

Chapter 6



Reaction to the 1999/2000 SunSmart Campaign: results from a telephone survey of Victorians and a retail intercept survey of young people

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Introduction

The Cancer Council Victoria has run a skin cancer control program since 1980. It began with the Slip! Slop! Slap! Campaign, and was followed by the SunSmart Campaign, launched in 1988 with substantial funding from the Victorian Health Promotion Foundation.

The long-term aim of the SunSmart Campaign is a reduction in the incidence of morbidity and mortality from skin cancer in Victoria. The short-term objectives are based on changing attitudes, beliefs and behaviours that affect individual skin cancer risk, and in modifying the environment to facilitate skin protection.

Spring–summer 1999/2000 campaign overview

The spring–summer 1999/2000 SunSmart Campaign targeted young adults and as in previous years continued to focus on structural and policy issues.

In this year the Community Program reduced the focus on special media weeks, to encourage promotion of sun protection and shade provision year round. Nevertheless, the SunSmart summer campaign continued to use the weeks in early spring and January to provide a focus for media to promote substantial paid and unpaid media.

During National Skin Cancer Action Week in November and a SunSmart Week launch in January, SunSmart launched statistics on the number of young people sunburnt each summer.

The Schools Program continued to successfully promote structural change in primary schools and a number of case studies were undertaken to explore useful strategies for promoting sun protection to students in secondary schools. SunSmart also continued to support SunSmart activities in various sporting and other community groups and schools.

A new television commercial, *Timebomb*, was launched at the beginning of January. The development of the new commercial was funded by the state cancer councils and the Australian Cancer Society. The total media buy for this season, \$129,998, was spent on paid television. No radio or press coverage was bought. Community service announcements provided additional support for the campaign.

Revised evaluation methodology

This paper examines the Victorian public's reaction to the spring–summer 1999/2000 SunSmart campaign.

Since 1988, the impact of the SunSmart Campaign has been evaluated at the population level through an annual series of questions embedded in an omnibus consumer opinion household survey conducted in March. These household surveys had become increasingly expensive to conduct, and in late 1998 we were

advised that the omnibus survey would no longer be available and only 'customised' household surveys would be available in future. There was sufficient concern that use of a customised survey would introduce bias in trend analyses and a complete revision of the methodology and establishment of a new baseline was considered necessary.

The revised methodology selected was to conduct weekly telephone interviews of Victorians over summer. This method closely follows that used in the Centre for Behavioural Research in Cancer's triennial survey of sun-protective behaviours of Melbourne residents (Hill et al. 1992a; Hill et al. 1993). The advantages of this method were that it avoided the prohibitive increases in cost of household surveys and allowed improved measures of sun-protective behaviour to be used. Only 'usual' sun-protective behaviour over summer could be monitored with the previous post-campaign household surveys. The weekly telephone surveys allow 'weekend' sun-protective behaviour to be monitored with less confounding from recall bias. Nonetheless, this methodology precluded the use of 'show cards' to monitor the awareness of campaign television commercials. Thus in years when a new television commercial was launched an intercept survey might also be conducted to further explore the target groups' awareness and understanding of messages from the commercial in detail. This paper reports on the results of a population survey conducted in summer 1999/2000 and a retail intercept survey in April 2000.

The results of previous post campaign surveys are available in the *SunSmart Evaluation Studies* series (Borland 1989a; Borland 1992; Segan & Borland 1994; Purchase & Borland 1994; Montague, Segan & Borland 1995; Dixon, Cappiello & Borland 1997; Dixon, Shatten & Borland 1997; Dobbinson & Borland 1999a; Dobbinson & Borland 1999b).

The aim of the telephone survey was:

- to quantify awareness of the key slogans of the anti-skin-cancer campaign
- to quantify awareness of and reaction to the campaign
- to quantify the relative importance of various sources of information on sun protection and skin cancer
- to quantify attitudes to tanning
- to quantify the extent of reported sun-protective behaviour
- to quantify prevalence and extent of reported sunburn over summer
- to establish a new baseline for the above.

The aim of the retail intercept survey was:

- to quantify the relative awareness of the new television commercial Timebomb among the target group in comparison with the How to remove a skin cancer commercial
- to quantify the relative influence of the two commercials on individual's perceived susceptibility to skin cancer, sun-protective behaviours, skin self-examination and skin checks by GPs
- to explore the relative appeal of the images and concept with the target group.

Summer 1999/2000 telephone survey of Victorians

Method

The first data available using the revised evaluation methodology is for summer 1999/2000.

Approximately 100 telephone interviews of Victorians were conducted on each Monday or Tuesday evening over 13 weeks from December 1999 to February 2000. A total of 1406 Victorians aged 14–69 years were interviewed. The sample frame was designed to over-represent people aged under 35 years. In addition regional residents of Victoria were under-represented in the sample. The original unweighted sample comprised: 45% of respondents aged 14–29 years, compared to 38% of respondents 30–49, and 18% of respondents 50–69; slightly more women (51%) than men (49%); and 19% of residents from rural and provincial Victoria and 81% of Melbourne metropolitan residents.

For this evaluation report results based on the population of Victoria were of interest. Some earlier preliminary analyses reported unweighted data. The weights used in the current analysis were based on the 1999 Australian Bureau of Statistics estimates of population by age and gender and by region (Total Melbourne versus the remainder of Victoria). These weights were applied to the data to obtain results representative of the population of Victoria (Czaja & Blair 1996). The weights applied to each demographic group were divided by the mean weight for the sample to retain the original power of statistical tests. The weighted sample was representative of people in Victoria aged 14–69 years; compared to the original sample, the weighted sample was slightly older (32% aged 14–29 years, 41% aged 30–49 years, and 26% aged 50–69 years) and included more regional residents (26% resident of rural and provincial Victoria). The weighted sample is referred to for the section of this report describing the results of the population survey.

