

**Secondary Student Survey 1999:  
Sun Behaviour Results**

**By**

**Geoffrey Jalleh & Rob Donovan**

**CBRCC Report 010319**

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**Centre for Behavioural Research in Cancer Control**

**Division of Health Sciences**

**Curtin University of Technology**

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Geoffrey Jalleh BCom (*Hons*) MPH  
**Associate Director**

Robert J. Donovan BPsych (*Hons*) PhD  
**Director**

### **Citation**

The citation below should be used when referencing this work:

Jalleh G and Donovan RJ. Secondary Student Survey 1999: Sun Behaviour Results. Centre for Behavioural Research in Cancer Control, Curtin University of Technology, Perth, 2001.

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## **EXECUTIVE SUMMARY**

In 1999, the sixth in a series of surveys on smoking and alcohol behaviour among Australian secondary students was conducted. Incorporated in the surveys was a number of questions assessing attitudes and behavioural practices with respect to sun protection. The Centre for Behavioural Research in Cancer Control was commissioned by the Cancer Foundation of Western Australia to report on the findings of the 1999 WA survey in relation to sun protection, compared to the previous two surveys conducted in 1996 and 1993.

## **SUMMARY OF MAJOR FINDINGS - CONCLUSIONS AND RECOMMENDATIONS**

- Over 90% in all sub groups were aware that most skin cancer is caused by ultraviolet radiation.
- From 1993 to 1999, there is an increasing trend in the prevalence of sunburn in all sub groups. In 1999, approximately 80% of respondents reported being sunburnt in the previous summer, and approximately 30% reported ever having a severe sunburn.
- In each of the three surveys, between 30% and 40% of respondents in all sub groups never/rarely spend most of their time inside on sunny days in summer between 10am and 2pm.
- In 1999, the proportion of respondents in all sub groups who always/usually stay mainly in the shade on a sunny day between 10am and 2pm decreased compared to 1996 and approached levels similar to 1993. In 1999, the proportion who always/usually stay mainly in the shade ranged from 26% to 31%.
- There was decrease in the proportion of respondents who always/usually wear a hat in all sub groups, except females aged 15-17 years. Males aged 12-14 years were significantly and substantially more likely to always/usually wear a hat than the other sub groups (approximately 70%). Females aged 15-17 years had the lowest rate of those who always/usually wear a hat in each of the three surveys (ranged between 30-40%). Caps remained by far the most common type of hat used in all sub groups (1999: ranged from 31% in females aged 15-17 years to 73% in males aged 12-14 years). However, the use

of caps decreased significantly and substantially in all sub groups except among males aged 12-14 years (but still in the same direction). In all sub groups, the magnitude of the decrease in the use of caps is somewhat similar to the increase in the use of sunsmart hats. In each age group, the use of sunsmart hats was significantly greater in females than males.

- Covering up with clothing decreased significantly in all sub groups in 1999 compared to 1996 and 1993. In 1999, the proportion who always/usually wear clothing to reduce sun exposure ranged from 13% to 28% in each sub group.
- In 1999, the proportion who deliberately wear less or briefer clothing ranged from a high of 28% in females aged 15-17 years to approximately 15% for the other sub groups.
- There is a decreasing trend in the proportion of females in both age groups who always/usually wear maximum protection sunscreen (SPF 15, or 15+), from 80% in 1993 to 76% in 1996 to 69% in 1999. For males, in both age groups, sunscreen use remained at 1996 levels which are substantially lower than in 1993 (12-14 age group: 54% and 56% vs 66%; 15-17 age group: 49% and 49% vs 55%).
- In all sub groups, the use of sunglasses was similar to 1996, except for females aged 15-17 years in which the use of sunglasses decreased. In each survey, females aged 15-17 years were substantially more likely to always/usually wear sunglasses than any other sub group (e.g., 1999: 51% vs 38% or less), while males aged 12-14 years were least likely to do so (ranged between 23-29% in each survey).
- Significantly more males in both age groups did not like to get a suntan in 1999 compared to 1993 (12-14 age group: 34% vs 21%; 15-17 years: 26% vs 15%). Amongst females, in both age groups, there was a significant increase in the proportion who do not like to get a suntan compared to 1996 and 1993 (12-14 years: 17% and 16% vs 22%; 15-17 years: 15% and 13% vs 19%). Nevertheless, over 65% of respondents in all sub groups still like to get a tan of some sort.

- As in 1996, a 'sun protection behaviour' score was computed on the six sun protection behaviours (i.e., sunglass usage, hat usage, sunscreen usage; time spent indoors, cover up with clothing, and stay in the shade). Overall, 89% always/usually adopted at least one behaviour when in the sun for an hour or more between 10am and 2pm (1996: 92%). In both 1999 and 1996, approximately one in five respondents adopted four or more of these behaviours.

In 1999, there was high awareness that most skin cancers are caused by ultraviolet radiation from the sun. However, self-reported sunburn rates remained high and there appears to be an increasing trend over the three data collection periods. The vast majority of respondents did not spend most of their time inside on sunny days in summer between 10am and 2pm (between 60% and 70%). Thus, it is important that sun protection behaviours are adopted. However, the data suggest that the adoption of a number of these behaviours has remained constant or declined. A positive change is the shift from the use of caps to sunsmart hats. A barrier to the adoption of sun protection behaviours is the highly favourable attitude of respondents towards a suntan in each of the three surveys. However there appears to be an increasing trend in the proportion of respondents who do not like to get a tan. Nevertheless, four in five respondents always/usually adopted at least one sun protection behaviour and one in five respondents adopted four or more of these behaviours.

## 1. INTRODUCTION<sup>1</sup>

In 1999, the sixth in a series of surveys on alcohol and smoking behaviour among Australian secondary school students was conducted. The survey was first conducted in 1984 and has since been repeated at three-yearly intervals. The aim of the surveys is to provide up-to-date estimates of the prevalence of smoking and drinking among school students. Other drug-use questions were first included in the 1996 survey to provide prevalence estimates of licit and illicit drug usage. Sun protection questions were included in the 1993, 1996 and 1999 surveys.

As with the preceding surveys, the project was a joint venture of the Australian Cancer Society (ACS) and the Public Health Division, Health Department of Western Australia, with the cooperation of the Western Australia Department of Education and the Catholic Education Commission. The protocol for the 1999 survey was the same as that followed in all previous surveys. The survey was coordinated nationally by the Centre for Behavioural Research in Cancer at the Anti-Cancer Council of Victoria on behalf of the ACS.

This report presents the findings for the sun protection component of the questionnaire.

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1. The introduction and methods sections are taken from a report written by the Health Promotion Services, Health Department of Western Australia and the Centre for Behavioural Research in Cancer, Anti-Cancer Council of Victoria, *Alcohol consumption among 12 to 17-year-old Western Australian school students in 1999, 2000.*

## **2. METHOD**

### **2.1 Sampling and Data Collection**

The methods of sampling and data collection were the same as those reported for the 1984 and subsequent surveys. The defined target population for the survey was all students enrolled in school year levels 7 to 12 in government, Catholic and independent schools in Western Australia.

