Author's response to reviews

Title: Coverage of skin cancer and recreational tanning in North American magazines before and after the landmark 2006 International Agency for Research on Cancer report

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Author's response to reviews: see over
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RE: MS BMC Public Health 1703676410140692 Revised

To the Editor:

This letter is to support the submission of the revisions and response to reviewer comments regarding the original manuscript entitled “Coverage of skin cancer and recreational tanning in North American magazines before and after the landmark 2006 International Agency for Research on Cancer report” by Jennifer E. McWhirter and Laurie Hoffman-Goetz for publication in BMC Public Health.

We thank the reviewers for the time they have invested in reviewing our work. Their positive comments, feedback, and suggestions have helped us to craft a better manuscript. We have attended to the suggestions in a point-by-point manner. Our responses are included below.

We look forward to hearing from you about the suitability of this work for publication in BMC Public Health.

Sincerely,

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Response to Reviewers

BMC Public Health #1703676410140692

Reviewer 1:

Minor essential revisions –

1. I would have liked to see more specific description of the coding of “information about the presence of tanned beauty ideals.” Table 2 says only that this applies to content that “promotes tanned ideal or having a tanned look,” but it doesn’t give any information about what kind of content would be considered to promote a tanned ideal. Similarly, how did the researchers distinguish images of “a person with tanned skin” from an image of an individual with a naturally darker complexion? One would expect North American magazines during this time frame to have included more Hispanic-Latino models and individuals of mixed racial background, who are likely to have naturally darker complexions. So it’s
important to explain whether a non-black model with darker skin, dark hair and brown eyes would be considered to illustrate “a person with tanned skin.”

Thank you for this important comment regarding the lack of clarity in the manuscript on what is meant by tanned beauty ideals. To address this for readers of BMC Public Health, we have added detail and elaboration on “information about the presence of tanned beauty ideals” in the Methods section (lines 122-130) and in Table 2 (provision of examples).

We acknowledge there is inherent subjectivity in coding visual images. While we worked to minimize this subjectivity by developing a detailed codebook, having more than one researcher engaged in the coding, and checking inter-rater reliability, there may still have been issues with coding some of the visual variables, such as an image of a person with tanned skin. We have added this issue of subjectivity in coding of the visuals to our limitations section. Please see lines 313-318.

2. I also would have liked to see a bit more discussion of the meaning of “resolution informed coding.”

Thank you for alerting us to this point. We include a discussion of how discrepancies in coding were resolved in the revised Methods section. Please see lines 140-147.

Discretionary revisions –

1. One obvious analysis that does not appear to have been done would have compared coverage between the different types of magazines, especially women’s and men’s magazines, given that these accounted for the vast majority of magazines analyzed. In particular, it would be of interest to know whether men’s and women’s magazines changed equally in their portrayal of the tanned beauty ideal and in their promotion of sunscreen use, self-tanners, etc.

We agree that it will be important to compare men’s vs. women’s magazines in how information about skin cancer and tanning is conveyed. However, the focus of this present study was on the impact of a major international cancer agency research and policy document - the IARC report- on overall media coverage on skin cancer and tanning, rather than on gender differences. We plan to examine gender differences in skin cancer and tanning communication in the mass media in future research. Thank you for this helpful suggestion.

2. The literature review makes the link between exposure to media coverage and beliefs and attitudes about skin cancer/tanning, but it does not make the link between either media coverage or attitudes and skin cancer prevention behavior. This is important to note because there is evidence that people continue to engage in tanning even though they understand the link between UV exposure and skin cancer. This makes the analysis of media inclusion of tanned beauty ideals that much more important.
Thank you for highlighting this gap in our literature search. We have included a brief description of this issue in the Discussion section and cited a recent study on media effects and unprotected sun exposure. Please see lines 267-270.

3. The authors make an excellent point about the link between increased coverage of sunscreen use and high-SPF sunscreens and the fact that these are commercial products. Advertising ties also may explain the failure of magazines to include the links between tanning bed use and skin cancer. There also may be an indirect tie here with the decrease in coverage of the risks of outdoor tanning, in that sunscreen manufacturers generally promote the idea that unlimited sun exposure is fine and even desirable so long as one uses sunscreen. In fact, there is evidence that individuals who use sunscreen actually spend significantly more time in the sun than those who do not, such that the increased exposure time may well outweigh the benefits of sunscreen use. Thus, ironically, promotion of sunscreen use – in the absence of promotion of sun avoidance/shade-seeking – could lead to an INCREASE in skin cancer risk behavior.

We agree with the reviewer’s comments about the promotion of sunscreen use in the magazine content and the potential downsides associated with this. While the promotion of sunscreen use is generally positive, it could also encourage people to spend more time in the sun, thereby increasing the risk of skin cancer. Similarly, it is possible that the promotion of the tanned beauty ideal is tied to advertising of self-tanning products in the magazines; these are both areas we plan to address in future research.

Reviewer 2:

I think this is a well-written manuscript, which should be interesting to researchers and communication professionals working with skin cancer prevention. I find the methods adequate and adequately described. The discussion is well structured and touches upon interesting findings from the results section.

I have the following recommendations for discretionary revisions: In future studies, it would be interesting if the researchers would include the terms "Vitamin D" and "Sun Holidays" in their search. At least in Denmark it has been an issue with eg tanning saloons to push their product on the consumers using the excuse of "vitamin D deficiency" in the populations (terms such as "Vitamin D tubes" have been used). Also, established researchers have advocated for (more) sun exposure to boost vitamin D levels in the population. This will probably result in more articles with positive coverage of sun exposure, tanned looks etc. The same may be true for sun Holiday articles.

Thank you for your positive comments about our manuscript. We hope our work will help to inform public health scientists and practitioners about issues on skin cancer communication in the popular mass media and the impact of international cancer research reports on the messages conveyed to the public about this important public health issue.
We agree that the issue of UV exposure being promoted as healthy (e.g., for Vitamin D production) is a timely and crucial one in communication about skin cancer prevention. Unfortunately, we did not address this in the current study. Previous research suggests media stories on Vitamin D are associated with positive attitudes towards tanning (Dixon et al., 2014. Agenda-setting effects of sun-related news coverage on public attitudes and beliefs about tanning and skin cancer. *Health Communication, 29*, 173-181). We have added a brief discussion of this in the revised manuscript and indicate that it is important to consider in our future research. Please see lines 310-312.