

---

## The Bronze Debate: Looking Gold versus Getting Old

**AUTHOR(S):** Gillian Kemp and Lynne Eagle

### ABSTRACT

Although knowledge of links between sun exposure and skin cancer risks is increasing, young adults continue to intentionally expose themselves to high levels of UV exposure without adopting recommended sun protection behaviours. A pilot study of UK University students' attitudes towards sun protection behaviour found that significant challenges must be overcome to achieve a change in social norms relating to the social desirability of a tan. Implications for further research and public policy considerations conclude the paper.

### ARTICLE

---

#### Introduction

In the UK every year, at least 100,000 cases of non-melanoma skin cancers (NMSC) are diagnosed (Garvin and Eyles 2001), constituting over 20% of malignant neoplasms diagnosed annually. Although the survival rate for NMSCs is over 95%, they can metastasise and in 2005 there were 511 reported deaths in the UK from NMSCs (Cancer Research UK 2005). The incidence of malignant melanoma (MM) and NMSC is approximately doubling every 20 years, and this will increase over the next five years as a result of an ageing population (ISD Online 2008).

The UK Department of Health website<sup>1</sup> has specifically identified a number of key areas for health promotion and health prevention, but despite the growing incidence of skin cancer there is no direct reference made to this condition. With the incidence of skin cancer having doubled over the past decade (National Institute for Health and Clinical Excellence 2006), it is surprising that the UK Department of Health has not highlighted sun awareness as a key health promotion and health prevention area. Furthermore, government funding was actually reduced for Cancer Research UK's SunSmart campaign from £150,000 in 2006/07 to £104,000 in 2007/08, a 31% reduction.

#### Teenagers / Young Adults

Good sun protection behaviours learned as children do not carry over into adolescence (Lower, Girgis, and Sanson-Fisher 1998). In fact, teenagers have the lowest skin protection rate of any age group (Stanton, Janda, Baade, and Anderson 2004). Hence this group must be a primary target. For this

---

<sup>1</sup> [www.dh.gov.uk/12/08/08](http://www.dh.gov.uk/12/08/08)

group, knowledge of the potential dangers of excessive sun exposure in the form of sunbathing or sunbed use does not generally result in sun protection-related behaviours. In spite of evidence that those under the age of 30 who regularly use artificial tanning devices such as sunbeds have an almost eight-fold increased risk of developing malignant melanoma and an increased chance of developing eye problems such as cataracts (Hillhouse, Adler, Drinnon, and Turrisi 1997), based on their behaviours, young people appear to believe that the results outweigh the potential risks.

The perception is that a tan is 'sexy' presumably increases perceived attractiveness and raises adolescents' sense of self esteem. There are several dangerous attitudes prevalent within this group, particularly that it is 'worth' getting sunburnt in order to get a tan and that less protection is needed as a tan progresses. Adolescents are also prone to optimism bias, believing that they are personally at less risk of ill-health than the general population (Harris, Middleton, and Joiner 2000). In addition, young women have a higher knowledge of skin cancer than do their male counterparts, but are also more likely to sunbathe and to use sunbeds (Abroms, Jorgensen, Southwell, Geller, and Emmons 2003). Conversely, young males see sunscreen as cosmetic and not masculine, leading to a reluctance to apply it when with their peers (Jones, Harris, and Chrispin 2000).

## Sunbeds

There is a large body of literature stressing concerns regarding the use of sunbeds and the lack of effective industry legislation, coupled with an acknowledgement of a lack of awareness among sunbed users of the dangers of excessive use. However, even when some knowledge is gained, evidence from both the USA and Europe indicates that behaviour, particularly among a key user group of adolescents, does not change. The International Agency for Research on Cancer (IARC 2006) concluded that there is convincing evidence to support a causal relationship between sunbed use and skin cancer, particularly with exposure before the age of 35 years.