#### ***Sampling***

To achieve a random sample of students for the survey, a stratified two-stage sample design was used. The following sampling steps explain the sampling process:

#### ***Step 1: Random selection of schools***

Secondary schools were selected through systematic random sampling from the total Western Australian school population, which comprised all government and non-government schools. Two school samples were drawn, one from schools with students in Years 8 to 10 and the other from schools which included students in Years 11 and 12. Thirty-two lower secondary schools (with students in Years 8 to 10) and 18 upper secondary schools (with students in Years 11 and 12) were selected for the survey. Within the fifty secondary schools that were recruited, 40 were from the metropolitan area and 10 were from country areas.

The principals of the randomly selected schools were sent a letter inviting them to participate. This was followed by a phone call. Once principals had agreed to participate they were sent a confirmation letter and an information sheet.

Of the 50 secondary schools initially approached, nine refused to participate in the survey. Of these, eight were replaced from a pool of equivalent pairs. In the remaining case, the replacement school refused to participate and another replacement school was used in the study (see Table 1).



Main primary feeder schools (Year 7)<sup>2</sup> were selected once the lower secondary schools were recruited. Of the 32 primary feeder schools initially approached, four refused to participate and three were replaced from a pool of equivalent pairs. In the remaining case, the replacement school refused to participate and another replacement school was used in the survey.

**Table 1 : Number of schools and students involved in the 1999 school student survey**

	Number of schools and students surveyed in 1999		
	Feeder schools* (Year 7)	Lower secondary (Year 8–10)	Upper secondary (Year 11–12)
Government	20	20	10
Catholic	6	6	4
Independent	6	6	4
No. of schools visited	32	32	18
No. of student groups of 20 per school	1 (20 students)	3 (60 students)	4 (80 students)
Total no. of students selected in sample	640	1920	1440

\* Each feeder primary school in the survey was combined with a lower secondary high school and the two were considered as one school.

### ***Step 2: Random selection of students***

From each of the randomly selected schools, a random cluster of students was selected from the school roll for years 7 to 12. From the lower secondary schools, a random sample of 20 students was chosen from each year level plus five replacements. From the upper secondary schools a random sample of 40 students was chosen from each year level plus 10 replacements. Replacements were used for students that were selected in the original sample, but were absent on the day of the survey. The random selection of students was conducted on an initial visit to each school by external research staff.

Within each of the government, Catholic and independent school systems, each student in each year had the same chance of being surveyed.

2. In Western Australia Year 7 students are included in the primary school system. In Eastern States schools Year 7 students are included in the high school system. To allow for comparison between States, main primary feeder schools for the lower secondary schools were included in the Western Australian survey so children in Year 7 could be included in the sample. For the purpose of this survey data from each feeder primary school in the survey was combined with data from the appropriate lower secondary high school and considered as data from one school.

### ***Survey administration***

The survey was conducted in schools in August and September 1999, being Term III, Semester 2 of the school year. In 1996, the survey was administered one term earlier in July (Term II, Semester 2). When comparing responses for Year 12 students (particularly for prevalence data within the last week/month), it must be considered that in 1999, this survey was conducted much closer to their mock TEE exams than in 1996. It is possible that some results for Year 12 students could be different than in 1996, as students may be more likely to study and less likely to be outdoors, for example, than if the exams were further from the survey period. Within the weighted sample of Year 12 students, 29% were aged 16 years, 64% were aged 17 years and 7% were 18 years or more.

The survey was administered by external research staff, with no teachers present unless specifically requested by the school. In 1999, 21% of students completed their survey with a teacher present in the room, twice as many as in 1996 (10%). Analysis of the 1999 results was conducted and there were no significant differences in overall prevalence estimates for alcohol, smoking or drugs between those surveyed with a teacher present versus those without a teacher present. Therefore, this factor does not appear to have affected the 1999 results.

To minimise discipline problems and to reduce any influence of friends on the answering of questions, students were generally tested in mixed year level groups of 20. Students did not have prior knowledge of the contents of the survey.

In surveys prior to 1996, principals gave permission for students to participate in the survey. In 1999, however, passive consent was obtained from the parents in 45 of the 50 schools. Passive consent was obtained prior to random selection of students. Student consent was also obtained prior to commencement.

### ***The Questionnaire***

The questionnaire began with questions related to alcohol and tobacco. Questions on other drug use and drug-related attitudes followed the alcohol and tobacco sections. Questions on sun protection followed these sections. Prior to the commencement of the survey the issue of confidentiality of students answers was explained in full to students. They were asked to place their completed questionnaire in an envelope and seal it before handing it back to external research staff.

## Response rates

### *School response rates*

In 1999, 85% of the secondary schools approached participated in the survey. This compared to 98% achieved in 1987, 91% in 1990, 92% in 1993 and 79% in 1996. Data for 1984 was not available (Table 2).

### **Common reasons for non-participation of schools in 1999 were:**

- concurrent or recent involvement in other surveys;
- the timing of the survey, which coincided with secondary school exams and ‘excessive workloads’;
- the perceived disruption associated with surveying randomly selected students rather than entire classes;
- perceived logistical difficulties, e.g., no spare classrooms, presence of mature age students;
- no interest in the survey.

**Table 2: Achievement rates for schools\* in each of the survey years**

Survey year	Number of schools required	Number of schools refused (replaced)	Number of schools approached	Number of schools who participated in the survey	Achievement rate (%)
1987	39	1(1)	40	39	98
1990	52	5(5)	57	52	91
1993	50	4(2)	52	48	92
1996	50	12(11)	62	49	79
1999	50	9(9)	59	50	85

\* Each feeder primary school in the survey was combined with a lower secondary high school and the two were considered as one school.

### **Student response rates**

A total of 3,730 WA secondary school students in Years 7 to 12 took part in the 1999 survey, resulting in a response rate of 93%. Response rates for previous surveys were 76%, 98%, 92%, and 94% for 1984, 1990, 1993 and 1996 respectively. Response rate information was not available for the 1987 survey.

## **2.2 Sample Characteristics**

Data presented here by age includes only students aged 12 to 17 years. Students younger or older than this were excluded from analyses reported by age as the size of resulting age groups was too small to enable reliable estimates to be calculated. Of the 3,730 students who took part in this survey, 3,458 were aged 12 to 17 years.

The age and sex distribution of the sample of students aged 12 to 17 years is presented in Table 3a.

**Table 3a: Distribution of Western Australian sample, by age and sex\***

	Age						12-17
	12	13	14	15	16	17	
Males	301	299	304	316	300	210	1730
Females	280	286	328	294	318	214	1720
No answer	1	1	2	1	1	2	8

\* *Sample sizes reported here represent unweighted data*

Data reported by year level include all students in Years 7 to 12. The sex and year level distribution of the sample of students in these years is presented in Table 3b.