Sunburn rates are an important marker of exposure, however, for evaluation purposes tracking the component of sunburn attributable to sun-related behaviour is the most relevant measure of prevention efforts. Variation in ultraviolet (UV) radiation levels is an important non-behavioural influence on sunburn. As data to adjust for UV radiation levels is not available across the whole state, it is not possible to report the trends in sunburn incidence for Victoria relating to prevention efforts. A more robust analysis of trends in sunburn is periodically conducted on the data collected for Melbourne residents (Hill et al 1993).

Other demographic data that were recorded included education and a measure of socio-economic status based on occupational status of the main income earner in the household. Owing to previously observed interactions between age and education levels, education effects were only reported when they were significant after controlling for age. All results reported are significant at the .05 level unless otherwise indicated.

Results

Sources of information on sun protection and skin cancer

Respondents were asked 'In the last week have you read, seen or heard any information or advertising about protecting yourself from the harmful effects of the sun?' Thirty-eight per cent of respondents said they had seen information or advertisements on sun protection in the last week, 58% had not seen them and 4% did not know if they had seen such advertisements. In comparison, along with changes in survey methodology, the previous post-campaign surveys had asked respondents whether they had seen such advertising over the whole summer. Hence the reported levels of awareness of sun protection information was higher than that reported here on information seen in the last week. Respondents were next asked where they had read, seen or heard that information or advertising. Table 6.1 shows that the most commonly mentioned source of

sun protection in the previous week was television (65%), followed by newspapers (14%), radio (13%), and magazines (11%). Other sources mentioned included posters, billboards, brochures and/pamphlets, schools, the workplace, doctors and other health experts, the Cancer Council, friends, at sporting events or venues. Health centres, pharmacies or chemists and kindergartens were the least commonly mentioned sources of sun protection information.

Table 6.1 Reported sources of information about sun protection seen in the last week

	Percentage of those who saw ads n=537	Percentage overall n=1406
TV	65%	25%
Newspapers	14%	6%
Radio	13%	5%
Magazines	11%	4%
Billboard	3%	1%
Posters	3%	1%
Brochure/pamphlet	3%	1%
Cancer Council	1%	0.4%
Doctors & other health experts	3%	1%
Health centres	0.9%	0.4%
Chemist	0.3%	0.1%
Friends	0.4%	0.1%
Workplace	2%	0.8%
School	2%	0.8%
Kindergarten	0.4%	0.2%
Sporting event or venue, e.g. Australian Open	0.4%	0.1%
Other place	2%	0.8%
Cant say where	3%	—
Total saw ads	n=537	38%

The next question, 'Can you tell me the name or slogan of the anti-skin cancer campaign?', was unfortunately only asked of the 537 respondents who read, saw or heard information or advertising on sun protection in the last week. Future surveys will ask this question of all respondents. Fifty-eight per cent of respondents who saw such advertising named one of the campaign slogans. Four per cent mentioned a slogan from a sunscreen advertisement or other response and 38% reported they 'did not know' or 'could not say' the slogan of the anti-skin cancer campaign (see Table 6.2).

Of those respondents who could name a slogan (n=312), 85% only mentioned *Slip! Slop! Slap!*, 9% only mentioned *SunSmart*, a further 2% mentioned both *SunSmart* and *Slip! Slop! Slap!*, the remainder (4%) mentioned other campaign slogans.

Table 6.2 All mentions of slogans for the anti-skin cancer campaign

	Percentage of those who saw ads n=537 [†]
Sunsmart	7%
Slip! Slop! Slap!	51%
Leave your hat on	0.6%
Mole in the ground with brochure	0.2%
How to remove a skin cancer advert	1.7%
New sunscreen ad unspecified	0.3%
Le Tan sunscreen	0.3%
Other	4%
No, can't say	38%

[†] Note: multiple responses were recorded.

Awareness of the *Timebomb* television commercial

In 1999 a new television commercial, *Timebomb*, was developed for SunSmart. It featured graphic scenes of a young man first being sunburnt, then with a dark mole on his neck that appeared to be growing, followed by scenes from an operation to remove a metastatic tumour. The accompanying script for the commercial was, 'Every time you go out in the sun unprotected you're putting a timebomb under your skin. Timebombs that can spread and explode into other parts of your body. To avoid developing skin cancer in future, Slop! Slop! Slap!' The commercial was launched in the week beginning Sunday 9 January 2000.

The media buy for this season's campaign (\$129,998) was spent with two metropolitan stations (Channel 9 and Channel 10) and one regional station. A measure of the purchasing power of SunSmart's media buy is provided by TARPS. TARPS represent the percentage of the specified target audience that a specific media vehicle will potentially deliver at a given point in time. Williams Media Services (1999) indicated the media performance for the campaign's media buy was lower than expected. SunSmart paid for a total of 340 TARPS over two weeks in the metropolitan area, however only achieved a total of 240 TARPS. The schedule for regional media was for 150 TARPS per week over four weeks. Community service announcements were also lower than expected.

In previous years the public's awareness of SunSmart's commercials was assessed using photo cards showing scenes from these commercials. This was not possible using the telephone survey methodology. Awareness of the *Timebomb* commercial was assessed by asking, 'Do you remember seeing an advertisement on TV which showed scenes of a young man with a large mole on his neck? Do you remember ever seeing this advertisement?' This question and others relating to the awareness and influence of *Timebomb* were asked of the 984 respondents surveyed in January and February. Table 6.3 tracks the level of awareness of the commercial by the approximate weekly TARPS for the commercial. Just over one-quarter of respondents had mistakenly indicated that they had seen the commercial before the launch. Reasons for reporting seeing the television commercial prior to its launch might include elements of social desirability bias, confusion with other commercials about skin cancer or even mistaking the description for the *How to remove a skin cancer* commercial which also had scenes of medical procedures. The table clearly shows that awareness of the commercial increased rapidly following the launch of *Timebomb*, with a peak recall of 57% falling to 52% in the later weeks.

Fifty-two per cent of respondents interviewed in the weeks following the launch of the *Timebomb* commercial reported having seen the commercial, 42% reported not seeing it and 5% were unsure if they had seen the commercial. Awareness was not significantly different by age, gender, education, income or region.

