

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Scottish adolescents' sun-related behaviours, tanning attitudes and associations with skin cancer awareness: a cross-sectional study
AUTHORS	Kyle, Richard; MacMillan, Iona; Forbat, Liz; Neal, Richard; Haw, Sally; Hubbard, Gill

VERSION 1 - REVIEW

REVIEWER	Maria Saridi G.Hospital of Korinthos Greece PhD, Director of Nursing Department
REVIEW RETURNED	30-Mar-2014

GENERAL COMMENTS	<p>Page 3. Line 7. I disagree with the phrase with cancer symptom do you mean m.melanoma symptom?</p> <p>Page 6,7,8. I think you have to summarize the information about the questionnaire. Two paragraphs are enough.</p> <p>In table 1. The question ...knew someone with cancer do you mean melanoma or any cancer?</p> <p>In Discussion section you don't have to refer to your results and compare them with other studies. You also have to explain some of them.</p> <p>Implications for future policy and research section I think must added in discussion and not in a separate section.</p> <p>Strengths and limitations must be shorter and I think there is no need for ref. there.</p> <p>Please change ref. 17. With this. It's a better a more recent approach.... Saridi M, Toska A, Rekleiti M et al. Sun-protection habits of primary students in a coastal area of Greece. J Skin Cancer. 2012;2012:629652.</p>
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REVIEWER	Caradee Wright Council for Scientific and Industrial Research, Climate Studies, Modelling and Environmental Health Research Group, Pretoria, South Africa
REVIEW RETURNED	08-Apr-2014

GENERAL COMMENTS	<p>The authors are to be commended on a well written paper and an interesting, important study. I have a few specific comments:</p> <p>page 6, linne 7, remove are before were</p> <p>page 6, line 9, how was the target of 20 out of 29 decided? An acceptable percentage of 29? Please explain.</p> <p>page 6, line 22, The study was carried out during NH summer, is that correct? Paper schools scools recruited in spring, and students in summer. When was the questionnaire administered exactly? If</p>
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	<p>during summer itself, was the recall for 'last summer' for the previous summer one year before - that seems like a very long recall period? or were students expected to base their responses on the current summer? Please clarify seasonal timing in the methods and justify findings in this context.</p> <p>page 6, line 35, I believe consent should be assent, children give assent once parents have consented.</p> <p>page 8, line 29, it is appropriate to cite the ethics clearance reference or certificate number (e.g. 67/2013) given by the REC in this section.</p> <p>page 8, line 42, 'adolescent's has been used as the term for participants throughout the paper, however, most of the children were 12 years old. Is that not pre-adolescent? What is a definition of adolescent? Please consider this and use an appropriate term.</p> <p>page 11, line 50, females comma who reported getting sunburnt AND who were more likely...</p> <p>page 14, line 42, interventions research, IT is therefore....</p> <p>page 15, line 18, it would be appropriate to mention two references:</p> <p>"The International Community Preventive Services Task Force released a statement that supported 'strong evidence' for the effectiveness of interventions aimed at the prevention of skin cancer in primary schools that combine education and policy approaches to increase preventive behaviours; specifically, child sun protective practices that reduce sunburn incidence and new melanocytic mole development.[3] Recently, the United States Preventive Services Task Force recommended that counselling about minimising their exposure to solar UVR to reduce the risk for skin cancer, be targeted at children (as well as adolescents and young adults aged 10 – 24 years) who have fair skin.[4] Since children spend a significant proportion of their day and year at school, the important direct and indirect roles that schools, teachers and caregivers play in skin cancer prevention are clearly emphasised." (Do not copy text, part of an unpublished paper)</p> <p>3. Saraiya M, Glanz K, Briss PA, Nichols P, White C, and Das D. Interventions to prevent skin cancer by reducing exposure to ultraviolet radiation: a systematic review. <i>Am J Prev Med</i> 2004;27(5):422-426.[http://www.ncbi.nlm.nih.gov/pubmed/15556744]</p> <p>4. Moyer VA, U S Preventive Services Task Force. Behavioural counselling to prevent skin cancer: U.S. Preventive Services Task Force recommendation statement. <i>Ann Intern Med</i> 2012;157(1):59-65.[doi: 10.7326/0003-4819-157-1-201207030-00442]</p> <p>Finally, this is a good study that brings together psycho-social factors, attitudes and behavioural responses in a way that motivates for more research and informed interventions that can really make a difference to melanoma incidence rates in Scotland but around the world too.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Maria Saridi

1. Page 3. Line 7. I disagree with the phrase with cancer symptom do you mean m.melanoma symptom?

We thank the reviewer for this helpful observation. We have revised this statement as follows:

'...and assess associations with malignant melanoma symptom and risk factor awareness'.