**Table 3b: Distribution of Western Australian sample, by year level and sex\***

	Student year level						7-12*
	7	8	9	10	11	12	
Males	320	315	305	309	313	299	1861
Females	308	294	300	298	323	314	1837
No answer	3	2	1	3	2	3	14

\* *Excludes 18 missing cases of students who did not answer year level questions. Sample sizes reported here represent unweighted data*

Table 4 presents the weighted sample demographics for age and sex by region and socioeconomic status. There were no major age or gender related differences evident between those living in metropolitan areas compared to those from country regions. When analysing results for the socioeconomic status measure, however, it must be noted that the high socioeconomic status sub-group contains a higher percentage of students aged 16 to 17 years of age than the low and medium socioeconomic sub-groups.

**Table 4: Sample demographics: Age and sex, by region and socioeconomic status\***

	REGION		SOCIOECONOMIC STATUS			TOTAL
	Metro	Rural	Low	Medium	High	12–17*
AGE	%	%	%	%	%	%
12	19.2	21.1	22.4	21.5	16.4	19.7
13	19.9	19.8	20.3	22.8	16.7	19.9
14	19.8	19.4	19.7	22.5	16.6	19.6
15	17.7	18.8	17.0	17.3	19.5	18.1
16	15.3	13.5	13.8	10.3	20.0	14.8
17	8.0	7.3	6.8	5.5	10.8	7.9
SEX						
Male	49.5	52.5	46.9	53.6	49.4	50.6
Female	50.5	47.5	53.1	46.4	50.6	49.4

\* Data reported in this table has been weighted by age, sex and school type.

### 2.3 Data Analysis Issues

**Weighting:** Data were weighted to counteract any over-sampling or under-sampling with respect to age, sex, year level or school type. Weighting of data was based on Western Australian school enrolments for Semester 2, 1999, provided by the Education Department.

**Statistical probability:** Only differences associated with a p-value of <0.05 are reported as statistically significant.

**School retention rates:** The retention rates for Years 11 and Year 12 were relatively similar between 1996 and 1999. School retention rates in 1996 and 1999 for upper secondary school students were higher than in 1990, but lower than in 1993. In 1999, 60% of male students and 72% of female students in Western Australia remained in school until Year 12. In 1996, 58% of

male students and 70% of female students remained at school until Year 12<sup>3</sup>. This suggests that the population of Year 7 to 12 students in both 1996 and 1999 was different to that in previous surveys, since there is a different proportion of Year 11 and 12 students. Thus, it is appropriate to compare 1999 results for total students with those for 1996. However, due to the different retention rates described here, it is not appropriate to compare the 1999 results for total students with those from surveys conducted prior to 1996.

**Sampling error:** As this data has been obtained from a sample and not on a census of the total population, it is necessary to allow for sampling error. A guide to the extent of the possible sampling error (or margin of error) associated with estimated values for males and females within each age group is provided in Table 5.

**Table 5: Sampling error associated with estimated response percentages obtained for males and females within each age group\***

Estimated response percentage for:	Age						Total 12-17
	12	13	14	15	16	17	
<b>MALES</b>							
10% / 90%	± 3.4	± 3.4	± 3.3	± 3.3	± 3.3	± 4.0	± 1.4
20% / 80%	± 4.5	± 4.5	± 4.4	± 4.4	± 4.5	± 5.3	± 1.9
30% / 70%	± 5.1	± 5.1	± 5.1	± 5.0	± 5.1	± 6.1	± 2.1
40% / 60%	± 5.5	± 5.5	± 5.4	± 5.3	± 5.5	± 6.5	± 2.3
50% / 50%	± 5.6	± 5.6	± 5.6	± 5.4	± 5.6	± 6.6	± 2.3
<b>FEMALES</b>							
10% / 90%	± 3.5	± 3.4	± 3.2	± 3.4	± 3.2	± 3.9	± 1.4
20% / 80%	± 4.6	± 4.6	± 4.3	± 4.5	± 4.3	± 5.3	± 1.9
30% / 70%	± 5.3	± 5.2	± 4.9	± 5.2	± 5.0	± 6.0	± 2.1
40% / 60%	± 5.7	± 5.6	± 5.2	± 5.5	± 5.3	± 6.4	± 2.3
50% / 50%	± 5.8	± 5.7	± 5.3	± 5.6	± 5.4	± 6.6	± 2.3
<b>TOTAL</b>							
10% / 90%	± 2.4	± 2.4	± 2.3	± 2.4	± 2.3	± 2.8	± 1.0
20% / 80%	± 3.2	± 3.2	± 3.1	± 3.1	± 3.1	± 3.7	± 1.3
30% / 70%	± 3.7	± 3.7	± 3.5	± 3.6	± 3.6	± 4.3	± 1.5
40% / 60%	± 3.9	± 3.9	± 3.8	± 3.8	± 3.8	± 4.6	± 1.6
50% / 50%	± 4.0	± 4.0	± 3.8	± 3.9	± 3.9	± 4.6	± 1.6

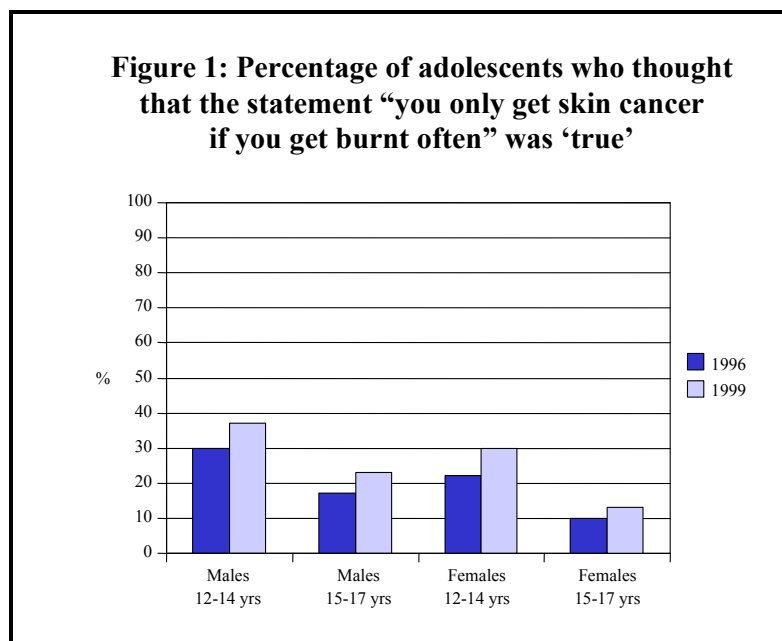
\* (Based on 95% confidence level)

3. The statistics reported here are from the Education Department of Western Australia. ABS also produce statistics on student retention rates, however they vary from Education Department figures since they include full fee paying students and students aged 18+. The ABS student retention rates were reported as 70.7% in 1999, compared to 71.5% in 1996.

