Author's response to reviews

Title: Tobacco promotion 'below-the-line': Exposure among adolescents and young adults in NSW, Australia

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Author's response to reviews: see over
Dear Dr Thomson,

Re: Tobacco promotion 'below-the-line': Exposure among adolescents and young adults in NSW, Australia (MS: 1821808599653649)

Thank you for the opportunity to revise the above manuscript. We appreciate the thorough reviews and comments from the reviewers, and believe that they have strengthened the paper. Please find our point-by-point response to the reviewers’ concerns below.

Reviewer 1:

This area becomes more and more important to address as the tobacco industry sources alternative avenues for marketing opportunities. While the majority of the measurements were retrospective 'global estimates' bringing into question the accuracy of such, the authors do make reference to this in the limitations section more or less alleviating my concerns, as results must be interpreted keeping these limitations in mind. Overall a great article sourced from a more than respectable dataset.

Thank you.

Reviewer 2:

Major Compulsory Revisions:

1. Methods – the study design is a major drawback to interpretation of these results. It is difficult to believe that these retrospective reports of exposure to tobacco advertising are valid, especially at such a fine-grained level (i.e. distinguishing small and large grocery stores – how did you explain the difference between these types of stores to your participants? Why is this difference important scientifically or for policy?). I would like to see discussion of why the reader should believe that retrospective data on this topic is valid. Also, there is a big difference between interviewing a 12 year old and a 24 year old – how do you think this age difference affected the validity of your data? I need you to “sell” me a lot more on your study design and methods.

As noted in Strengths and Limitations (p15, par1), the reliance on retrospective recall may have resulted in some imprecision of measurement. However, all questions were piloted with the survey population prior to the commencement of fieldwork and no major issues with recall or understanding of questions were identified. As such, we are confident that the questions could be understood by all participants and the age of respondents would not have impacted upon the validity of the data. We have added a sentence to the method section noting that the questionnaire was piloted (p6, par5). In addition, that the same questionnaire was used for all participants allows for assessment of differences between different age groups. In analyses, we have either stratified by age or included it as a covariate; therefore any differences would be captured.

To our knowledge, there are no validated instruments for measuring tobacco promotion exposure reliably. However, the measures used in our study were drawn from a number of reputable studies published elsewhere and cited in our manuscript. In addition, there is evidence that self-reported

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recall of anti-smoking campaigns is a reliable measure of campaign exposure.\textsuperscript{3} We are therefore confident that our measures would provide a reasonable indication of actual exposure to tobacco promotion.

With regards to the rationale for distinguishing between large and small supermarkets, this was done due to the phased implementation of the point-of-sale display ban in NSW, such that large retailers were required to comply on January 1, 2010 and small retailers (excluding specialist tobacconists) were required to comply on 1 July, 2010. This means that at the time of our survey the legislation was in force for large retailers (defined in our survey as having more than five cash registers and noted on p9, par1) but not for small retailers. We have now made it explicit that participants were informed of this distinction prior to responding to the question. We have also added a sentence to the limitations of the study that there may have been some imprecision in recalling the size of the grocery store (p15, par1). However, in the Australian context there is a fairly clear separation of local ‘corner’ stores and the major chain grocery stores with five or more cash registers and we believe that all participants would have readily understood the distinction.

2. In general, your statistical methods are appropriate. I would like to see more of an argument justifying why your sample is representative, especially considering your 45% response and RDD sampling frame. Perhaps RDD is not an issue in Australia, but in the US, many households (especially young adults) do not have landlines and are thus unreachable via RDD. How were your weights constructed?

Demographic characteristics were compared to Australian Bureau of Statistics Census data to assess the representativeness of our sample. No major differences were noted. To correct for any differences, data were weighted according to known age (12-15 years, 16-19 years, 20-24 years), sex (female, male) and region (Sydney, Rest of state) distributions for 12-24 year olds within NSW from the 2006 Australian Bureau of Statistics (ABS) Census data. This has now been clarified on p11.

The achieved response rate of 45% is comparable, if not better, than many similar studies in Australia and internationally, including the International Tobacco Control Policy Evaluation Project (ITC), and Australian National Drug Strategy Household Survey. This has been added to p7, par1. Furthermore, as noted on p7, par1, the response rate was calculated using AAPOR standards, which is a more conservative response rate calculation and to which some other surveys do not adhere.

That RDD does not allow for recruitment of mobile (cell) phone-only households is now noted as a limitation on p15, par1. However, Australian data indicates that this should not overtly affect the representativeness of our sample because the proportion of mobile-only households remains relatively small at approximately 14% to 16% of all households\textsuperscript{4}. While the proportion is greater at the upper end of our age range (approximately 25%), undertaking a dual-frame survey (i.e. mobile and landline) was not possible due to the substantial cost implications.

3. I’m confused by your decision to lump 12-15 year olds into the “never/rarely” category (p. 9). Wouldn’t this inflate the effect reported in Table 3 for 18-24 yr olds in bars/pubs/nightclubs?


Wouldn’t it make more sense to exclude them from this analysis and just compare 16-17 year olds with the young adults?

We thank the reviewer for this observation and upon reflection agree that the coding of those aged 12-15 to the “never/rarely” category confounds the effect of age. We have therefore re-run the analyses for bars/pubs/nightclubs without those aged 12-15, and made the necessary amendments to the manuscript. This includes the omission of the results for the Multiple Variable analyses in Table 3 as the model became non-significant in the modified analyses.

Changes have been made to: Abstract (p2); Methods (p9, par1; par2); Results (p12, par5; p13, par2; par3); Table 2 (p24, p25 notes to table); Table 3 (p26, p27 notes to table).

Minor Essential Revisions:

1. It’s a pleasure to read such a nicely polished article.

   Thank you.

2. Reference 18 is incomplete

   We have revised reference 18 to include the DOI.

Discretionary Revisions:

1. Considering how exhaustive you were with the channels you asked about, I’m surprised you didn’t ask about tobacco exposure on social networking sites or Youtube. This is a big deal in the US and could give you some nice results. For example, you could ask if the respondent had ever “friended” a tobacco company or brand.

   We agree that exposure via social networking sites is an important area to explore. Due to time constraints, exposure via social media was grouped under exposure via the internet and thus we were unable to explore this issue in greater detail. However, we will consider this issue specifically if funding to continue this study can be obtained.

   Once again, we thank you for the opportunity to revise this manuscript. We look forward to hearing from you again.

   Sincerely,

   James Kite (on behalf of all authors)