2. Page 6,7,8. I think you have to summarize the information about the questionnaire. Two paragraphs are enough.

We recognise the importance of brevity but in drafting our paper balanced this with the need to provide thorough information on the survey instrument because this is the first such study to be conducted in Scotland. We note that the Study Instrument section comprises five succinct paragraphs and that Reviewer 2 suggested addition of more detail to aid interpretation of study findings (see comment 10). We have therefore not reduced this to two paragraphs as suggested as we believe inclusion of the current level of detail best serves future researchers in Scotland and elsewhere seeking to replicate (and subsequently compare their findings with) our research.

3. In table 1. The question ...knew someone with cancer do you mean melanoma or any cancer?

We thank the reviewer for this helpful observation. This question asked adolescents whether they knew someone with any cancer. We have added clarity by revising the Socio-demographic characteristics section to:

'Socio-demographic questions were included to gather data on: age, gender, ethnicity, and whether the student had been diagnosed or knew a relative or friend who had been diagnosed with any cancer.'

4. In Discussion section you don't have to refer to your results and compare them with other studies. You also have to explain some of them.

The format of our Discussion section purposefully follows that suggested in the BMJ Open Instructions for Authors which suggest that authors should contextualise and explain study findings through reference and comparison to previous research, which we believe we have done.

5. Implications for future policy and research section I think must added in discussion and not in a separate section.

We thank the reviewer for this observation, but we have elected not to remove this sub-section heading as suggested. This is because we believe that its inclusion aids the reader's navigation of our paper, and specifically enables policymakers and fellow researchers to quickly locate the implications of this research. Submitting this work to an open access journal was motivated by a desire to ensure that the findings of this study – which is the first of its kind in Scotland – reached the widest possible audience, and particularly policy makers.

6. Strengths and limitations must be shorter and I think there is no need for ref. there.

As this is the first study of Scottish adolescents' sun-related behaviour, tanning attitudes, and associations with cancer awareness we are keen to set out all the potential limitations of our work to inform future research that addresses these limitations and ensure policymaking in Scotland (and elsewhere) is informed by knowledge of the limits of our findings. We have therefore not shortened the Strengths and limitations section. Nor have we removed the references in this section as we believe it is important to evidence the claims made (e.g., around recall) as well as draw links to support possible future international comparative research.

7. Please change ref. 17. with this. It's a better a more recent approach.... Saridi M, Toska A, Rekleiti M et al. Sun-protection habits of primary students in a coastal area of Greece. *J Skin Cancer*.

2012;2012:629652.

We thank the reviewer for this suggestion to reference their more recent paper, of which we were aware at the time of writing. However, we elected to reference their 2009 work instead as this explicitly addressed adolescents' knowledge of the association between sun exposure and skin cancer.

Reviewer 2: Caradee Wright

The authors are to be commended on a well written paper and an interesting, important study. I have a few specific comments:

We thank the reviewer for their endorsement of our work and the helpful comments that have served to strengthen our paper.

8. page 6, line 7, remove are before were

This is a typographical error. 'Are' should read 'area' and has been revised accordingly.

9. page 6, line 9, how was the target of 20 out of 29 decided? An acceptable percentage of 29? Please explain.

The target of 20 schools was selected for pragmatic reasons around management of data collection processes and funding for study materials. We have revised the following sentence in the Setting and sample section to clarify this point as follows:

'All 29 state secondary schools (excluding schools for adolescents with special educational needs) in the Glasgow City Council area were invited to participate. Recruitment ended when the (pragmatic) target of 20 schools (69.0%) agreed to participate.'

10. page 6, line 22, The study was carried out during NH summer, is that correct? Paper schools recruited in spring, and students in summer. When was the questionnaire administered exactly? If during summer itself, was the recall for 'last summer' for the previous summer one year before - that seems like a very long recall period? or were students expected to base their responses on the current summer? Please clarify seasonal timing in the methods and justify findings in this context.

We thank the reviewer for this helpful observation. The questionnaire was completed by students in June 2013. The questionnaire asked students to respond thinking about 'last summer' (i.e., summer 2012) which, as the reviewer rightly notes results in a lengthy recall period of between 9 and 12 months. We have made the following revisions to the manuscript to add greater clarity to our description of survey timing and the research instrument, and to better acknowledge the potential limitations of the recall period as follows:

'Data were collected in June 2013 (i.e., northern hemisphere summer) using a self-complete paper questionnaire...'