### 3. RESULTS

#### 3.1 Sun Protection Knowledge

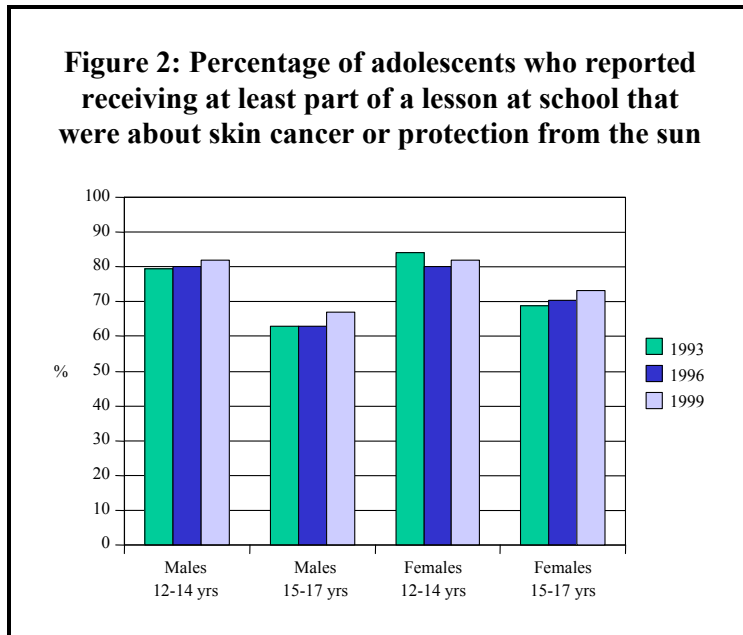
In both 1999 and 1996, respondents were presented with the statement “you only get skin cancer if you get burnt often” and asked whether the statement is ‘true’ or ‘false’. In all sub groups, there was a significant increase in the proportion of respondents who thought that the statement is ‘true’. In each survey, both males and females aged 12-14 years were significantly more likely to respond in the affirmative than their counterparts aged 15-17 years (e.g., 1999: males: 37% vs 23%; females: 30% vs 13%)(see Figure 1).



In 1999, when respondents were presented with the statement “most skin cancer is caused by ultraviolet radiation (UVR) from the sun” and asked whether the statement is ‘true’ or ‘false’, over 90% in all sub groups were aware that most skin cancer is caused by UVR.

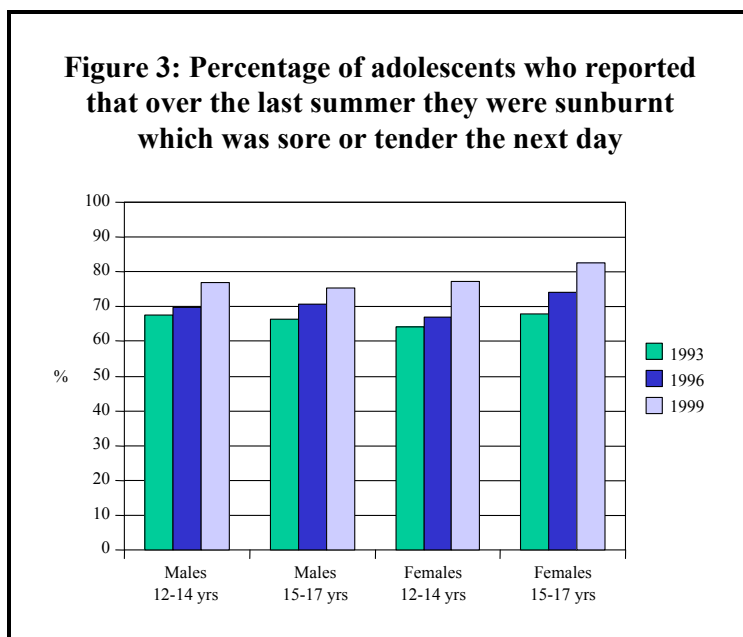
#### 3.2 Sun Protection Education in Schools

There was a slight increase in the proportion of respondents reporting receiving at least part of a lesson at school about skin cancer or protection from the sun in schools in 1999 compared to 1996 (see Figure 2). Respondents aged 12-14 years were significantly more likely to report receiving sun protection education than those aged 15-17 years (82% and 70%, respectively).



### 3.3 Prevalence of Sunburn

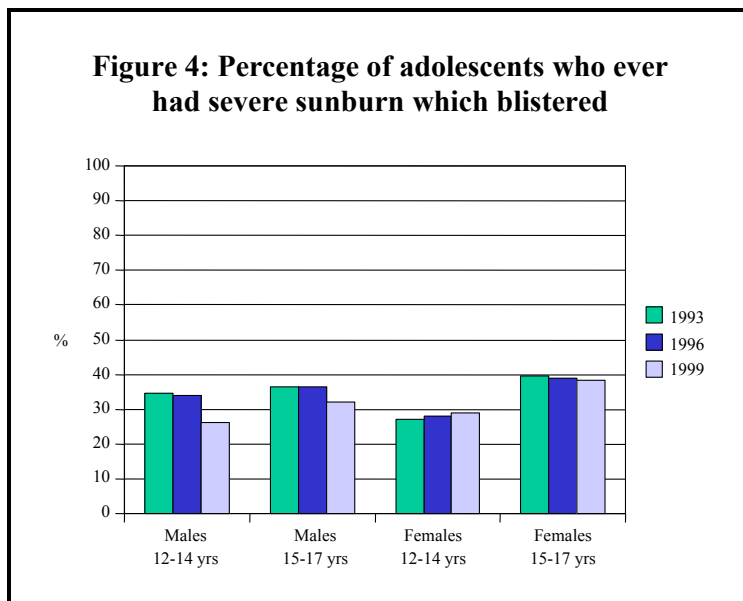
In all sub groups, there is an increasing trend in the proportion of respondents who reported that over the last summer they were sunburnt to the extent of being sore or tender the next day (ranged between 64% and 83%)(see Figure 3).



