertisement after seeing it in the centre in which they were interviewed.

Did you do any of the following in response to seeing the COVID-19 ad?
Go to the website listed

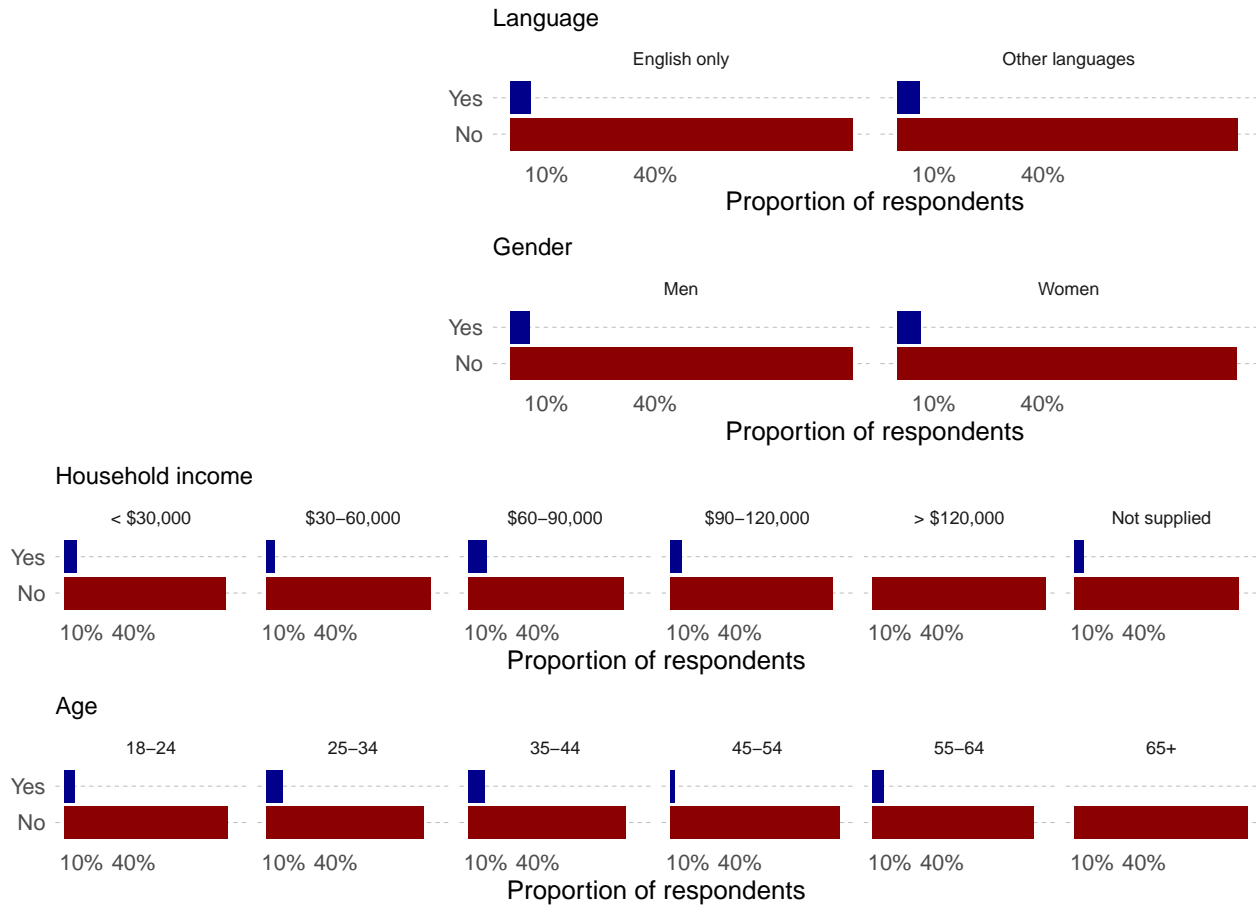


Figure 24: Proportion of respondents who said they went to the website listed on the campaign advertisement after seeing it in the centre in which they were interviewed.