The 2012 Skin Cancer Vision (SCV) (DOH 2007) recognised that despite recent data that show an association between sunbed use and occurrences of MM and NMSC, sunbed use is likely to increase, especially amongst teenagers and young adults. Although the SCV report does not represent UK Government policy, it does provide insight into the proposed development of skin cancer services up to 2012. The report proposed that sunbed use be regulated in terms of restricting use by under-18s, phasing out unsupervised coin operated facilities, providing clear information about hazards and also phasing out sunbed use on local authority premises. The Sunbed Association ([www.sunbedassociation.org.uk](http://www.sunbedassociation.org.uk)) supports a ban on under 16s but not under 18s, arguing that there is no proven link between skin cancer and sunbed use. This is despite the fact that it has been estimated that sunbeds cause 100 deaths from melanomas every year in the UK (Diffey 2003). Despite growing awareness of the dangers of sunbeds many men and women continue to use sunbeds regularly. The term '*tanorexic*' is being used in relation to people who obsessively tan and may have an addiction to the UV rays of tanning beds, even experiencing a 'high', much like a drug addiction (Lazovoch and Forester 2005).

As long as the psychological association between having a tan and appearance continues to be reinforced in the promotional materials used by tanning salons, the use of sunbeds is likely to continue to increase, especially amongst teenagers and young adults. In Australia at least, the portrayal of models in magazines contradicts public health messages regarding sun protection behaviour (Dixon, Dobbison, Wakefield, Jamsen, and McLeod 2007), and in the USA, television programmes glamorising tanning salons, including featuring celebrities who have used sunbeds, have been heavily criticised for failure to include any warnings regarding potential negative effects (Poorsattar and Hornung 2008).

## Method

This study was undertaken using a convenience sample of first year undergraduate business studies students in order to illustrate the attitudes, beliefs and behaviours of one specific segment of the target population. The reason for using a sample of university students is that adolescents have the lowest reported skin cancer protection rates of all age groups (Stanton et al. 2004). The point at which adolescents leave home reflects a marked lessening of parental influence regarding sun exposure, coupled with increased time spent in the sun. University students appear to have the highest unprotected exposure levels among adolescent groups (Baranowski et al. 1997).

The study used a four page questionnaire that included open-ended questions that was administered to students in class during April 2008. A total of 205 useable questionnaires was obtained. While they cannot be taken as being generalisable to all young adults, or even all university undergraduates, the results provide a useful indicator of some of the attitudes and behaviours that are likely to be prevalent among this group. The questions covered a range of topics relating to past sun protection behaviours and future intentions; knowledge, attitudes and beliefs regarding sun protection and skin cancer detection strategies; perceived norms and influences; information sources and preferences; and a critique of existing sun protection/skin cancer prevention and detection material.

## Results

The profile of the sample was 48% male (n=90) and 52% (n=100) female, with 15 not stating their gender. Ages ranged between 19 and 28 years, with 70% between 19 and 21 years of age. White respondents constituted 80% of the sample and Asian, Black and other ethnicities each represented approximately 5%. While the number of students from coloured backgrounds is relatively small, it is interesting to note that several of these students accurately indicated that, because of their darker skin pigmentation, the issue of sunbathing was not salient to them and subsequently skin cancer was not a risk factor for their respective groups. In terms of melanoma awareness, only 55% indicated they had heard of melanoma; 44% identified it as a form of skin cancer. Respondents were aware that they had a chance of getting skin cancer and that a suntan would not protect them against skin cancer. No differences were found between males and females on this item.

Overall the respondents tended to value acquiring a suntan: 78% of females and 74% of males got a suntan (skin colour changed) the previous summer, with 65% of females and 59% of males deliberately sunbathing. Seventy-six percent of females and 66% of males intended to try to get a suntan in the coming summer. Males showed somewhat riskier behaviour, with 40% never staying inside during the middle of the day as a sun exposure reduction strategy compared to 29% of females; similar behaviour was evident in relation to seeking shade during the middle of the day.

