

In this section, details of our research design are provided, as well as our rationale for using this methodology.

RESEARCH DESIGN

3.1 Methodology

Online survey

A quantitative survey was conducted over the internet using a sample sourced from an online panel. This methodology was chosen for a number of reasons:

- An online survey methodology allows access to a very large sample cost-effectively.
- An online survey methodology means participants can be presented with visual and audio stimulus material. This is advantageous, because it allows videos, sound bytes and still images from the campaign to be presented to participants.
- The timeframe required to conduct an online survey is relatively short compared to other methodologies.
- It provides an environment where the participant is free to speak their mind, which can be important when asking questions which have a degree of social sensitivity.
- Convenience and better access to participants (i.e. the survey arrives at the participant's desktop and can be completed any time of day or night, at their convenience).
- There are no interviewer, data entry or data editing errors or bias through third parties processing surveys.

The fieldwork was conducted by ACNielsen, which manages an online panel called 'Your Voice'.¹ Crucially, this panel is comprised of those aged 14 years and above. Hence, we were able to send survey invitations directly to teenagers, rather than having to recruit them via their parents. (There was also no need to obtain parental consent, because this is already in place for panel members to participate in research surveys.) Those who qualified and completed the survey received an incentive for their participation, redeemable for goods and services and approximately equivalent to two dollars.

Fieldwork dates

Fieldwork was conducted in four survey waves:

- a **baseline survey** prior to the launch of the first phase of the campaign in November 2006 (fieldwork dates 13th to 17th November 2006);
- towards the end of the first phase of the campaign (and after the conclusion of the Summer 2006/07 TV advertising) in **February 2007** (fieldwork dates 12th to 16th February 2007);
- prior to the second phase of the campaign in **November 2007** (fieldwork dates 13th to 19th November 2007), and
- after the conclusion of the free-to-air television advertising over Summer 2007/08, in **February 2008** (11th to 15th February 2008)

It is likely that burning, tan-seeking, and the adoption of sun protection are all influenced by the weather. The questionnaire asked participants about whether they had deliberately sought a tan in the last fortnight, and also whether they had experienced any reddening of the skin after being in the sun during the last two weeks. Accordingly, not only was weather information recorded for the fieldwork periods themselves, but also for the two weeks prior each time. The (unweighted) average national temperature across capital cities during the baseline fieldwork, and the two weeks beforehand, was 19.0°C. This was lower than the temperature during the February 2007 fieldwork and preceding fortnight, where the average temperature was 23.4°C. In November 2007, the average national temperature across capital cities during the fieldwork period and the fortnight beforehand was 20.5°C, which was similar to the November 2006 average temperature. Again, the average national temperature across capital cities was higher in February 2008 compared with November 2007, at 23.0°C.

¹ ACNielsen supplemented its "Your Voice" panel with externally supplied sample, to meet some of the hard-to-reach quotas. ACNielsen, on its own initiative, selected another online panel which had comparable structure and incentives schemes.

It is also worth noting the amount of rainfall which occurred during each of the fieldwork periods and the preceding fortnights. In November 2006, the average rainfall across Australian capital cities was 1.8mm per day during and just prior to the fieldwork period. The following year, the average was 2.4mm per day during the November fieldwork and the two weeks prior. Although this appears to be slightly more rainfall, there generally appeared to be fewer days on which it rained in November 2007. For example, in Sydney in November 2006, the ratio of wet to dry days was 0.63, compared with 0.43 in November 2007. Hence, overall, it appears that the weather in November 2006 did not differ greatly from November 2007, in terms of the opportunities for exposure to the sun.

In contrast, February 2008 was substantially wetter than February 2007. In February 2007, the average rainfall across all capital cities was 2.5mm, compared with 5.6mm in February 2008. Furthermore, there were many more wet days during and just prior to the fieldwork in February 2008 than there were in the previous February. For example, looking at the period from the 29th January to 16th February 2007, Brisbane experienced nine wet days, Sydney experienced six, and it rained on three days in Perth. There were no wet days in Melbourne or Adelaide. During the comparable period in 2008, Brisbane experienced 13 days with rain, Sydney had 12, and Melbourne had eight. Perth and Adelaide were quite dry, with only two and one days of rain respectively. The fact that it was much wetter in February 2008 in many capital cities compared with February 2007 needs to be taken into account when interpreting the results. Further factors, such as the extent to which sunny periods occurred on weekends, and during peak UV periods, in each of the capital cities, might also exert some influence, as could the weather conditions outside the capital cities.