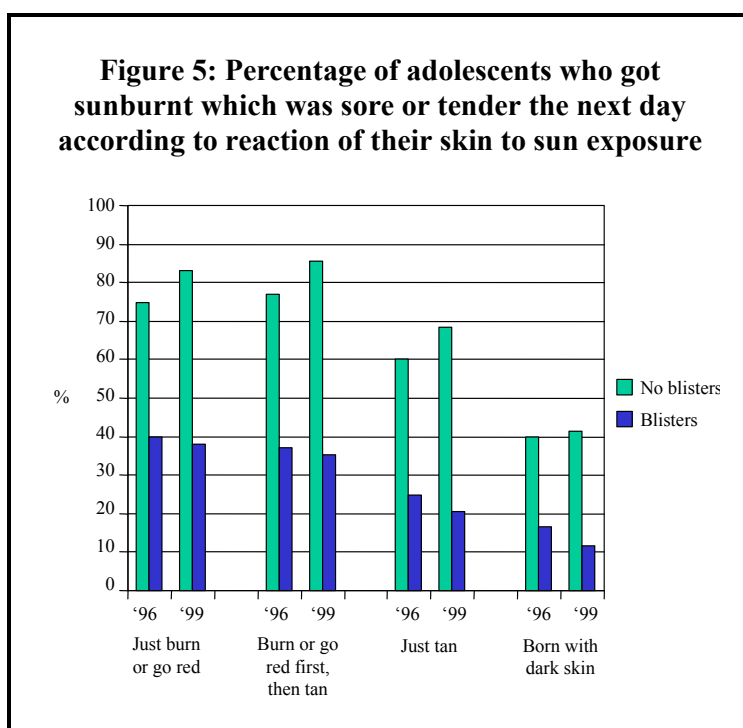
For females, self-report of severe sunburns that blistered remained constant over the three surveys (see Figure 4). For males, severe sunburn in both age groups decreased in 1999 compared to 1996 and 1993 (12-14 years: 26% vs approximately 35%; 15-17 years: 32% vs



approximately 36%). In each of the three surveys, severe sunburn was highest in females aged 15-17 years at approximately 40%.



Sunburn status in the last year was related to how respondents' reported the reaction of their skin to sun exposure. In both 1999 and 1996, significantly more respondents who 'just burn or go red' or 'burn or go red first, then tan afterwards' were sunburnt than those who 'just tan' (1999: 83% and 86% vs 68%; 1996: 75% and 77% vs 60%)(see Figure 5). A similar pattern was evident for severe sunburn (1999: 39% and 35% vs 21%; 1996: 40% and 36% vs 24%). Respondents who were born with dark skin reported the lowest rate of sunburn (40% in each year) and severe sunburn (1999: 11%; 1996: 16%).

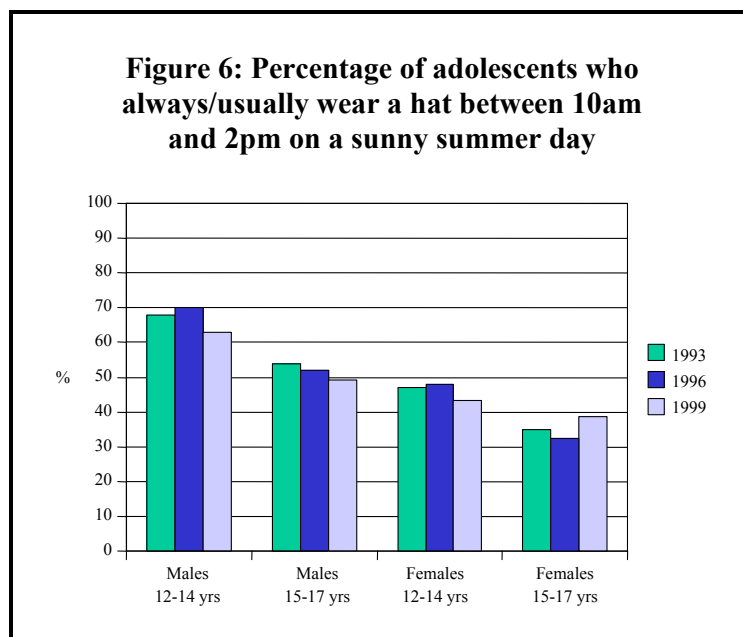


### 3.4 Sun Protection Behavioural Status

Respondents were presented with a number of specific sun protection behaviours and asked how often they would adopt each behaviour when they are in the sun for an hour or more between 10am and 2pm. The response categories were ‘always’, ‘usually’, ‘sometimes’, ‘rarely’ and ‘never’.

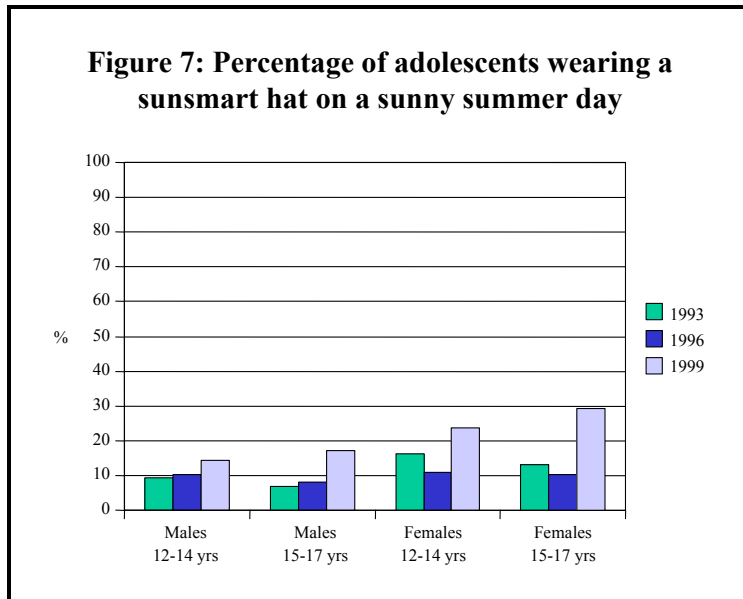
#### Hat Usage

There was a decrease from 1993 to 1999 in the proportion of respondents who always/usually wear a hat in all sub groups, except females aged 15-17 years (see Figure 6). For both males and females, significantly fewer respondents aged 15-17 years always/usually wear a hat compared to those aged 12-14 years. Males aged 12-14 years were significantly and substantially more likely to always/usually wear a hat than the other sub groups (approximately 70%). Females aged 15-17 years had the lowest rate of those who always/usually wear a hat in each of the three surveys (ranged between 30-40%).



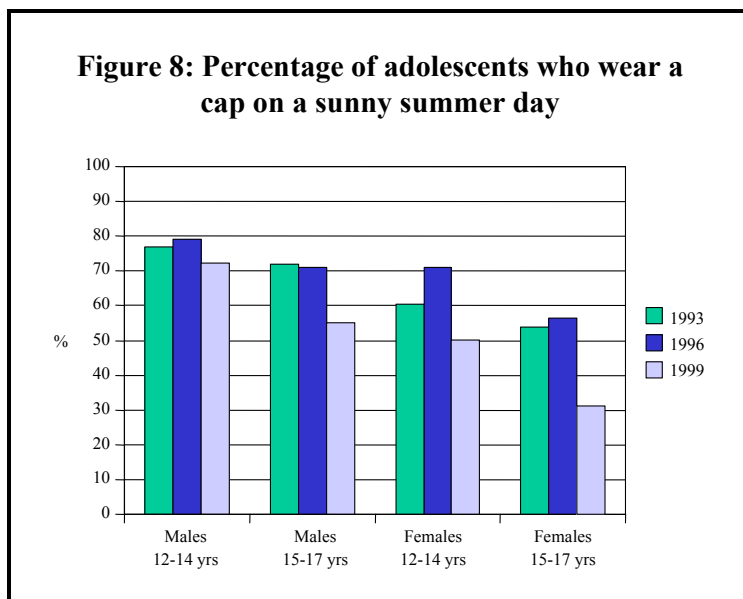
#### *Sunsmart hats*

The use of sunsmart hats increased significantly and substantially in all sub groups in 1999 compared to 1996 and 1993 (see Figure 7). In each age group, the use of sunsmart hats was significantly greater in females than males (1999: 12-14 years: 24% vs 14%; 15-27 years: 29% vs 17%).