Males were also less likely to frequently apply sunscreen, with only 40% of males applying sunscreen sometimes compared to 53% of females, and 28% of males reapplying sunscreen after swimming compared to 71% of females. Similarly, 28% of males compared to 71% of females indicated they wore some form of hat to prevent sunburn; however, only 3% of females and 1% of males always wore a hat outside. Almost all females indicated they wore sunglasses if outdoors for more than 30 minutes; only 77% of men did so. Further, while two-thirds of women wear lip protection if outside for more than 30 minutes, only a quarter of males do so (all these behaviours show statistically significant differences). The increasing significance of body image for men is reflected in the study findings, with 70% of males and 74% of females agreeing that a suntan makes them feel more attractive to others and therefore they feel better about themselves.

In attempting to acquire a suntan, the present study found that behaviour differs between the genders, with 46% of females using oils and lotions to help develop a suntan compared to 32% of males. Almost 80% of the females reported using fake tanning lotion compared to 60% of males. There was little difference in the use of sunbeds, with 52% of males and 48% of females having used sunbeds at least once in the last twelve months.

## Discussion

The results demonstrate that respondents associate sun exposure with health concerns. Although only 55% of respondents indicated they had heard of melanoma, a majority of respondents did recognise that they had a chance of getting skin cancer and that a suntan would not protect them against this outcome. This suggests that the general perception of adolescents that they are at less risk of ill-health than the general population does not appear to hold true for beliefs relating to skin cancer. The respondents were aware of the possible consequences of their behaviours, but despite this level of knowledge 78% reported that they had actively sought to achieve a suntan in 2007. The failure of people to change their risky behaviour even when faced with knowledge of the associated risks has been reported in previous studies and is further supported by these findings.

The results show that there is a tendency towards agreement amongst respondents that having a suntan makes them feel more attractive and that they feel better about themselves with a tan than without. This suggests that where a person's self esteem is involved there is the potential for them to discount or disregard the advice or recommended behaviour in favour of the activity that boosts self esteem. These results highlight the problems with basing intervention strategies purely on rational arguments.

Changing social perceptions of the acceptability of tanning has proven difficult and will require considerable resources to be invested over time. The emphasis of any immediate interventions should therefore be on obtaining a tan safely. This segment is not likely to respond to rational information processing-based interventions, such as those focussing on the risk of developing skin cancer. Rather, they are more likely to respond positively to interventions with an emotion-driven basis (Elliott 1998). They are most likely to respond to appearance-based appeals, including indicators of premature ageing and wrinkling. An intervention that achieved considerable success in Southern California involved the use of UV photography/photo-ageing to illustrate the extent of existing skin damage; this intervention achieved changes in perceptions regarding sun protection and had immediate results in terms of the use of sun protection (Mahler et al. 2006). Similarly, appearance-based interventions, which show the potential damage that can be caused to the skin and the ongoing consequences of sunbed usage have been shown to reduce the use of sunbeds by up to 50% (Hillhouse and Turisi 2002).

In light of these findings, perhaps the message needs to be 'don't burn' rather than 'don't tan', as having a tan for this age group appears to be a positive attribute. If the message is to be 'don't burn', then there is a need to clarify for people the term 'sunburnt'. Within the study the incidence of reported sunburn that resulted in the skin getting went red, sore and blistered was less than 9%. This suggests that young people are aware that such a degree of sunburn is not good for their skin. However, 50% did report that their skin had gone red or pink after being in the sun.

To conclude, the study results were not unexpected. There were statistical differences in using sun tan oils, lotions and fake tan, with females more likely to use these products than males. Females were also twice as likely as males to have gotten sunburnt at least once the previous summer, reflecting the

fact that malignant melanoma is twice as common in young women as in young men (Office for National Statistics 2006). However, there was little difference in the use of sunbeds between males and females. Sun protection messages compete with a wide variety of other health messages in the UK, and we need to be clear about its relative priority versus other risky behaviours. We then need to be realistic about the priority of all these messages in the lives of our citizens.