Table 6.3 Tracking awareness: weekly TARPS

Week	Interview date	Percentage aware	Weekly interviews n	TARPS achieved
1 [†]	4/1/00	27%	113	–
2	10/1/00	26%	104	–
3 → TVC launch	17/1/00	57%	112	158 [‡]
4	24/1/00	54%	111	135
5	31/1/00	44%	108	–
6	7/2/00	53%	104	–
7	14/2/00	57%	109	–
8	21/2/00	48%	120	90
9	28/2/00	52%	103	45
10	–	–	–	35
11	–	–	–	15
12	–	–	–	10
Total			n=984	

Note: [†]Week one represents the first week respondents were asked questions about seeing the commercial.

[‡] A total of 340 TARPS was purchased for the two weeks of the launch.

Intentional sun exposure: suntanning

A steady decline in Victorians' desire for a sun tan has been noted in previous years due to the anti-skin cancer campaign (Hill et al. 1993). In the current study questions were asked to assess Victorians' preference for a sun tan and recent tanning attempts.

Preference for a tan

When asked, 'Do you like to get a suntan or not?' 67% of all respondents interviewed reported they did not like to get a tan and 33% reported they liked to get a tan (refer Table 6.4).

Of respondents who liked to get a tan, the majority preferred a moderate tan (54%) or a light tan (29%) and only some a dark (13%), very dark tan (3%) or could not say how deep a tan they liked (1%).

Table 6.4 Do you like to get a suntan?

	Percentage n=1401
No tan	67%
Light tan	10%
Moderate tan	18%
Dark tan	4%
Very dark tan	1%

Excludes those respondents (n=5) that 'Can't say' if they like a tan or not.

Tanning attempts

Table 6.5 describes the proportion of Victorians reporting they attempted a suntan in the 1999/2000 season. Men and women were equally likely to report they attempted a suntan in the 1999/2000 season ($X^2=2.5$, $df=1$, $p=.114$). Younger respondents were more likely to report they attempted a suntan (24% of respondents aged 14–29 years, compared to 12% of respondents 30–49 years, and 7% of respondents 50–69 years; $X^2=49.2$, $df=2$, $p<.001$). Generally respondents' education was not associated with attempting a suntan; but among ages 30–49 there was a small trend for people with less education to be more likely to report attempting a suntan (19% of respondents with Year 9 or less education, 16% of respondents who completed Year 10 or Year 11, and 10% of both respondents with Year 12 or with university qualifications; linear-by-linear association $X^2=3.9$ $df=1$, $p=.048$). Area of residence and socio-economic status were not significantly associated with attempting a suntan in 1999/2000.

Table 6.5 Attempted a suntan this season?

	Percentage n= 1406
Males	13%
Females	16%
People	15%

Reported sun-protective behaviour

Respondents' sun-protective behaviour was assessed by a series of questions exploring both the prevalence of respondents engaging in various forms of sun protection over the previous weekend and the frequency with which they engaged in sun protection over the last summer (if asked in December) or over the current summer (if asked in January or February).

Weekend sun protection

Table 6.6 shows the prevalence of people engaging in various forms of sun protection over summer weekends. Forty-four per cent of respondents reported they chose to stay out of the sun on either the previous Sunday or Saturday. The following results reflect sun protection used when outside on Sunday except where the respondent was outside on Saturday but not Sunday. Sixty-four per cent of respondents reported they were outside between 11 am and 3 pm on the previous weekend. Forty-three per cent of the respondents who were outside on the weekend reported wearing a hat, cap or sun visor, while only 19% of respondents reported wearing a wide-brimmed hat. Only one-third of respondents reported they had used sunscreen while outside. Nevertheless, 94% of those who had used sunscreen had used one with a sun protection factor (SPF) of 15 or 15+.

More men than women ($X^2=41.2$, $df=1$, $p<.001$) and more younger people than older people (69% of respondents aged 14–29 years, compared to 62% of respondents 30–49 years, and 61% of respondents 50 years and older; $X^2=7.4$, $df=2$, $p<.05$) were outside between 11 am and 3 pm on the weekend. Respondents from households of lower white collar workers were also less likely to be outside on the weekend than respondents from other socio-economic groups (57% of lower white collar worker households compared to 68% of upper white collar worker households, 64% of upper blue collar worker households and 64% of lower blue collar worker households; $X^2=12.3$, $df=3$, $p<.01$). The prevalence of respondents outside on the weekend was similar across other demographic groups.

Table 6.6 Respondents' sun protection on the weekend between 11 am and 3 pm

	Males n=703	Females n=703	Overall n=1406
Chose to stay out of the sun *	42%	47%	44%
Total outside on Sunday or Saturday ***	72%	56%	64%
<i>When outside 11am–3pm Sunday/Saturday ...</i>	(n=506)	(n=392)	(n=898)
Wore a hat, cap or sun visor ***	52%	31%	43%
Wore a wide-brimmed hat	18%	19%	19%
Wore a long-sleeved or 3/4 sleeved top	22%	24%	23%
Used sunscreen [†] ***	28%	42%	34%
Used 15+ sunscreen ***	27%	38%	32%
Wore sunglasses	46%	57%	51%

[†] Excludes ~2% who used a make-up with sunscreen only.

Note: some n in cross-tabulations exceed that for frequencies overall due to population weights.

*** $p < .001$; ** $p < .01$; * $p < .05$

Patterns of sun protection on the weekend also varied somewhat by age and gender. Men were more likely than women to report wearing a hat, cap or sun visor on the weekend ($X^2=40.2$, $df=1$, $p < .001$), but they were equally likely to report wearing a wide-brimmed hat ($X^2=0.04$, $df=1$, $p = .838$). Women were more likely than men to have used a sunscreen on the weekend ($X^2=20.1$, $df=1$, $p < .001$) or to have used sunscreen of SPF 15 or 15+ ($X^2=12.6$, $df=1$, $p < .001$). Moreover, women were more likely to have reported they chose to stay inside to avoid the sun between 11 am and 3 pm on at least one day of the weekend ($X^2=4.3$, $df=1$, $p < .05$) or to be 'mostly' in the shade during their time outside (27% compared to 16%; $X^2=21.6$, $df=2$, $p < .001$). Men and women were equally likely to report wearing a top with long or three-quarter length sleeves on the weekend ($X^2=0.2$, $df=1$, $p = .625$). Women were also more likely to report wearing sunglasses on the weekend ($X^2=11.7$, $df=1$, $p = .001$).

