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Recommended Citation

Barrie, Lance R.; Jones, Sandra C.; Lynch, Melissa; and Coppa, Kay: Confirming the existence and size of behavioural segments in the adolescent sun protection project: results of a NSW schools survey 2009, 1-8.
https://ro.uow.edu.au/hbspapers/1736

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Keywords

Confirming, existence, size, behavioural, segments, adolescent, sun, protection, project, results, NSW, schools, survey

Disciplines

Arts and Humanities | Life Sciences | Medicine and Health Sciences | Social and Behavioral Sciences

Publication Details

Barrie, L. R., Jones, S. C., Lynch, M. & Coppa, K. (2009). Confirming the existence and size of behavioural segments in the adolescent sun protection project: results of a NSW schools survey. Proceedings of the Australian and New Zealand Marketing Academy Conference (pp. 1-8). Melbourne, Australia: Australian and New Zealand Marketing Academy.

This journal article is available at Research Online: https://ro.uow.edu.au/hbspapers/1736

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Abstract

Sun protection behaviours among Australian adolescents are consistently low. While other population groups (notably younger children and adults) have responded to social marketing campaigns and educational interventions, efforts to encourage adolescents to engage in sun protection have been largely ineffective. This paper reports on the extension of previous qualitative work which identified different behavioural segments within the 14-16 year old age-group. The present study consisted of a survey of over 2,300 adolescents to confirm the existence and size of these segments.

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Introduction

Australian adolescents are reported to have low adherence to sun protection guidelines. In the early 1990s, a study involving a random sample of 972 Australian secondary students aged 13 through 15 years found that, on average, these students spent more than two hours outdoors during peak UV periods over two consecutive weekends, with neither sunscreen nor hats used for more than half of the time spent outdoors (Fritschi, et al., 1992).

These low levels of sun protection have continued, and further deteriorated, over time. Lowe and associates (2000) found that over two-thirds of Australian high school students (68%) reported being sunburnt in the prior summer, and 36% being burnt to the point of blisters at least once in their lifetime. The low levels of compliance with sun protection guidelines among Australian adolescents are further confirmed by the 2006-07 National Sun Survey (Dobbinson et al., 2008), in which 652 adolescents aged 12-17 years answered questions on their sun protection behaviours and incidence of sunburn on summer weekends, as well as on attitudes and behaviours related to tanning, solaria and other sun related health beliefs. The results showed poor adherence to sun protection generally, and highlighted two areas of particular concern:

- The incidence of sunburn on summer weekends was 24% in 2006-7 (no significant change from 25% in 2003-4)
- The gap between adolescent and adult sun protection behaviour is widening as adults compliance with guidelines improves; only 14% of adults reported getting sunburnt on summer weekends in 2006-7 (compared to 18% in 2003-4)

While 82% of adolescents interviewed for the National Sun Survey 2006-07 reported being outdoors on summer weekends during peak UV times for more than 15 minutes, only 20% sought shade (Dobbinson et al., 2008). Further, approximately 27% of respondents wore some form of headwear, but only 4% wore a wide brimmed hat; only 37% reported that they had used 15+ sunscreen when outdoors; and only 9% wore a three-quarter-length or long-sleeved top (Dobbinson et al., 2008). Sunburn rates remain high and are indicative of the overall poor sun protection behaviours practiced by this age group even though adolescents' attitudes and beliefs towards tanning and sun protection improved over the same time period.

While the use of SPF 15+ sunscreen is the most common form of sun protection by Australian adolescents, even this is slowly declining over time (Livingston et al., 2001). Overall, the use of sunscreen and sun hats by adolescents is well below optimal, and for those that do apply sunscreen, levels of reapplication are extremely low (Richards, McGee & Knight, 2001). The use of clothing as a means of sun protection has also consistently been found to be extremely low (Dobbinson et al., 2008; Lowe et al., 2000).

There are several factors influencing the (lack of) sun protection behaviours among adolescents. Studies in this area have identified a range of variables as predictors of sunscreen use and the extent of general sun protection behaviour; including gender (Richards, McGee & Knight, 2001; Lowe et al., 2000), age (Richards, McGee & Knight, 2001; Lowe et al., 2000), attitude to tanning (Richards, McGee & Knight, 2001) and having friends who tan (Geller et al., 2002).

Why social marketing?

As social marketing takes a customer focus, it helps to define and pursue a specific target audience. According to Bloom and Novelli (1981, p 81) segmentation is fundamental to modern marketing and is defined as the "process of dividing the market into homogenous segments and then developing unique marketing programs for individual target segments". The use of segmentation also creates a strategic focus for marketer(s), by taking a realistic approach towards the product offering and its potential consumers (Cahill, 1997).

When conducting segmentation, offerings must be specifically tailored to the wants, needs, resources and current behaviours of the target segment(s) (Kotler, Roberto & Lee, 2002). For social marketers, the desired target segment is generally that which consists of the consumers with the most negative behaviours, and thus those who are most in need of the behaviour change (Bloom & Novelli, 1981), however, they must also be a target segment that is amendable to change, and accessible via communication channels.