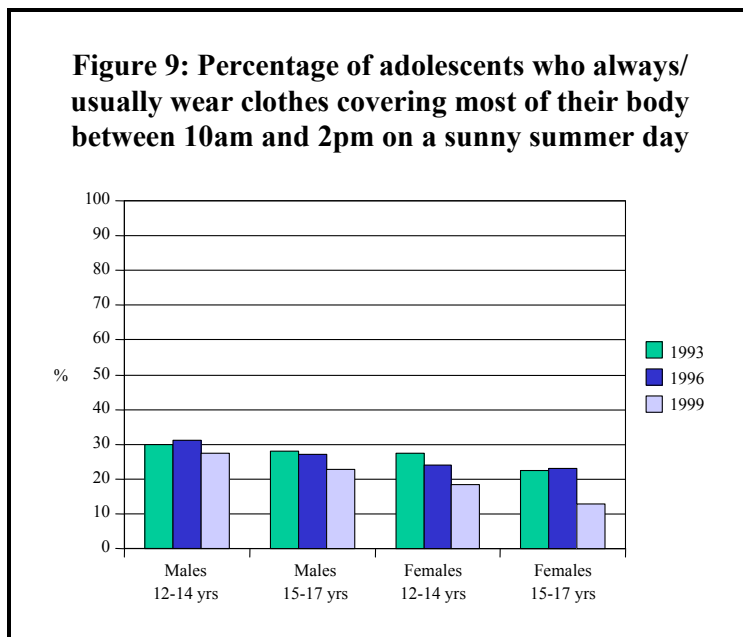
### *Cap wearing*

In each of the three surveys, when respondents were asked what type of hat they most often wear on a sunny day in summer, a cap was the most frequently mentioned response in all sub groups. However, the use of caps decreased significantly and substantially in all sub groups except among males aged 12-14 years (but still in the same direction). In all sub groups, the magnitude of the decrease in the use of caps is somewhat similar to the increase in the use of sunsmart hats. In contrast to the use of sunsmart hats, in each age group, the use of caps was significantly greater in males than females (e.g., 1999: 12-14 years: 73% vs 50%; 15-17 years: 57% vs 31%).

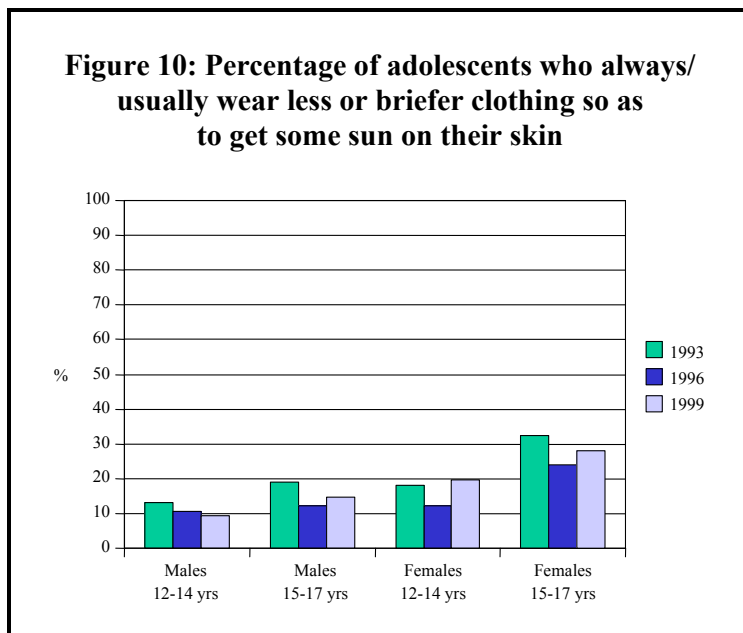


## Covering Up in the Sun

In 1999, the proportion of respondents who always/usually wore clothing covering most of their body between 10am and 2pm decreased significantly in all sub groups compared to 1996 and 1993 (see Figure 9). In each of the three surveys, males were somewhat more likely than females to always/usually wear clothing covering most of the body (e.g., 1999: 25% vs 16%).

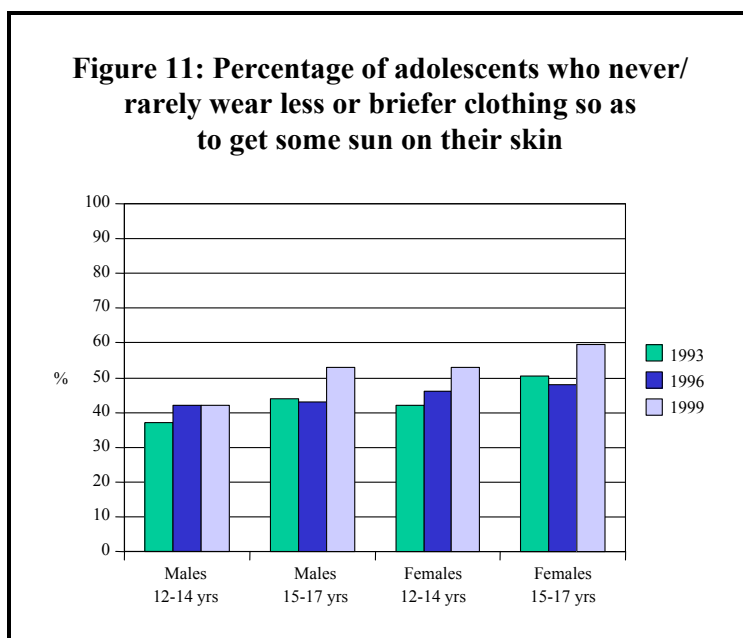


In each of the three surveys, females aged 15-17 years were most likely to always/usually wear less or briefer clothing so as to get some sun on their skin (see Figure 10).