Respondents under 30 years were less likely than older respondents to report they wore a hat, cap or sun visor on the weekend (33% of respondents aged 14–29 years, compared to 49% of respondents 30–49 years, and 49% of respondents 50–69 years; $X^2=19.8$, $df=2$, $p < .001$). Younger respondents were also less likely to report they wore a wide-brimmed hat on the weekend (10% of respondents aged 14–29 years, compared to 23% of respondents 30–49 years, and 24% of respondents 50–69 years; $X^2=23.9$, $df=2$, $p < .001$) or a top with long or three-quarter length sleeves on the weekend (15% of respondents aged 14–29 years compared to 24% of respondents 30–49 years, and 30% of respondents 50–69 years; $X^2=17.8$, $df=2$, $p < .001$). Although age has been associated with sunscreen use in previous studies (Dobbinson & Borland 1999b), weekend sunscreen use was not significantly different by age in the current study ($X^2=0.8$, $df=2$, $p = .685$). Age was not associated with respondents choosing to stay inside to avoid the sun between 11 am and 3 pm on the weekend ($X^2=3.7$, $df=2$, $p = .159$). Similarly, age was not associated with staying mostly in the shade during time outside on the weekend ($X^2=4.9$, $df=4$, $p < .298$). Respondents of all ages were equally likely to report they wore sunglasses when outside on the weekend ($X^2=4.2$, $df=2$, $p = .124$).

There were few other consistent demographic effects for weekend sun-protective behaviour. In summer 1999/2000 respondents from households of lower socio-economic status were less likely to have worn a hat of any type (linear-by-linear $X^2= 4.2$, $df=1$, $p < .05$) or to have worn a wide-brimmed hat (linear-by-linear $X^2=9.3$, $df=1$, $p < .01$), sunglasses (linear-by-linear $X^2=11.0$, $df=1$, $p = .001$) or to have used sunscreen of at least

SPF 15 (linear-by-linear $X^2=6.2$, $df=1$, $p<.05$) when outside on the weekend. There were no consistent differences in respondents' use of other forms of sun protection by education level after adjusting for age differences. A few significant differences by education were noted for younger respondents only. Respondents with less education aged 14–29 years were less likely to have worn sunglasses (linear-by-linear $X^2=10.5$, $df=1$, $p=.001$); those aged 30–49 years were less likely to have worn a hat of any type (linear-by-linear $X^2=9.9$, $df=1$, $p<.01$) or to have worn a wide-brimmed hat (linear-by-linear $X^2=13.8$, $df=1$, $p<.001$). There were a few differences by respondents' area of residence. Respondents from rural or provincial areas compared to Melbourne residents were more likely to report they wore a hat on the weekend ($X^2=10.5$, $df=1$, $p=.001$) and similarly were more likely to have worn a wide-brimmed hat on the weekend ($X^2=9.2$, $df=1$, $p<.01$) but were less likely to have spent their time outdoors 'mostly in the shade' ($X^2=16.0$, $df=2$, $p<.001$)

Consistency of respondents' sun protection

In previous years one of the key indicators for the SunSmart program's outcomes was monitoring trends in the *usual* sun-protective behaviours of Victorians over the latest summer (Borland 1989a; Borland 1992; Segan & Borland 1994; Purchase & Borland 1994; Montague, Segan & Borland 1995; Dixon, Cappiello & Borland 1997; Dixon, Shatten & Borland 1997; Dobbinson & Borland 1999a; Dobbinson & Borland 1999b). This measure is now limited to assessing Victorians' *usual* sun-protective behaviour over the *previous summer* for those interviewed in December and over the *current summer* for those interviewed in January and February. These results represent a new baseline for the frequency with which Victorians engaged in various forms of sun protection during the peak UV radiation period of 11 am to 3 pm (sought shade, wore hats, covering clothing and sunscreen) over the previous and current summer.

Table 6.7 shows the frequency with which respondents reported they 'usually' or 'always' engaged in sun-protective behaviours overall and by gender. Patterns of *regular* sun protection over summer were similar to reported *weekend* sun protection being significantly associated with age and gender.

One means of assessing trends in the usual summer sun protection of Victorians, was to compare respondents' reporting regularly engaging in sun-protective behaviours for the *current* summer versus the *previous* summer. Respondents reported frequency of engaging in these sun-protective behaviours was not significantly different by whether interviewed about the previous summer or the current summer. This included those seeking shade ($X^2=4.3$, $df=2$, $p=.112$), wearing a hat ($X^2=1.4$, $df=2$, $p=.514$), wearing covering clothing ($X^2=3.6$, $df=2$, $p=.166$), wearing briefer clothing so as to get a tan ($X^2=2.2$, $df=2$, $p=.327$), and using sunscreen ($X^2=1.8$, $df=2$, $p=.401$).

It should also be noted that although direct comparisons cannot be made with the earlier post campaign data, the general pattern of prevalence of *regular use* of these sun-protective behaviours was similar to the data for summer 1998 (Dobbinson & Borland 1999b). The exception was for regular sunscreen use with a relatively higher prevalence, in comparison with other sun-protective behaviours such as hat wearing as measured by the weekly telephone surveys, in contrast to reports from previous post campaign surveys.