Questionnaire

The questionnaire (included at Appendix C) was developed in close consultation with the Department of Health and Ageing, to ensure that information needs were prioritised and appropriately addressed. Care was taken to ensure that any changes in the questionnaire were minimised, to allow comparability over time. Specifically, the questions for parents were not included for the November 2007 and February 2008 surveys, and the stimuli were changed to reflect the inclusion of new executions in phase two of the campaign.

A sample of the panel, stratified by age and gender, was selected, and potential participants were sent an email inviting them to complete the survey. The average survey durations were 8.8 minutes for the baseline survey and around 14-15 minutes for each of the subsequent surveys, the extra time needed for prompted recall of, and reactions to, the elements of the campaign.

Obtained sample

The final sample is illustrated in the Table 3.1.1.

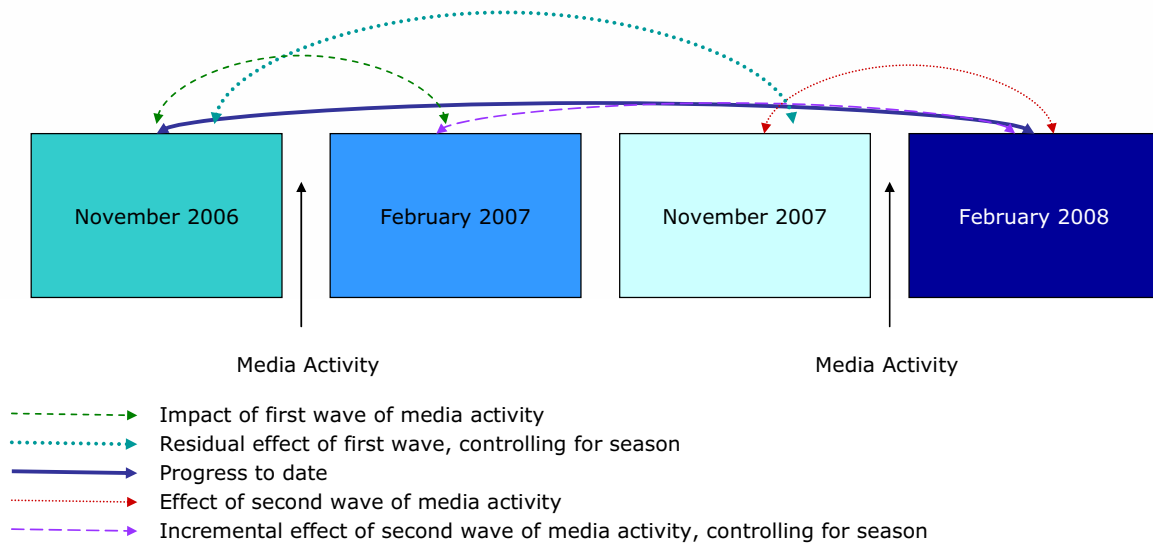
Table 3.1.1 Sample size

	Nov '06	Feb '07	Nov '07	Feb '08
Total sample size	3,082	3,097	1,999	2,021
Teenagers aged 14-17 years	1,105	1,096	993	1,010
Young adults aged 18-24 years	1,120 (including 120 parents)*	1,123 (including 123 parents)*	1,006	1,010
Parents of children aged 0-17 years (parents 18 yrs+)	977	1,001	Nil	Nil

Statistical analysis

Statistical tests were undertaken to compare the results across the four surveys. Five separate sets of comparisons have been done, as illustrated in Figure 3.1.

Figure 3.1.1 Statistical comparisons



For categorical data, chi-square tests have been used. For ordinal data, Kendall's tau-b has been employed. In the case of interval data, ANOVA tests have been undertaken to compare means, as appropriate.