Did you do any of the following in response to seeing the COVID-19 ad?
 Change your behavior in regards to hand hygiene, mask wearing or social distancing

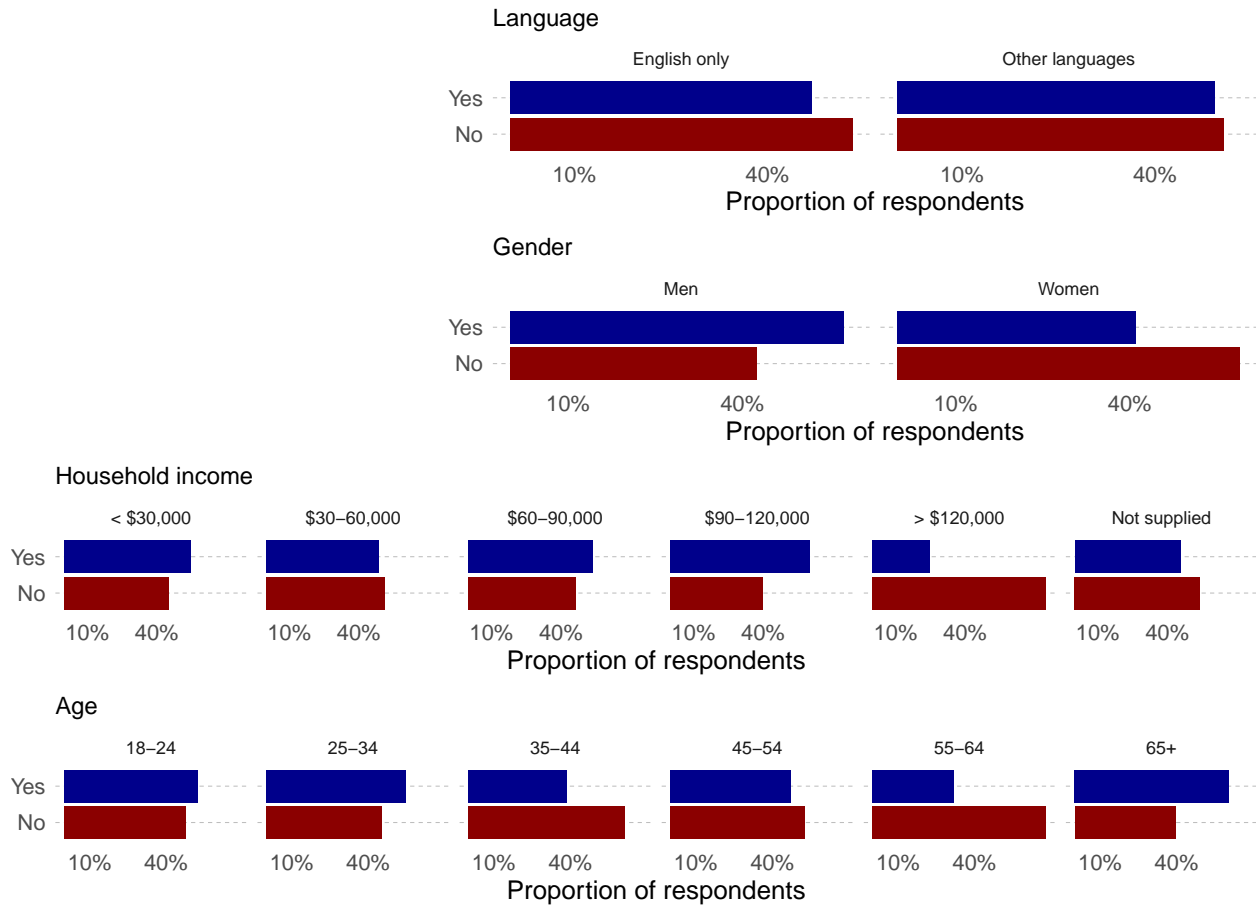


Figure 25: Proportion of respondents who said they went to the website listed on the campaign advertisement after seeing it in the centre in which they were interviewed.

5 Conclusion and recommendations

This report aimed to identify the efficacy of messaging of two COVID-19 messaging campaigns run by CA for the Victorian Department of Premier and Cabinet and the Commonwealth Government. One of the primary goals of the project was to assess the unprompted recall of messages from these campaigns, engagement with these messages and self-reported changes in behaviour.

The findings are encouraging. This study found the COVID-19 messaging campaigns run by CA resulted in high rates of respondent recall, with a majority of the audience engaging with and understanding the content, and a substantial proportion saying that it led to a change of behaviour. Listed below are key takeaways from the study, and some recommendations for future campaigns and research.

Fifty-two per cent of respondents said they were able to, without prompt, recall seeing an advertisement when they were in a bathroom or parent rooms in the venue (figure 12). Of these, 89 per cent could recall the content of these messages, with 67 per cent mentioning COVID-19 or related safety and hygiene measures (figure 13).