Table 6.7 Proportion of respondents reporting they ‘almost always’ or ‘usually’ engaged in sun-protective behaviour over the last/this summer

	Males n=703	Females n=703	Overall n=1406
Sought shade***	55%	68%	62%
Hat use***	60%	45%	52%
Cover up	40%	37%	39%
Sunscreen use***	47%	65%	56%

*** $p < .001$; ** $p < .01$; * $p < .05$

Patterns of *usual* sun-protective behaviours by gender and age were generally similar to those reported for *weekend* sun protection. Females were more likely to report *regularly* seeking shade ($X^2=32.2$, $df=2$, $p < .001$) or using sunscreen ($X^2=50.9$, $df=2$, $p < .001$) while males were more likely to report *regularly* wearing a hat ($X^2=35.1$, $df=2$, $p < .001$) over summer. Younger respondents were less likely than older respondents to report *regularly* seeking shade (47% of respondents aged 14–29 years, compared to 70% of respondents 30–49 years, and 66% of respondents 50–69 years; $X^2=61.4$, $df=4$, $p < .001$) or wearing a hat (42% of respondents aged 14–29 years, compared to 57% of respondents 30–49 years, and 58% of respondents 50–69 years; $X^2=34.3$, $df=4$, $p < .001$) or wearing covering clothing (30% of respondents aged 14–29 years, compared to 41% of respondents 30–49 years, and 45% of respondents 50–69 years; $X^2=24.8$, $df=4$, $p < .001$) over summer. Young people were also more likely to report *regularly* wearing less or brief clothing to get some sun on their skin than older people (17% of respondents aged 14–29 years, compared to 6% of respondents 30–49 years, and 7% of respondents 50–69 years; $X^2=58.9$, $df=4$, $p < .001$). Older people were less likely to report *regularly* using a maximum protection sunscreen over summer than younger people (56% of respondents aged 14–29 years, compared to 62% of respondents 30–49 years, and 45% of respondents 50–69 years; $X^2=29.0$, $df=4$, $p < .001$).

In previous reports there has been little evidence of any consistent difference in Victorians’ sun-protective behaviour by socio-economic status or education (Dobbinson & Borland 1999 a & b). In summer 1999/2000 a few significant differences were noted by socio-economic status and by education level. Respondents reporting *regularly* using sunscreen (linear-by-linear $X^2=14.6$, $df=1$, $p < .001$) and wearing a hat over summer (linear-by-linear $X^2=5.7$, $df=1$, $p < .05$) varied by socio-economic group. *Regular* use of sunscreen increased with increasing household socio-economic status (48% of respondents from lower blue collar worker households compared with 53% of respondents from upper blue collar worker households, 54% of lower white collar worker and 62% of upper white collar worker households). However, no clear pattern of *regular* hat wearing between the socio-economic groups was evident. Regular sunscreen use (linear-by-linear $X^2=28.1$, $df=1$, $p < .001$) and regular hat wearing (linear-by-linear $X^2=6.2$, $df=1$, $p < .05$) were also significantly associated with respondents’ education. Nevertheless, these effects were not consistent when adjusted for age, being significant only for respondents aged 30–49 years (for sunscreen use linear-by-linear $X^2=19.4$, $df=1$, $p < .001$; for hat use linear-by-linear $X^2=18.5$, $df=1$, $p < .001$).

Reported usual sun-protective behaviour was not significantly associated with respondents’ area of residence.

Incidence of summer weekend sunburn

To monitor the outcome of respondents’ efforts to protect themselves from the harmful effects of the sun on the weekend, respondents were asked, ‘Did you get at all sunburnt yesterday? What about Saturday?’ Respondents were also asked to describe their sunburn, including which parts were sunburnt and the severity of the sunburn. Towards the end of the interview respondents were further asked about the extent of their

worst burn, whether they had been trying to protect themselves or not, and other reasons they might have for getting sunburnt at the weekend.

It should be noted that although the sunburn data reported here is a new baseline, analysis of future trends in incidence of sunburn among Victorians is not proposed. Given the important influence of UV radiation levels on sunburn rates, as previously mentioned, analysis of trends in the incidence of weekend sunburn among Victorians is limited and would even be somewhat misleading in terms of monitoring the behavioural component of sunburn and evaluating the efficacy of our skin cancer control program. UV radiation data are currently not available for the whole state; this data is only available for the Melbourne metropolitan area. Thus 'trends' in sunburn incidence for Victoria are not reported in our evaluation reports, as this does not provide a clear picture of prevention efforts. Trends in sunburn for Melbourne residents will be reported elsewhere.

The incidence of sunburn (not UV adjusted), on weekends in summer 1999/2000 was 10% of Victorians aged 14–69 years (see Table 6.8). Sunburn varied by skin type, age and gender. Respondents with highly sensitive (just burn and not tan afterwards) or moderately sensitive (burn first, then tan afterwards) skin types were more likely than those with less sensitive (just tan) skin to be sunburnt on the weekend (10% and 13% respectively were sunburnt compared to 6%; $X^2=11.9$, $df=2$, $p<.01$). Men were more likely than women ($X^2=17.1$, $df=1$, $p<.001$) and younger people more likely than older people (14% of respondents aged 14–29 years, compared to 11% of respondents 30–49 years, and 5% of respondents 50–69 years; $X^2=20.2$, $df=2$, $p<.001$) to report being sunburnt on weekends. Residents of regional Victoria were more likely than residents of metropolitan Melbourne to report being sunburnt ($X^2=6.5$, $df=1$, $p<.05$). Socio-economic status was not associated with weekend sunburn (linear-by-linear $X^2=0.01$, $df=1$, $p=.925$). Nevertheless, respondents under 50 years were more likely to report being sunburnt with decreasing education level (linear-by-linear $X^2=5.6$, $df=1$, $p<.05$).

Table 6.8 Incidence[†] of summer weekend sunburn among Victorians

	Males n=703	Females n=704	Overall n=1406[‡]
Melbourne residents (n=1036)	11%	8%	9%
Regional residents (n=371)	22%	6%	14%
Overall Victoria (n=1406)	14%	7%	10%

[†] Not adjusting for UV radiation levels.

[‡] Sub-total n exceeds that for frequencies overall due to population weights.

Sunburnt respondents were most commonly burnt on their face or other parts of the head (46%), followed by their arms or hands (32%), neck (28%), legs or feet (23%) and shoulders (21%). Few respondents were sunburnt on their trunk, including the chest, back or stomach (10%).