It is worth noting that using sub-samples of 1,000 yields a 95% confidence interval of, at most, just over $\pm 3\%$ for a stand-alone survey. When comparing between surveys or segments, a sample of 1,000 yields a maximum confidence interval of $\pm 4.4\%$ at the 0.05 level. These confidence intervals are conservative, because they are based on a proportion of 50%. Larger or smaller proportions will yield a narrower confidence level.

The response rate for each survey is shown in the following table.

Survey wave	Response rate
November 2006	12.9%
February 2007	10.3%
November 2007	8.4%
February 2008	11.6%

These rates are lower than a typical response rate for online surveys. That said, in all forms of survey research, the response rate among younger age categories is generally lower than for older age categories. It is also worth noting that, when response rates are calculated for telephone surveys, these are based on the number of people who agreed to participate in the survey as a proportion of all those with whom contact was made. It is impossible to calculate the analogous figure for online research. The response rate represents the number of people

who participated before the quotas were filled, as a percentage of all those who were sent an invitation. (The comparable percentage in telephone surveys would be the number who agreed to participate as a percentage of all numbers dialled.) Many of these invitation emails were likely to have not been opened before the quotas were filled. This is not to say that these people would necessarily have refused to participate in the survey.

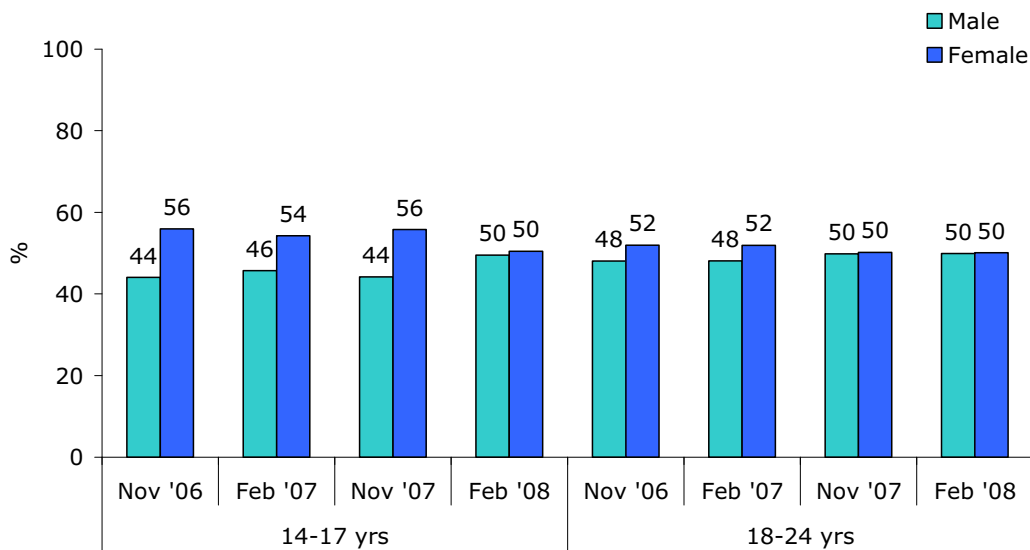
During the analysis, the data were weighted to reflect the geographical distribution of Australia, and also to correct for any gender bias within each target audience.

3.2 Sample characteristics

The following figures show the sample characteristics of the unweighted sample. There were no differences over time in the demographics, except for age and location.

Figure 3.2.1 shows that the sample was reasonably balanced in terms of gender for each target audience. Nevertheless, the analyses were weighted to correct for the slight gender imbalance.