Brand loyalty, a use-related segmentation strategy (Schiffman & Kanuk, 2004), is of particular interest to this research, and is a framework that is often used in both commercial and social marketing. This approach allows us to further analyse the target audience by identifying their degree of brand loyalty (Rossiter & Bellman, 2005) based on their awareness of (and preference for) a brand, or in this case a behaviour, and thus the potential market for that behaviour (Rossiter & Percy, 1997; Rossiter & Bellman, 2005). Empirical evidence has shown that this expanded segmentation is done by dividing the target market into one of five groups that are based on levels of awareness and preference. As defined by Rossiter and Percy (1997) and Rossiter and Bellman (2005), these five groups are:

1. Brand Loyals (BL's): Currently use the brand/behaviour almost exclusively.
2. Favourable Brand Switchers (FBS's): Currently have a moderate preference for the brand/behaviour.
3. Other-Brand Switchers (OBS's): Currently do not use the brand/behaviour, or do so minimally.
4. Other-Brand Loyals (OBL's): Currently loyal to a competing brand/behaviour.
5. New Category Users (NCU's): Currently a non user of both the brand/behaviour and the competitor, but have the potential to be either.

Dividing the population into these categories allows the marketer to determine which target group has the most potential for change and/or which groups are in greatest need of change. Furthermore, the framework also helps us to determine the characteristics of each of these sub groups and whether, and to what extent, a behaviour needs to be altered.

In this particular instance, while adolescents are the target audience, using this model we can further segment this cohort based on current behaviours in regard to their sun protection behaviours. Johnson (unpublished manuscript) has previously applied the Brand Loyalty Segmentation framework to sun protection and the results are shown in Table 1.

Table 1: Brand Loyalty Segmentation and Sun Protection

CATEGORY	BEHAVIOUR
Brand Loyals	People who always practice sun protective behaviours
Favourable Brand Switchers	People who generally practice sun protective behaviours but don't when the price becomes too high (e.g. peer pressure, too uncomfortable, miss out on an opportunity for sport) or forget sun protection in certain situations (e.g. watching children at sport, gardening).
Other Brand Switchers	People who don't practice sun protective behaviours because they see the price outweighing the benefits. (e.g. can't be bothered), or use an inferior "brand" (e.g. only use sunscreen).
Other Brand Loyals	People who see the tanned skin "brand" of behaviour giving them more benefits than the sun protection "brand".
New Category Users	People who are simply unaware of the need for sun protection behaviours.

Methods

This study was undertaken as part of an ARC Linkage Grant with the Cancer Council NSW. A behavioural sun protection survey was conducted by a university research group in collaboration with the Cancer Council NSW throughout public and private high schools in NSW. The results presented in this paper represent the analysis of completed surveys (n=2,332) from all 22 schools that were recruited for the study.

Approval was sought and received from the university's Human Research Ethics Committee. In addition, approval to conduct research was gained from the Department of Education and Training, the Diocese of Wollongong, the Diocese of Broken Bay, the Diocese of Lismore, the Diocese of Wagga Wagga, the Diocese of Maitland-Newcastle, the Diocese of Parramatta and the Sydney Archdiocese. Furthermore, no child was allowed to participate without their own consent and that of their parent/guardian.

A total of 22 schools were recruited for the survey from various areas based on the Rural, Remote and Metropolitan (RRMA) classification system. In this survey, respondents were required to tick one option that best represented their usual behaviour in each of three groups for each of the four situations (i.e. they were ticking twelve options overall). For each of the four situations – family aquatic (A); peer aquatic (B); family outdoors (C); peer outdoors (D) – respondents were assigned to one of the six groups (listed below) if at least two of the three options they selected corresponded to a single group. This meant that any respondents who answered differently for all three sets were not allocated to any group. Respondents were then allocated to an 'overall' group based on their most common response across all 12 scenarios.

Focus groups were used by Lynch and Jones (2007) to identify and rename the segments mentioned in Table 1 to typify the dominant behaviours of participants. Six segments were identified in the focus groups: The Vigilant Defenders, The Forgetful Attempters, The Risk Reducers, The Consciously Lazy, The Tan Seekers, and The Unaffected. Table 2 outlines the attitude and behaviour characteristics of each group.