Of those who were sunburnt (n=146), 64% reported their worst sunburn as 'red, without being tender', 34% as 'red and tender' and 3% as 'red, tender and blistered'. Twenty-five per cent of respondents reported their worst burn extended over 'most' of the body part sunburnt, 32% said it was 'half', 12% said it was 'well under half', and 31% that a 'small strip' that was sunburnt. People most commonly reported their 'face' (23%) was sunburnt worst.

To further explore why people got sunburnt, respondents were asked whether during the time they got sunburnt they were trying to protect the part of their body that was worst sunburnt (see Table 6.9). Forty-five per cent reported they had tried to protect that area and 55% reported they had not. Few demographic effects were noted for trying to protect at the time of being sunburnt. Of sunburnt respondents, Melbourne residents were less likely than residents from rural or provincial areas (35% cf. 64%; $X^2=11.3$, $df=1$, $p=.001$) and

females were less likely than males (33% cf. 55%; $X^2=4.3$, $df=1$, $p<.05$) to claim they were trying to protect themselves when they were sunburnt. There were no other significant demographic effects.

Of those who said they had tried to protect themselves, the common reasons given for being sunburnt included that they thought the sunscreen they used wore off (35%), or that they were not protecting themselves all the time (34%). Reasons mentioned less often were that they had missed applying sunscreen to that area (19%), or that they had got sunburnt through the sunscreen (3%), or through clothing (7%) and 3% could not say how they got sunburnt. Of those respondents who had reported they had not tried to protect the area that was worst sunburnt the common reasons given were that they forgot to protect that area (52%), or that they did not think they needed to protect that area (33%). Other reasons given were that they could not be bothered (10%) or that they could not say why they did not protect that area (5%).

Table 6.9 Sunburnt respondents' perceived reasons for sunburn

Overall people sunburnt n=146	
<i>Sunburnt while trying to protect the area that was worst burnt (n=66)</i>	
Not protecting all the time	15%
Area missed with sunscreen	8%
Sunscreen wore off	16%
Burnt through sunscreen	1%
Burnt through clothing	3%
Could not say	1%
<i>Sunburnt but not trying to protect the area that was worst burnt (n=81)</i>	
Forgot to protect	29%
Could not be bothered	5%
Did not think they needed to	18%
Could not say why did not protect	3%
Total sunburnt	146

Note: Sub-total n exceeds that for frequencies overall due to population weights.

Retail intercept survey

Background

SunSmart is continuously challenged to develop new media to educate and prompt Victorians about the need for sun protection to prevent skin cancer. SunSmart has developed a number of television commercials for its mass media campaigns. Early campaigns have focused on educating the public about the risk of skin cancer in Australia and how to protect against the sun's ultraviolet radiation. These early messages were conveyed in television and radio commercials and were delivered by an animated character Sid Seagull with the key messages being to SLIP! on a top, SLOP! on some sunscreen and SLAP! on a hat (Rassaby et al. 1983). These commercials had a broad public appeal and were successful in raising awareness of skin cancer and improving attitudes and sun-protective behaviours of Victorians (Borland 1989b; Hill et al 1992b). The next generation of advertisements, *Leave your hat on* and *The line*, focused on lifestyle ads to show sun protection could be 'fashionable'. Evaluation of these advertisements found their appeal was limited and did not have a strong impact on adolescents and young adults, who were less likely than people of other ages to engage in sun-protective behaviour (Murphy 1995). A different approach was sought and in 1996–97 a new television commercial, *How to remove a skin cancer*, was developed using graphic images of medical treatment to convey the serious consequences of skin cancer. Results from post-campaign household surveys (Dobbinson & Borland 1999a; Dobbinson & Borland 1999b) found the new approach was well received by Victorians with some of the highest levels of awareness of television commercials since SunSmart began. A new commercial, *Timebomb*, was developed for the spring–summer 1999/2000 campaign. This commercial also used graphic images of medical treatment of skin cancers. Preliminary analysis of the awareness of the latest commercial was relatively low, as measured by the population survey, compared to the previous commercial. The following study was initiated to further explore awareness and influence of *Timebomb* among the target group.

Method

Over three weekends in April 2000, 200 young people were recruited at four Melbourne shopping centres (in Maribyrnong, Preston, Doncaster and Glen Waverley) to participate in a retail intercept survey exploring awareness and influence of two recent SunSmart television commercials. Slightly more females (58%) than males (42%) were recruited. Ages ranged from 15–24 years, the mean age was 19.5 years (SD=2.7). Participants viewed the *Timebomb* and *How to remove a skin cancer* commercials as digital video clips on laptop computers during face-to-face interviews. Interview sheets were randomised before recruitment to control for order effects on viewing the commercials and order of questions on perceived severity and susceptibility to skin cancer. There were four treatments in total and recruits received the randomised interview sheets in consecutive order.

Before exploring both prompted and unprompted awareness of the two television commercials, participants were asked questions relating to their perceived concern about and susceptibility to skin cancer. After viewing the first commercial participants were asked questions about its influence on perceived severity of and susceptibility to skin cancer and likely influence on sun protection and early detection behaviours. Therefore half of the participants gave responses relating to the influence of the *Timebomb* commercial and half gave responses relating to the influence of the *How to remove a skin cancer* commercial. After viewing both commercials all participants were asked to rate and compare the commercials in terms of the information provided, the images, their relevance to young people and likely effectiveness in promoting the seriousness of skin cancer to young people.

Results

Table 6.10 describes the degree to which young people perceived skin cancer as a disease they should be concerned about and were susceptible to, before viewing the *Timebomb* and *How to remove a skin cancer* commercials. The majority of these young people agreed that they should be concerned about getting skin cancer. Nonetheless, they were more likely to consider they had at least some chance of being injured in a motor vehicle accident than getting skin cancer.