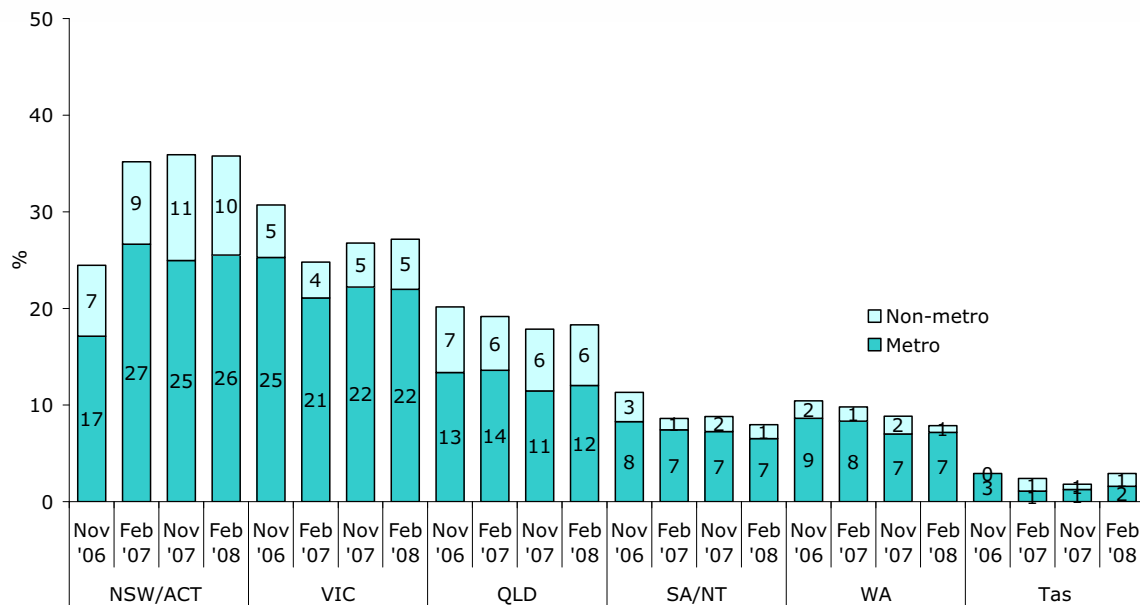
Figure 3.2.1 Age and gender



14-17 years, Wave 1: n=1,105; Wave 2: n=1,096; Wave 3: n=993; Wave 4: n=1,011
 18-24 years, Wave 1: n=1,120; Wave 2: n=1,123; Wave 3: n=1,006; Wave 4: n=1,010

Figure 3.2.2 shows the distribution of the four survey samples, across metropolitan and non-metropolitan areas. In the baseline survey, there was an overrepresentation of people living in Melbourne, and an under-representation of those from Sydney. Accordingly, the data have been weighted to correct for this imbalance, and to reflect the distribution of the Australian population.

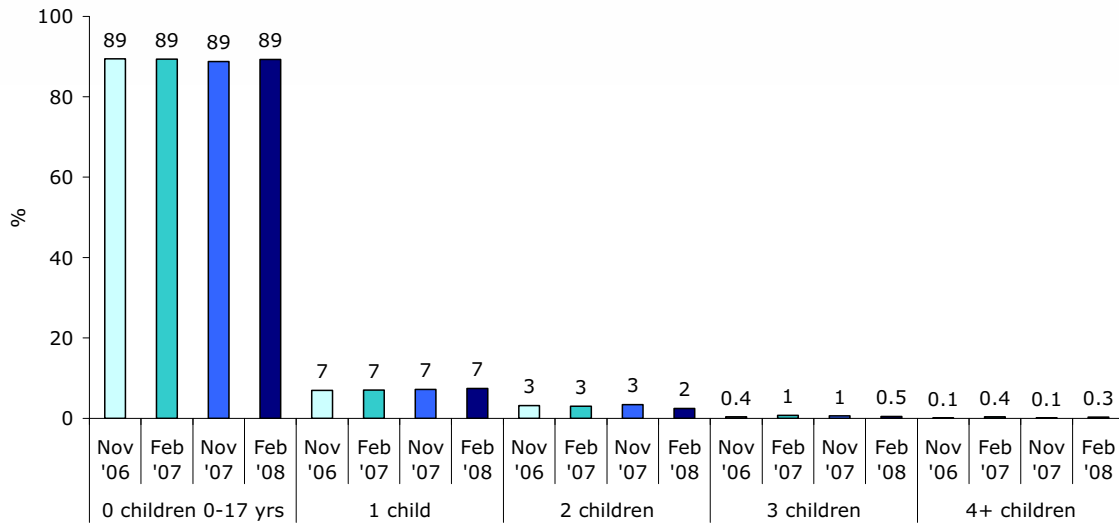
Figure 3.2.2 Location



14-24 year olds, Wave 1: n=2,224; Wave 2: n=2,219; Wave 3: n=1,999; Wave 4: n=2,021

All participants were asked whether they were a parent or guardian of a child or children aged zero to 17 years. The results (for 18-24 year olds) are shown in Figure 3.2.3.