Table 2: Adolescents Brand Loyalty and Sun Protection

Group	BL Segment	Attitude	Behaviour
Vigilant Defenders	Brand Loyal	Positive	Positive
Forgetful Attempters	Favourable Brand Switchers	Positive	Generally Positive
Risk Reducers	Favourable Brand Switchers AND Other Brand Switchers	Positive	Negative
Consciously Lazy	Other-Brand Switchers	Negative	Generally Negative
Tan Seekers	Other Brand Loyals	Negative	Negative
Unaffected	New category Users	Neutral	Neutral

Results

Segments cross different scenarios

Roughly the same proportion of respondents fell into each of the six groups across the four different situations, with approximately 4-10% Unaffected ; 10-15% Vigilant Defenders; 25-40% Forgetful Attempters; 11-27% Risk Reduces; 6-10% Consciously Lazy; and 4-5% Tan Seekers. However, there were greater similarities between the two 'aquatic' (A and B) and the two 'outdoors' (C and D) groups than there were between the 'peer' (B and D) and 'family' (A and C) groups, implying that attitudes and behaviours are less influenced by interpersonal factors (i.e. who they are with when in the sun), and more influenced by environmental factors (i.e. where they are in the sun). This is based on the assumption that it is the same respondents falling into the same groups in A and B, and C and D respectively. This analysis is currently being undertaken. The following table shows the percentage of respondents that fall into the six groups in each of these four scenarios. This table also shows that approximately 15% of respondents are not falling into any of the groups (i.e. their responses across the situations were substantially varied) regardless of context.

Table 3: Segmentation of Participants in each Scenario

	Forgetful Attempter	Risk Reducer	Vigilant Defender	Consciously Lazy	Tan Seeker	Unaffected	No Group
A- Aquatic with Family	590 (25.3%)	627 (26.9%)	345 (14.8%)	193 (8.3%)	117 (5.0%)	101 (4.3%)	359 (15.4%)
B- Aquatic with Friends	678 (29.1%)	566 (24.3%)	336 (14.4%)	160 (6.9%)	123 (5.3%)	125 (5.4%)	344 (14.8%)
C- Outdoors with Family	727 (31.2%)	352 (15.1%)	337 (14.5%)	205 (8.8%)	110 (4.7%)	229 (9.8%)	372 (16.0%)
D- Outdoors with Friends	934 (40.1%)	278 (11.9%)	249 (10.7%)	239 (10.2%)	98 (4.2%)	227 (9.7%)	307 (13.2%)

Overall group

Respondents were then assigned to an 'overall' group based on the most common response across all 12 questions. Of the 2,332 respondents, 36.1% were Forgetful Attempters, followed by 20.2% Risk Reducers, 13.7% Vigilant Defenders, 7.9% Consciously Lazy, 7.5% Unaffected, and 4.8% Tan Seekers. Approximately 10% of respondents could have been assigned to more than one group, and were thus not assigned to any group at all.

Demographic differences

There were minimal differences between public and private school students. The only notable differences were a slightly greater proportion of Risk Reducers (21.9%) and a slightly lower proportion of Forgetful Attempters (34.8%) in private schools than in public schools (public schools being 18.2% and 37.7% respectively; χ^2= 12.091, p=0.060). Younger respondents were slightly more likely to perceive themselves as being Unaffected (10.0% of 14 year olds compared to 7.0% and 5.1% of 15 and 16 year olds respectively), and less likely to be Risk Reducers (18.5% compared to 20.1% and 23.3% of 15 and 16 year olds).

Males were more likely than females to be classified as Forgetful Attempters or Consciously Lazy; and less likely than females to be classified as Risk Reducers or Tan Seekers (χ^2= 178.717, p<.001). When combined, Forgetful Attempters and Consciously Lazy constituted just over half of males (50.4%), and Risk Reducers and Tan Seekers approximately one in three females (34.1%), meaning that gender specific campaigns targeting these groups may be more effective and reach the greatest possible number of adolescents.

Discussion

Based on the findings of a survey of 2,332 secondary school students regarding their sun protection behaviour, we can confirm the existence of different behavioural segments within the age group of 14-16 year old adolescents. Based on the size of the segments identified, it is suggested that Forgetful Attempters and Risk Reducers be targeted, and more specifically, male Forgetful Attempters and female Risk Reducers.

Assuming that this sample is representative of the secondary school population, more than half would fit into one of these two groups; however this would drop to approximately one-third if only male Forgetful Attempters and female Risk Reducers were included. Therefore, these groups could feasibly be extended to include male Consciously Lazy and female Tan Seekers due to the similarities between these groups (Consciously Lazy share behaviours and have some overlapping attitudes with Forgetful Attempters; and Tan Seekers with Risk Reducers). This would potentially result in the inclusion of more than half of all adolescents within this demographic.

It may also be worthwhile further exploring the possibility that younger adolescents perceive themselves as being unaffected, but may begin to recognise the impact of sun exposure and therefore potential utility of sun protection practices as they grow older.

In terms the contextual setting, the outdoor (non-aquatic) environment is where most people adopt Forgetful Attempter and Consciously Lazy mindsets, suggesting that point-of-decision marketing messages could effectively supplement media or education campaigns. For example, an appropriate response to these research findings would be to provide sunscreen samples and reminders at sporting venues. Similarly, as the largest Risk Reducer group can be found in the aquatic environment, messages that emphasise the sun damage incurred, even with limited exposure, could be reinforced in these environments such as posters in pool cafeterias and public address announcements.

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