'Sun-related behaviours, including sunbathing, getting a suntan, use of sun beds and sun-protection practices during the previous summer (i.e., 2012) or past 12 months were assessed through ten questions.'

'Second, although validated instruments were used for data collection, results are contingent on

adolescents' accurate recall of sun-related behaviour during summer 2012, around 9 to 12 months previously. Previous studies among adolescents have [deleted however] found recall of sun-related behaviours to be reliable and valid [31], although the possibility that recall bias influences our findings cannot be discounted due to the length of time since the previous summer (e.g., reporting of less severe sunburn, frequency of sunburn, or SPF of sunscreen used may be particularly prone to bias).'

11. page 6, line 35, I believe consent should be assent, children give assent once parents have consented.

While we acknowledge the debate around assent and consent we elected to use the word consent in our study documentation to reflect the increasing autonomy over decision-making and action during adolescence and ensure that granting (rather than agreeing) permission was a more active process. This approach accords with relevant guidance from the Medical Research Council (MRC), National Children's Bureau (NCB) and Royal College of Nursing (RCN) in the UK. Hence, we have not changed consent to assent in our manuscript as doing so would conflict with the terminology approved by the Research Ethics Committee (REC) and run counter to this guidance.

12. page 8, line 29, it is appropriate to cite the ethics clearance reference or certificate number (e.g. 67/2013) given by the REC in this section.

We have added the REC reference number (reference: 13/14(83)) to the Ethical considerations section, as requested.

13. page 8, line 42, 'adolescent's has been used as the term for participants throughout the paper, however, most of the children were 12 years old. Is that not pre-adolescent? What is a definition of adolescent? Please consider this and use an appropriate term.

We acknowledge that as the young people in this study were aged 12/13 some were (strictly) on the cusp of adolescence at the point of survey (if considered synonymous with the term teenager). However, we also appreciate the considerable complexity around differing biological, social and legal definitions of adolescence, especially internationally. Hence, we opted to use the term adolescent as, in our view, this best encapsulates the developmental phase associated with secondary (high) school attendance in Scotland, and is in line with the World Health Organization's definition of an adolescent (10 to 19 years).

14. page 11, line 50, females comma who reported getting sunburnt AND who were more likely...

This revision changes the meaning of the sentence from that intended. However, we have added a comma to the following sentence (after sunburnt) for clarity:

'The only statistically significant association between symptom awareness and sun-related behaviour was among females who reported getting sunburnt, who were more likely to agree that a change in the appearance of a mole was potentially a sign of cancer.'

15. page 14, line 42, interventions research, IT is therefore....

We have revised this sentence as follows to increase clarity:

'In order to design age-appropriate sun safety interventions, further research is therefore required to better understand how the balance between social, cosmetic and health motivations changes over time, especially among young females.'

16. page 15, line 18, it would be appropriate to mention two references:

"The International Community Preventive Services Task Force released a statement that supported 'strong evidence' for the effectiveness of interventions aimed at the prevention of skin cancer in primary schools that combine education and policy approaches to increase preventive behaviours; specifically, child sun protective practices that reduce sunburn incidence and new melanocytic mole development.[3] Recently, the United States Preventive Services Task Force recommended that counselling about minimising their exposure to solar UVR to reduce the risk for skin cancer, be targeted at children (as well as adolescents and young adults aged 10 – 24 years) who have fair skin.[4] Since children spend a significant proportion of their day and year at school, the important direct and indirect roles that schools, teachers and caregivers play in skin cancer prevention are clearly emphasised." (Do not copy text, part of an unpublished paper)

3. Saraiya M, Glanz K, Briss PA, Nichols P, White C, and Das D. Interventions to prevent skin cancer by reducing exposure to ultraviolet radiation: a systematic review. *Am J Prev Med* 2004;27(5):422-426.[<http://www.ncbi.nlm.nih.gov/pubmed/15556744>]

4. Moyer VA, U S Preventive Services Task Force. Behavioural counselling to prevent skin cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2012;157(1):59-65.[doi: 10.7326/0003-4819-157-1-201207030-00442]

We thank the reviewer for alerting us to these references. After reading both we have added reference 3 where suggested.

Finally, this is a good study that brings together psycho-social factors, attitudes and behavioural responses in a way that motivates for more research and informed interventions that can really make a difference to melanoma incidence rates in Scotland but around the world too.

Again, we thank the reviewer for their positive response to our work and are pleased that this has international appeal and impact.