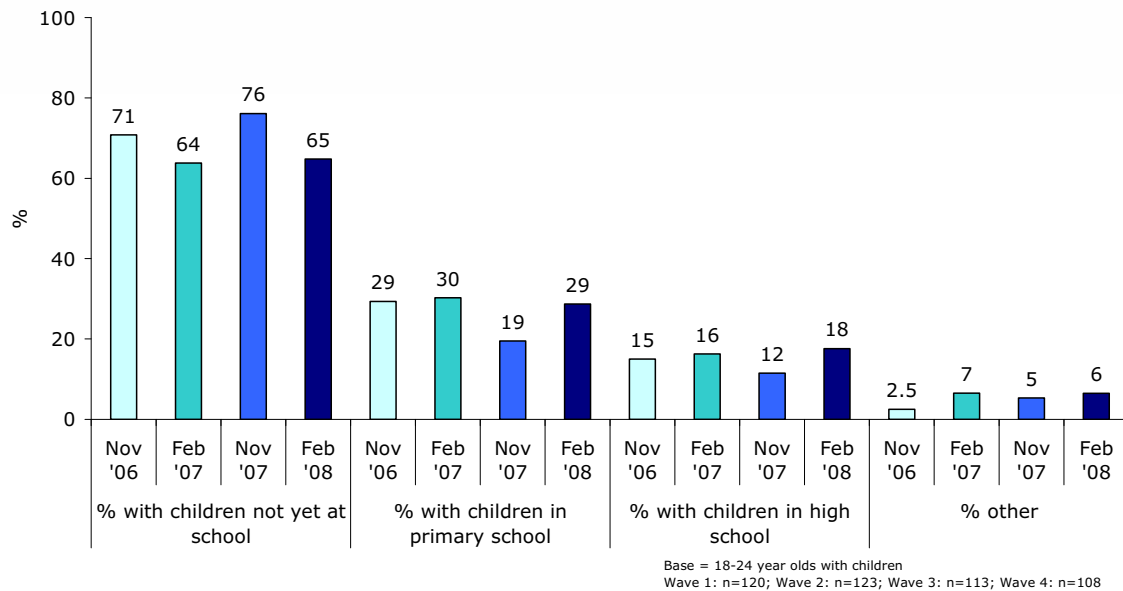
Figure 3.2.3 Number of children



Base = 18-24 year olds
 Wave 1: n=1,120; Wave 2: n=1,123; Wave 3: n=1,006; Wave 4: n=1,010

Those with children under the age of 17 years were also asked to indicate how many of their children were at various schooling stages. The data are shown in Figure 3.2.4.²

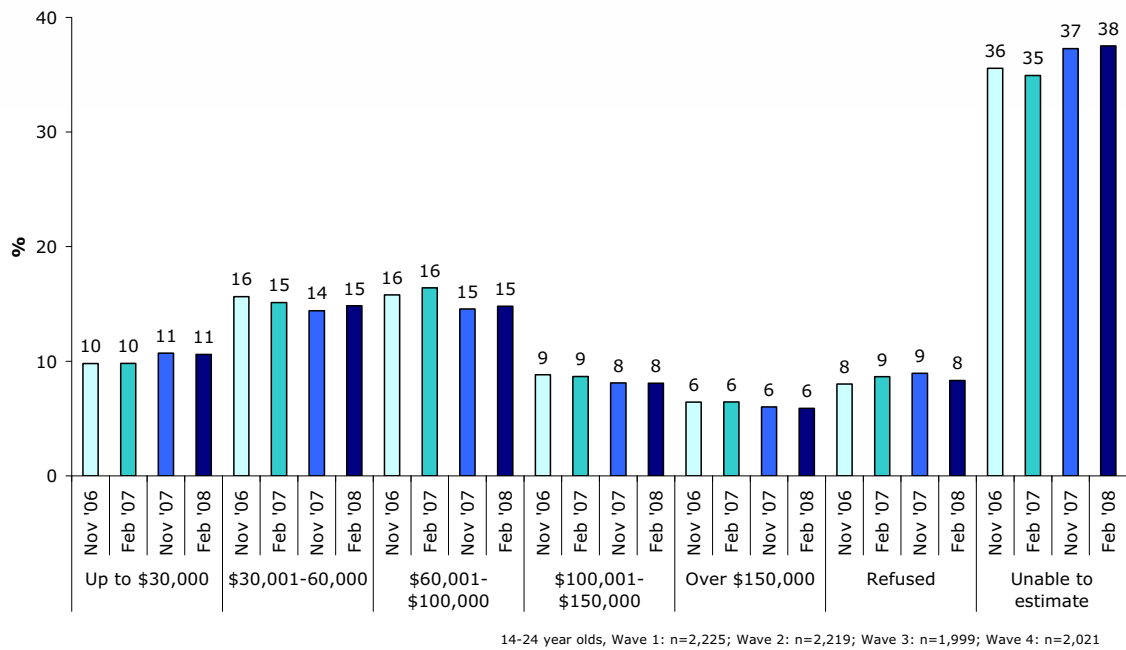
Figure 3.2.4 Number of children at school age