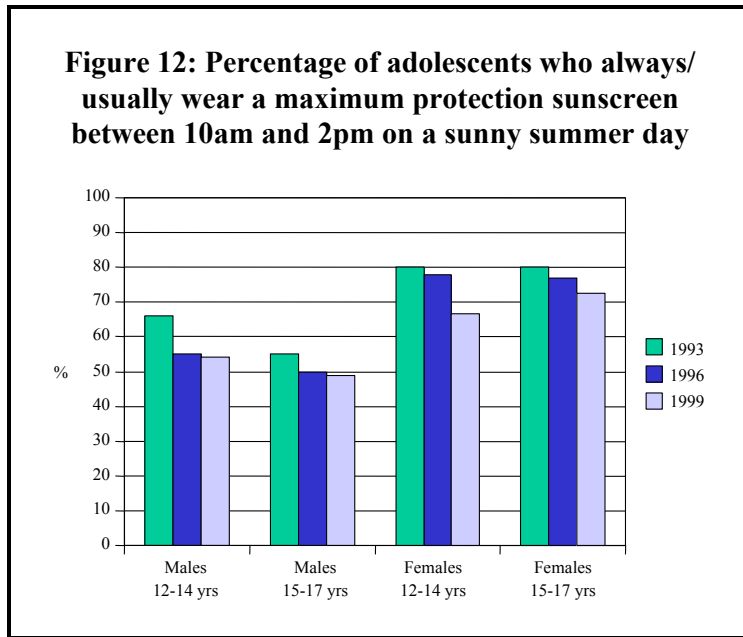
The proportion of respondents reporting doing this behaviour decreased significantly in all sub groups in 1996 compared to 1993. However this pattern reversed in 1999, with the proportion of respondents wearing less or briefer clothing increasing towards the levels of 1993 in all sub groups except males aged 12-14 years, in which the proportions remained relatively constant.

Despite the increase in the proportion of respondents who always/usually wear less or briefer clothing from 1996 to 1999, the proportion of respondents in all sub groups who never/rarely engage in this behaviour also increased somewhat in the same period (see Figure 11).



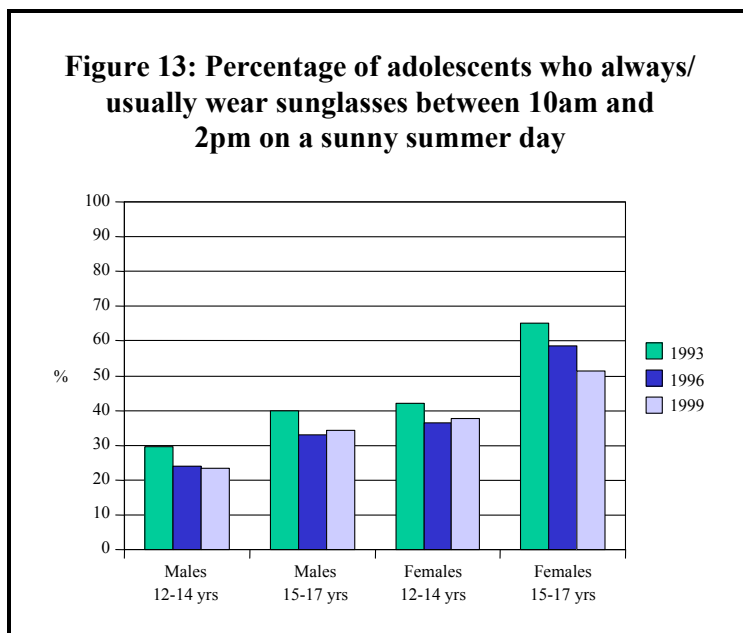
### Sunscreen Usage

There is a decreasing trend in the percentage of females in both age groups who always/usually wear maximum protection sunscreen (SPF 15, or 15+), from 80% in 1993 to 76% in 1996 to 69% in 1999 (see Figure 12). However, the use of sunscreen is significantly higher in females than in males. For males, in both age groups, sunscreen use remained at 1996 levels which are substantially lower than in 1993 (12-14 age group: 54% and 56% vs 66%; 15-17 age group: 49% and 49% vs 55%).



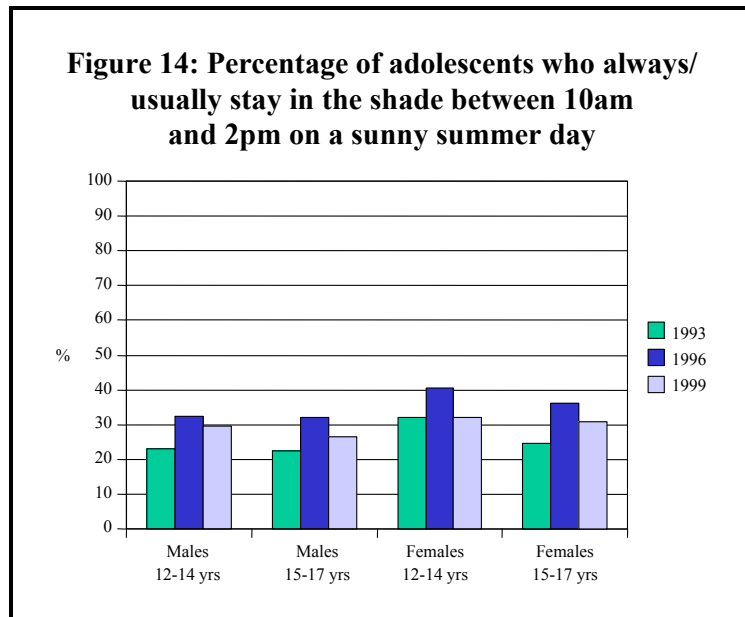
### Sunglasses Usage

Following the significant decrease in the use of sunglasses in all sub groups from 1993 to 1996, the use of sunglasses was similar to 1996, except for females aged 15-17 years in which the decrease continued (see Figure 13). However, females aged 15-17 years were still substantially more likely to always/usually wear sunglasses than any other sub group (1999: 51% vs 38% or less), while males aged 12-14 years were least likely to do so (ranged between 23-29% in each survey).

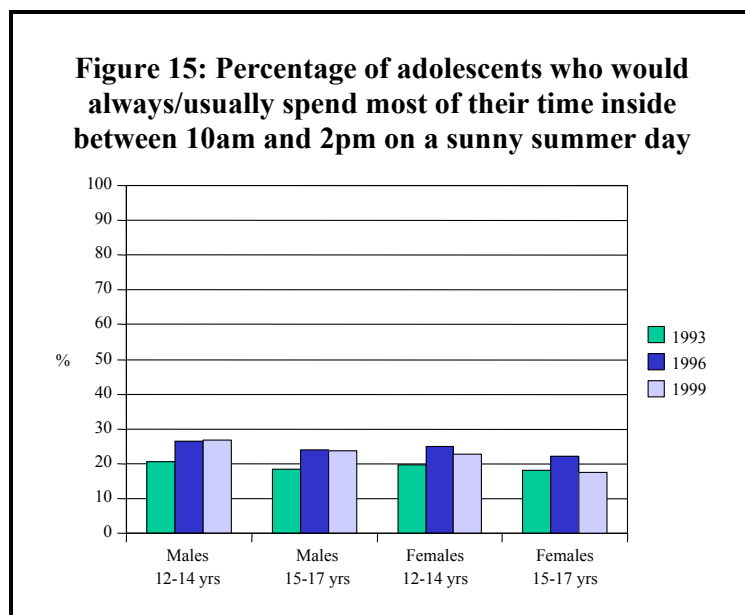


## Staying Out of the Sun

In 1999, the proportion of respondents in all sub groups who always/usually stay mainly in the shade decreased compared to 1996 and approached levels similar to 1993 (ranged between 26% and 31%)(see Figure 14).