Table 6.10 Attitudes about skin cancer and perceived susceptibility to skin cancer (n=200)

	Percentage agree
<i>A person your age should ...</i>	
be concerned about skin cancer	92%
be concerned about acne	68%
Sunlight can help reduce acne symptoms	24%
<i>Some/high chance that you will ...</i>	
get skin cancer	57%
be injured in a motor vehicle accident	70%

Awareness of the SunSmart commercials

Participants' awareness of each commercial was tested first by reading out a description of the commercial (unprompted awareness). For *Timebomb* the description was 'Do you remember ever seeing an advertisement on TV which showed scenes of a young man with a large mole on his neck? Do you remember ever seeing this advertisement?' For *How to remove a skin cancer* the description was 'Do you remember ever seeing an advertisement on TV showing scenes of an operation with scenes of an injection, and cutting a mole from the skin of someone's nose? Do you remember ever seeing this advertisement?'

If the participant could not recall seeing the commercial on television further prompting was given. Participants were next shown cards with photos from scenes in the commercial. If they still could not recall seeing the commercial on television a video of the commercial was played on the laptop computer. Table 6.11 shows the relative awareness of the two commercials. The awareness of *How to remove a skin cancer* was clearly much higher than that for *Timebomb* regardless of prompting. It is interesting that for both commercials there were some people who recognised that they had seen the commercial only after they were shown the video of it. Nevertheless, the majority of participants who recognised the commercials did so with the initial unprompted descriptions of the commercials.

Table 6.11 Relative awareness of the *Timebomb* and *How to remove a skin cancer* commercials

	Timebomb n=199	How to remove ... n=199
Unprompted awareness	41%	83%
Prompted awareness		
After seeing show cards	12%	4%
After viewing commercial	12%	2%
Total awareness (either prompted or unprompted)	65%	89%

Key messages conveyed

Regardless of whether they had recalled seeing the commercials on television or not, all participants were shown the videos of the commercials. After viewing each commercial, participants were asked 'Can you describe what you thought of this advertisement or what information it was telling you?' The most common response to the *Timebomb* commercial was that it was a 'shocking' or 'graphic' ad (53%). The key message people mentioned was that 'you should protect yourself from the sun/UV today' (31%) followed by the campaign slogans 'Slip! Slop! Slap!' (18%), and 'SunSmart' (19%). People mentioned a range of other messages mainly relating to detection and treatment of melanoma and tumours. The most common of these messages mentioned was that 'skin cancer can cause cancerous tumours' (7%). Only 1% mentioned that 'skin cancer is like a timebomb'. Despite the graphic nature of the images in the commercial only 3% of the young people said they could not watch the ad. The messages people got from *How to remove a skin cancer* were similar. Forty-seven per cent mentioned that the commercial was 'shocking' or 'graphic'. The key message people got from the *How to remove a skin cancer* commercial was about 'how to protect yourself from the sun' (29%) followed by 'Slip! Slop! Slap!' (14%), and 'SunSmart' (15%). Other messages mentioned mainly related to avoiding sunburn or the risk of sunburn and some were on checking skin for skin cancer. The commercial slogan 'You might wear your bum on your nose unless you're SunSmart' was mentioned by 8% of participants.

Influence of the commercials

As mentioned previously, after viewing the first commercial and before viewing the second, participants were further questioned about the influence of the first commercial they viewed.

Participants were asked to consider the influence of this commercial when they first saw it on television as well as when seeing it at the interview. Table 6.12 shows the relative reported influence of the two commercials on these young people. When asked 'Did this ad influence you to increase or decrease your level of sun protection?' participants who saw *Timebomb* were as likely as those who saw the *How to remove a skin cancer* first to report these ads influenced them to increase their sun protection ($X^2=0.41$, $df=1$, $p=.520$). The influence on likelihood of visiting a doctor for skin checks ($X^2=0.72$, $df=1$, $p=.395$) or actual checking of their own skin ($X^2=0.18$, $df=1$, $p=.671$) was also similar for the *Timebomb* compared to *How to remove a skin cancer*. The influence of the two commercials on susceptibility to skin cancer was also similar ($X^2=1.94$, $df=1$, $p=.164$).

It appears that the main difference in influence of the two commercials was on perceived seriousness of skin cancer. Participants commenting on the influence of *Timebomb* compared to those commenting on the influence of *How to remove a skin cancer* were more likely to report they thought it influenced them to perceive skin cancer as more serious after viewing the commercial (where severity scores equal to '4'

represented 'a little more serious' and '3' represented 'no different', *Timebomb* rated a mean score of 3.9 (sd=0.96) and *How to remove a skin cancer* a mean score of 3.6 (sd=0.97); $t=2.03$, $df=196$, $p<.05$).

Table 6.12 Relative influence of the two commercials (asked of those who saw the ad first)

	After viewing <i>Timebomb</i> n=101	After viewing <i>How to remove ...</i> n=99
Increased ...		
Level of sun protection	66%	62%
Likelihood of visiting a doctor to have skin checked	53%	47%
Reported influence to check own skin for skin cancer	52%	49%
Perceived susceptibility to skin cancer	39%	29%
Perceived severity/seriousness of skin cancer*	mean score=3.9	mean score=3.6

*** $p<.001$; ** $p<.01$; * $p<.05$

Participants' comparative ratings of the two commercials

Once the participants had viewed both commercials, they were asked to compare them, rating the information conveyed, images, appeal or relevance to someone their age, and likely effectiveness in promoting the seriousness of skin cancer to young people (refer Table 6.13).

Over one-third of respondents (37%) thought at least one of the commercials had provided them with new information about skin cancer. Sixteen per cent thought both had new information, 11% thought only *Timebomb* had new information and 10% thought only *How to remove a skin cancer* had new information. The majority of the young people rated the commercials' images as graphic. Sixty per cent rated the *Timebomb* images as 'very graphic', compared to 51% who rated the *How to remove a skin cancer* images as 'very graphic'.

The participants were next asked whether they thought the commercials 'appeal to' or 'are relevant to' someone their age. The majority (69%) thought both commercials were relevant, 10% thought neither commercial was relevant, 12% thought *Timebomb* was more relevant and 6% thought *How to remove a skin cancer* was more relevant.