² The "other" category would include those children who are 17 years and under, and have left school. It would also include those in their first year of university.

The income distribution of the sample is shown in Figure 3.2.5. A large proportion of participants were unable to estimate their household's income, reflecting the fact that around half of the sample was comprised of teenagers.

Figure 3.2.5 Household income



Those aged 16 years and above were asked about their employment status. The results are shown in Figure 3.2.6.

Figure 3.2.6 Employment status

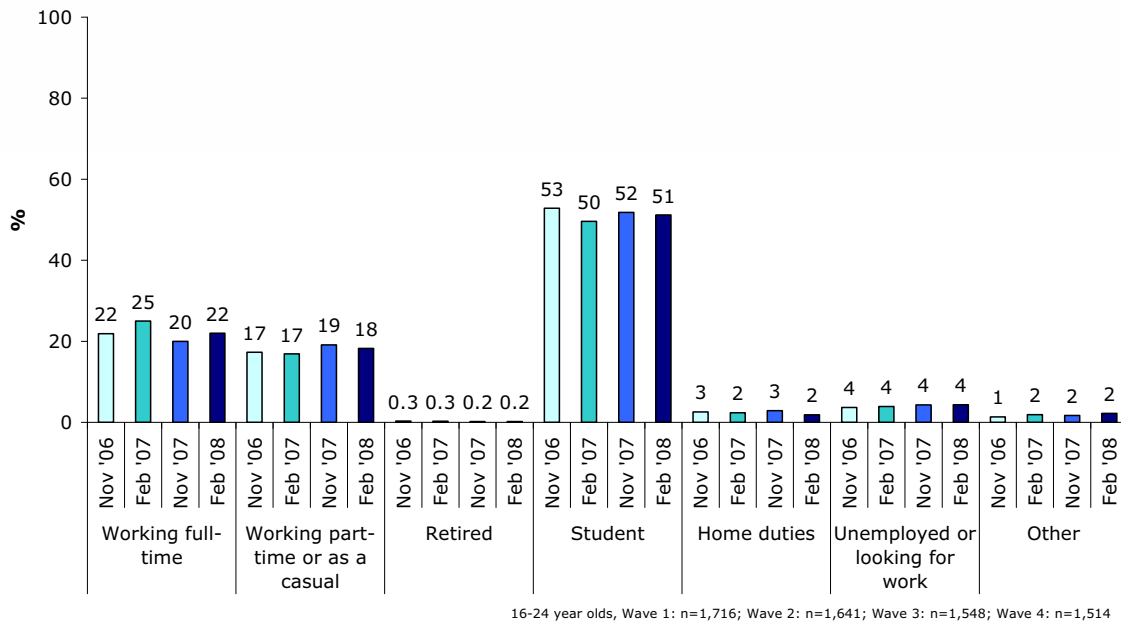


Figure 3.2.7 shows that just under half of those in the sample described themselves as very fair or fair.

Figure 3.2.7 Skin colour when not tanned