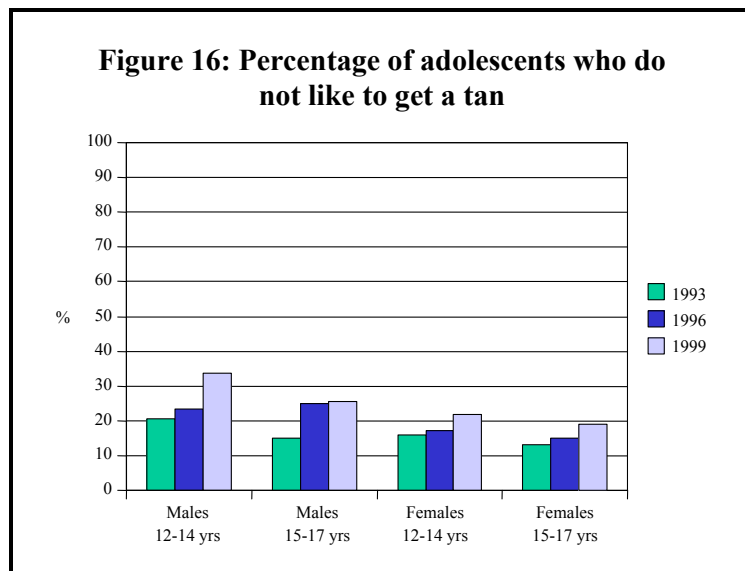


In each survey, between 18% and 27% of respondents in all sub groups always/usually spend most of their time *inside*, while between 30% and 40% of respondents in all sub groups never/rarely do so (see Figure 15).

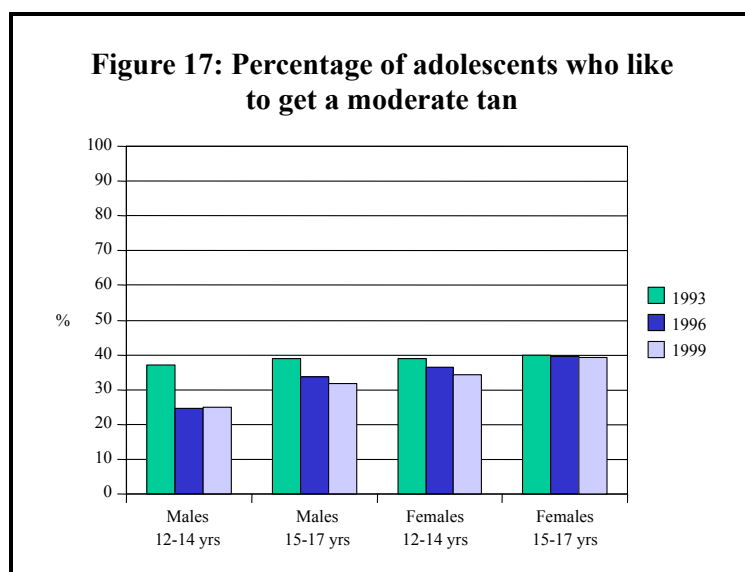


## Suntan

In 1999, males in each age group were significantly more likely to not want a suntan than in 1993 (12-14 years: 34% vs 21%; 15-17 years: 26% vs 15%)(see Figure 16). Amongst females, in both age groups, there was a significant increase in the proportion who do not like to get a suntan compared to 1996 and 1993 (12-14 years: 22% vs 17% and 16%; 15-17 years: 19% vs 15% and 13%). In each age group, the proportion of respondents who do not like to get a suntan was significantly lower amongst females compared to males (1999: 12-14 years: 22% vs 34%; 15-17 years: 19% vs 26%).



There appears to be a decreasing trend in the proportion of respondents who like to get a moderate tan in all sub groups (except in females aged 15-17 years where there was no change)(see Figure 17).





Over 65% of respondents in all sub groups still like to get a tan of some sort. Liking for a suntan remained high amongst females (approximately 80% in 1999).

### **3.5 Sun Protection Behaviour Score**

As in 1996, a 'sun protection behaviour' score was computed on the six sun protection behaviours (i.e., sunglass usage, hat usage, sunscreen usage; time spent indoors, cover up with clothing, and stay in the shade). Overall, 89% always/usually adopted at least one behaviour when in the sun for an hour or more between 10am and 2pm (1996: 92%). In 1999 and 1996, approximately one in five respondents adopted four or more of these behaviours.

## 4. DISCUSSION

The vast majority of respondents (70%) 'sometimes', 'rarely' or 'never' spend most of their time inside on sunny days in summer between 10am and 2pm. Therefore, the focus needs to be on behaviours while in the sun and greater encouragement of time spent indoors.

Sun protective behaviours have shown little change over the three surveys. Only a minority of respondents stayed mainly in the shade while outdoors (ranged from 26% to 31%). Hat usage continues to be substantially higher amongst males than females in each age group (12-14 years: 63% vs 43%; 15-17 years: 50% vs 38%). Also, there appears to be a shift from the use of caps to sunsmart hats; however less than 30% use the latter. Despite a decreasing trend in the use of sunscreen amongst females, the proportion of females who use sunscreen is still higher than in males (approximately 70% vs 50%). Covering up with clothing decreased significantly in all sub groups in 1999 compared to the previous surveys (ranged between 13% to 28%). Females aged 15-17 years were least likely to cover up and most like to wear less or briefer clothing. This latter sub group had the highest level of sunglasses usage at approximately 50%.

A high proportion of respondents were aware that most skin cancers are caused by ultraviolet radiation from the sun (93%). Nevertheless, 78% of respondents reported that in the previous summer they got sunburnt which was sore or tender the next day (32% reported ever having a severe sunburn which blistered). The high rates of sunburn are not surprising considering that approximately 75% of respondents would like a tan of some sort. Therefore, there are two opposing forces at work. There is the knowledge that most skin cancers are caused by exposure to the sun versus the desire for a suntan.

## 5. CONCLUSIONS

In 1999, there was high awareness that most skin cancers are caused by ultraviolet radiation from the sun. However, self-reported sunburn rates remained high and there appears to be an increasing trend over the three data collection periods.

The vast majority of respondents did not spend most of their time inside on sunny days in summer between 10am and 2pm (between 60% and 70%). Thus, it is important that sun protection behaviours are adopted. However, the data suggest that the adoption of a number of these behaviours has remained constant or declined. A positive change is the shift from the use of caps to sunsmart hats.

A barrier to the adoption of sun protection behaviours is the highly favourable attitude of respondents towards a suntan in each of the three surveys. However there appears to be an increasing trend in the proportion of respondents who do not like to get a tan. Overall, four in five respondents always/usually adopted at least one sun protection behaviour and one in five respondents adopted four or more of these behaviours.

## **Appendix 1: The Questionnaire**