Reasons given for *Timebomb* being more relevant mainly related to showing a young man in the commercial, some thought it was 'more graphic' while others thought the operation looked like it would have more serious consequences. For those that preferred *How to remove a skin cancer*, some liked the humour, one thought it was easier to understand, and others thought it was 'more graphic'. When rating the two commercials' effectiveness in promoting the seriousness of skin cancer to younger people their age, over half thought *Timebomb* would be more effective (55%), whereas under one-third thought *How to remove a skin cancer* would be more effective (28%). Few thought neither commercial would be effective (14%) and 4% could not say whether they would be effective or not.

Table 6.13 Comparative ratings of the two commercials (n=200)

	<i>Timebomb</i>	<i>How to remove ...</i>
Provided new info	11%	10%
Rated commercial's images as 'very graphic'	60%	51%
More relevant to someone their age	12%	6%
More effective in promoting seriousness of skin cancer	55%	28%

Discussion

Campaign awareness

Evaluation of awareness of the campaign among the Victorian population has been limited by the need for a revised methodology. Previous surveys had indicated that awareness of the term 'SunSmart' and understanding of its meaning was high, reaching 87% of Victorians aware of the phrase in 1998 (Dobbinson & Borland 1999b). The revised methodology has now focused on evaluating awareness of sun protection information and advertising, sources of such advertising and awareness of the campaign television commercial. In future years there will be some flexibility in modifying the survey items to reflect the changing focus of the campaign.

The data presented here should be considered a new baseline for the program but some generalisations about trends may be speculated upon. As previously indicated Victorians had reached a high level of awareness of the campaign and it is unlikely that this would have decreased given the continued efforts of the campaign and trends in previous years. Similarly, although only 38% of Victorians reported they were aware of information and advertising on sun protection within the previous week, it is unlikely that this is significantly lower than in previous years given that trends in awareness of sun protection information over the summer has remained stable for some time (Dobbinson & Borland 1999b). The reported sources of information and advertising on sun protection were similar to other years with television, radio, newspaper inserts and magazines the major sources. When these respondents were asked to name the slogan of the anti-skin cancer campaign the most common response was *Slip! Slop! Slap!* (51%) with relatively less people mentioning SunSmart (7%). This would suggest that although people are aware of the term *SunSmart* they are more familiar with the term *Slip! Slop! Slap!* as its slogan.

Evaluation of the impact of the *Timebomb* commercial was assessed by both items on awareness in the population survey and a more detailed survey of the target group for this commercial. Awareness of *Timebomb* over all Victorians was low (52%) when compared to awareness of the *How to remove a skin cancer* commercial in 1998 (75%) (Dobbinson & Borland 1999b). It may be that some of this difference could have been attributed to the difference in methodologies given that previously respondents were prompted with photo cards of scenes of the commercial. Nonetheless, the results of the retail intercept survey would indicate that at least among the target group there was a considerable difference in awareness of the two commercials, 65% compared to 89%, and that the show cards had only limited impact on recall of the commercials. It should be noted that the intercept study may have been influenced by novelty effects or bias due to the attention paid by viewing the commercials on lap-top computers rather than their usual television viewing. Nevertheless, it is likely that the impact of such effects would be similar for both commercials. Thus the difference in awareness is likely to be real but despite the lower awareness, *Timebomb* was regarded by the majority of young people in the retail intercept survey to be at least as influential with regard to conveying

the seriousness of skin cancer to young people as *How to remove a skin cancer*. These results imply that the latest commercial was well executed and its messages relevant, however it highlights that the media buy for the campaign has fallen short of its goals and further consideration of the marketing of the commercial is required.

Sun-protective behaviour

Unlike the campaign awareness levels, it is less certain what trends in Victorians' sun-protective behaviour and sunburn are over the interim transition to the new evaluation methodology and these will be discussed in future reports. Nevertheless, while at most half the respondents reported using the various forms of sun protection when outdoors on the weekend, hat use was relatively high (43%) and almost all those using a sunscreen (97%) reported using one with a 15 or 15+ SPF. Patterns of sun-protective behaviour were similar to those in previous years and both usual and weekend sun-protective behaviour tended to vary by age and gender. Younger people were less likely than older people to wear a hat or a wide-brimmed hat or tops with long or three-quarter length sleeves when outside. Women were more likely than men to seek shade and use sunscreen while men were more likely to wear hats when outside in peak UV radiation periods. Moreover, men were more likely than women, and younger people were more likely than older people, to be outside on summer weekends. The number of Victorians reporting they regularly engaged in the various forms of sun protection over summer was similar to that in previous post campaign surveys where seeking shade and use of protective clothing were common forms of sun protection used.

A new baseline for the incidence of weekend sunburn of Victorians was also collected in summer 1999/2000 with 10% of Victorians reporting they were sunburnt on the weekend. Other new data on sunburn explored the body area most commonly burnt and perceived reasons for the sunburn experienced for respondents' worst burn. People most commonly experienced sunburn on their head, neck and arms. Surprisingly, the majority of people sunburnt reported they had not tried to protect the area that was worst sunburnt. The most common reasons for not protecting the area were 'forgetting' and not thinking they needed to protect that area. Of those who had tried to protect the area burnt, 'not protecting all the time' and the 'sunscreen wore off' were commonly reported reasons for the sunburn.

Conclusions

The results presented here indicate that the level of awareness of the SunSmart campaign and its messages continue to be high. Nevertheless, the data have also highlighted some areas where SunSmart might improve on Victorians' sun-protective behaviour. Males and young people continue to be important groups for SunSmart to target. They are most likely to be outdoors and to experience sunburn on summer weekends. The data on sunburn among Victorians also suggests there may be new messages about how to adequately protect yourself from sunburn. Such messages would address the high incidence of sunburn on the head, neck and shoulders, the need for reapplication of sunscreen as well as prompts for remembering to use sun protection when outside. As noted earlier to consolidate the effort put into developing an effective campaign commercial for television, there is a need to analyse the best possible use of the limited funds available for the media buy.

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