To better understand the effectiveness of these advertisements, a logistic regression was fit to the survey data collected for this study. This found that even after controlling for respondents' demographic characteristics, an additional 5 minutes of average self-reported dwell time in these facilities (and therefore greater potential exposure to messaging) was associated with an approximately 10 per cent increased probability of recalling the COVID-19 messaging unprompted (figure 17).

Additionally, it was found that 48 per cent of respondents reported a change in behaviour in regard to hand hygiene, mask-wearing or social distancing (figure 22).

5.1 Recommendation 1

Based on the evidence studied here, the messaging strategy adopted by CA of placing public health messaging in locations where incidental exposure is highly likely at multiple points of contact — including the backs of cubical doors, above hand dryers, and at the entry and exit ways to shopping centre bathrooms and parent rooms — appears to have validity. This is supported by the results outlined above, which showed longer dwell times in these facilities (increasing the chances of exposure to messages) was associated with higher rates of unprompted recall. This supports the continued use of this narrowcasting approach for public health campaigns.

5.2 Recommendation 2

It is recommended an experimental design be adopted for future research into these types of public health campaigns, as this study relied on observational data collected after exposure to campaign messaging, which cannot measure a causal effect. This should involve a randomised control trial to expose a subset of study respondents to messaging, to ascertain its causal effect on audiences awareness and understanding of the issue, and changes in behaviour. This type of study can complement observational research and allow for a better understanding of the impact of these types of campaigns.

5.3 Recommendation 3

This study found that these messages had high rates of unprompted recall from those who spoke a language other than English at home. It is likely that this was the result of the multilingual Victorian DPC campaign. It is recommended that multilingual messages be prioritised for future public health campaigns in culturally and linguistically diverse communities, and that their efficacy should be further studied using experimental research designs (as documented in recommendation 2).

5.4 Conclusion

This evaluation has shown that there was a high recall and message uptake from the COVID-19 campaigns run by CA for the Victorian Department of Premier and Cabinet and the Australian Commonwealth Government, in bathrooms and parent rooms across the ten sites where the evaluation surveys took place.

It provides evidence for the efficacy of these types of public health campaigns, and support for the use of the multi-lingual messaging run for the Victorian government. Further work can be done using randomised control trials to provide a more robust test on the causal effects of these campaigns on issue awareness, attitudes and recall.

6 References

- Australian Government Department of Health. 2021a. "What You Need to Know about Coronavirus (COVID-19)." <https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/what-you-need-to-know-about-coronavirus-covid-19>.
- . 2021b. "What You Need to Know about Coronavirus (COVID-19)." <https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/what-you-need-to-know-about-coronavirus-covid-19>.
- Department of Health and Human Services. 2020. "COVID-19 Suburban Testing Blitz: Hotspot Intervention Plan."
- French, Jeff. 2017. *Social Marketing and Public Health: Theory and Practice*. Oxford: Oxford University Press USA - OSO.
- Gordon, Ross, Laura McDermott, Martine Stead, and Kathryn Angus. 2006. "The Effectiveness of Social Marketing Interventions for Health Improvement: What's the Evidence?" *Public Health (London)* 120 (12): 1133–39.
- Kotler, P, and G Zaltman. 1971. "Social Marketing: An Approach to Planned Social Change." *Journal of Marketing* 35 (3): 3–12.
- Victorian Multicultural Commission. 2020. "Inquiry into the Australian Government's Response to the COVID-19 Pandemic." *Submission to the Parliament of Australia, Select Committee on COVID-19*.

7 Appendix: Survey Questions

Demographics and Audience Behaviour

1. Are you:

single select, random reverse

- Male
- Female

2. What year were you born?

Provide list of years from 1900 to 2003, single select, random reverse

3. What postcode do you live in?

4. What is your employment situation?

single select, random reverse

- Working full-time for pay
- Working part-time for pay
- Unemployed—looking for work
- Retired from paid work
- A full-time school or university student.
- Keeping house
- Other

5. Which of the following options best describes the sort of work you do?

Ask only of those who selected employed full time or part time in Q4; single select, randomise except for 'Other,' which is fixed in the last position

- Manager or senior administrator
- Professional or highly technical work (eg doctor, accountant, school teacher, university lecturer, social worker, software engineer).
- Clerical (personal or executive assistant, human resources advisor, receptionist, other roles whose main function is clerical or secretarial
- Sales or services (sales person, shop assistant, nurse, care assistant, paramedic).
- Manual Work (plumber, electrician, cook, hairdresser, cleaner, machine operator, assembler, postman, labourer, driver, bar-worker, call centre worker).
- Other.