## References

- Abroms, Lorien, Cynthia M. Jorgensen, B. G. Southwell, A. C. Geller, and K. M. Emmons (2003), "Gender Differences in Young Adults' Beliefs about Sunscreen Use," *Health Education Behaviour*, 30 (1), 29-43.
- Baranowski, Tom, Lillian S. Lin, David W. Wetter, Ken Resnicow, and Marsha D. Hearn (1997), "Theory as Mediating Variables: Why aren't Community Interventions Working as Desired?" *Annals of Epidemiology*, 7 (7), S89-S95.
- Diffey, B. A. (2003), "Quantitative Estimate of Melanoma Mortality from Ultraviolet A Sunbed Use in the UK," *British Journal of Dermatology*, 149, 578-581
- Dixon, Helen, Suzanne Dobbinson, Melanie Wakefield, Kris Jansen, and Kim McLeod (2007), "Portrayal of Tanning, Clothing Fashion and Shade use in Australian Women's Magazines 1987 – 2005," *Health Education Research*, 23, 791 – 802.
- Elliott, Richard (1998), "A Model of Emotion--Driven Choice," *Journal of Marketing Management*, 14 (1/3), 95 - 108.
- Garvin, Theresa and John Eyles (2001), "Public Health Responses for Skin Cancer Prevention: The Policy Framing of Sun Safety in Australia, Canada and England," *Social Science & Medicine*, 53 (9), 1175 - 1189.
- Harris, Peter, Wendy Middleton, and Richard Joiner (2000), "The Typical Student as an In-group Member: Eliminating Optimistic Bias by Reducing Social Distance," *European Journal of Social Psychology*, 30 (2), 235-253.
- Hillhouse, Joel J. and Rob Turrisi (2002), "Examination of the Efficacy of an Appearance-Focused Intervention to Reduce UV Exposure," *Journal of Behavioural Medicine*, 25 (4), 395-409.
- Hillhouse, Joel J., Christine M. Adler, Joy Drinnon, and Rob Turrisi (1997), "Application of Azjen's Theory of Planned Behavior to Predict Sunbathing, Tanning Salon Use, and Sunscreen Use Intentions and Behaviors," *Journal of Behavioural Medicine*, 20 (4), 365-378.
- International Agency for Research on Cancer Working Group on artificial ultraviolet (UV) light and skin cancer (2006), "The Association of Use of Sunbeds with Cutaneous Malignant Melanoma and other Skin Cancers: A Systematic Review," *European Journal of Cancer*, 40 (16), 2355-2366.
- ISD Online (2008), Cancer Incidence and Mortality Data. Available at <http://info.cancerresearchuk.org/cancerstats/types/breast/screening/history/>.
- Jones, Fiona, Peter Harris, and C. Chrispin (2000), "Catching the Sun: An Investigation of Sun-Exposure and Skin Protective Behaviour," *Psychology, Health & Medicine*, 5 (2), 131 - 141.
- Lazovich, D., and J. Forester (2005), "Indoor Tanning by Adolescents: Prevalence, Practices and Policies," *European Journal of Cancer*, 41 (1), 20 -27.
- Lower, Tony, Afaf Girgis, and Rob Sanson-Fisher (1998), "The Prevalence and Predictors of Solar Protection Use among Adolescents," *Preventive Medicine*, 27 (3), 391-399.
- Mahler, Heike I. M., James A. Kulik, Meg Gerrard, and Frederick X. Gibbons (2006), "Effects of Two Appearance-Based Interventions on the Sun Protection Behaviours of Southern California Beach Patrons," *Basic & Applied Social Psychology*, 28 (3), 263-272.
- Office for National Statistics (2006), *Mortality Statistics: Cause, England and Wales 2005 London TSO 2006*. Available [www.statistics.gov.uk/statbase/Product.asp?vlnk=618](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=618).
- Poorsatter, Solmaz P. and Robin L. Hornung (2008), "Television Turning more Teens towards Tanning," *Journal of the American Academy of Dermatology*, 58 (1), 171-172

Skin Cancer 2012, (2007), Department of Health. Available [www.doh.gov.uk/skincancer2012](http://www.doh.gov.uk/skincancer2012).  
Stanton, Warren R., Monika Janda, Peter D. Baade, and Peter Anderson (2004), "Primary Prevention of Skin Cancer: A Review of Sun Protection in Australia and Internationally," *Health Promotion International*, 19 (3), 369 - 377.