6. What language(s) do you speak in the home?

randomise, allow multiple options to be selected

- English

- Mandarin
- Italian
- Vietnamese
- Punjabi
- Arabic
- Assyrian/Aramaic
- Turkish
- Maltese
- Filipino/Tagalog
- Karen
- Hindi
- Greek
- Cantonese
- Other, please specify (free text)

7. What is the gross annual income, before tax or other deductions, for you and your family or others living with you from all sources? Please include any pensions and allowances, and income from interest or dividends.

single select, random reverse, for privacy hand the ipad to the participant so they can answer without the interviewer seeing the response

- Less than \$10,000 per year
- \$10,001 to \$20,000 per year
- \$20,001 to \$30,000 per year
- \$30,001 to \$40,000 per year
- \$40,001 to \$50,000 per year
- \$50,001 to \$60,000 per year
- \$60,001 to \$70,000 per year
- \$70,001 to \$80,000 per year
- \$80,001 to \$90,000 per year
- \$90,001 to \$100,000 per year
- \$100,001 to \$120,000 per year
- \$120,001 to \$140,000 per year
- \$140,001 to \$160,000 per year
- \$160,001 to \$180,000 per year
- \$180,001 to \$200,000 per year
- \$200,001 to \$250,000 per year
- More than \$250,000 per year

8. How many children or teenagers aged 0 to 17 live in your household?

single select, random reverse, only ask of participants coming from parent room

- No children
- One child
- Two children
- Three children
- Four children
- Five children or more

9. Would you be open to receiving health information from advertisements in the bathroom/ parent room environment?

single select, random reverse

- Yes
- No

Visitation Trends

10. On average, how often do you visit **this** shopping centre in a month?

single select, random reverse

- Less than once a month
- About once a month
- At least once a week
- Several times a week

11. What day(s) of the week would you most often visit this shopping centre? Select all that apply.

allow multiple options to be selected

- Sunday
- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday

12. What time of day would you most likely visit this shopping centre? Select the option below that comes closest to your answer.

single select

- 6am to 9am
- 9am to 12pm
- 12pm to 3pm
- 3pm to 6pm
- 6pm to 9pm
- 9pm to 12pm

13. On average, how often do you use the bathroom or parent room each time you visit this shopping centre?

single select, random reverse, for privacy hand the ipad to the participant so they can answer without the interviewer seeing the response

- I never use the bathrooms at this centre
- Less than once per visit to the centre
- At least once each time I visit the centre

- More than once each time I visit the centre

14. When you have used these facilities, how long on average would you say you spent in the bathroom or parent room at this shopping centre?

single select, random reverse, for privacy hand the ipad to the participant so they can answer without the interviewer seeing the response

- Less than 5 minutes
- 5-10 minutes
- More than 10 minutes

Message recall

Unprompted

15. When you were in the bathroom or parent room at this centre, did you see any ads on the walls or anywhere else in the room? (If no, skip to Q22 for prompted recall)

single select, random reverse

- Yes
- No

16. Can you tell me briefly what the ad was about?

free text

17. Can you recall any other information from the ad?

free text

18. Do you recall seeing the message in a language that you speak at home (other than English)?

single select

-Yes - No - I only speak English

19. Was the ad a digital ad, poster, or a combination of both?

single select, random reverse

- Digital ad
- Poster
- Combination of both

20. Do you remember seeing any other ads in the bathroom or parent room?

single select, random reverse

- Yes
- No

21. Can you tell me briefly what the second ad was about?

free text

Prompted recall (Only for those who answered no to Q15)

22. Here is a copy of the ad. Do you remember seeing it now?

single select, random reverse

- Yes
- No

23. What do you think the main message in the ad was?

free text

Call to action

24. Did you do any of the following in response to seeing the COVID-19 ad? Select all that apply.

multiple select, randomise options

- Take a picture of the ad
- Go to the website listed
- Change your behavior in regards to hand hygiene, mask wearing or social distancing

25. Now thinking about ads you might see generally, if an ad was relevant to you, would you do any of the following? Select all that apply.

multiple select, randomise options

- Collect a takeaway card from the bathroom
- Scan a QR code on the poster with your phone
- Take a picture of the poster
- Go to a website on your phone listed on a poster

26. In general, how useful do you find ads in bathrooms or parent rooms?

single select, random reverse

- Extremely useful
- Very useful
- Somewhat useful
- Not very useful
- Not at all useful

27. Would you take the COVID-19 vaccine?

single select, random reverse

- Yes
- No

27a) If yes, why?

free text

27b) If no, why not?

free text