

Article details: 2016-0010	
Title	Smoke-free homes, smoking susceptibility and familial smoking among never-smoking high school students: a cross-sectional analysis
Authors	Bruce Gregoire BA, Sunday Azagba PhD, Mark Asbridge PhD
Reviewer 1	John Pierce
Institution	University of California, San Diego, Cancer Center
General comments (author response in bold)	<p>1. p6 ln 11: There appears to be significant non-response problem in this survey –57% at the school board level; 64% at the school level, and 72% at the student level. Are these hierarchical response rates? Suggesting that the overall response rate is the multiple of the 3 numbers? Please clarify.</p> <p><b>There are three stages of sampling. First school boards in each province are contacted to assess whether they want to take part in the survey, of which 57% of school boards agreed. Then schools are randomly selected in each board to participate, of which 64% agreed. Schools are sampled until the desired number of schools is reached. Then within each school, students are asked to participate, of which 72% agreed. Schools and school boards commonly do not or cannot participate, and schools are sampled until the desired quota is reached. The key response rate is the 72% student participation rate. The survey weights are adjusted to reflect non-response. We have expanded our discussion of weighting in the section on Statistical Analysis.</b></p> <p>2. P4 ln30: Home smoking ban (HSB) is in other papers referred to sometimes as a smoke-free home (SFH). There should be some discussion of the difference in this paper. For example, a ban is something that is imposed from the outside or by another, whereas a smoke-free home does not have that connotation. Further, the use of the word ban has negative connotations which may be associated with lower positive responses regardless of what is actually occurring in the house.</p> <p><b>The reviewer is correct here. There is nothing in the survey question that implies that it is a ban, per se, and the term does have a negative connotation. The term smoke-free home reads more clearly and, as such, we have change the manuscript to reflect the reviewers comment and are using smoke-free homes throughout.</b></p> <p>3. p4: In the introduction, it seems important to distinguish which papers have used a longitudinal sample and which have only focused on a cross-sectional sample. Making inferences from a cross-sectional sample is very limited and the case needs to be made for why the current paper that uses such a sample is a significant contribution to the literature.</p> <p><b>Longitudinal studies in this area are somewhat limited. We have noted the studies that are longitudinal in the introduction.</b></p> <p>4. p6 ln32: There are recent publications that have validated an enhanced susceptibility scale that includes replacing one intent question with a question on curiosity. (see Nodora below) This is now the preferred measure being used in the large US PATH study and other surveillance studies. It would be helpful if there was some comment on what might have been different if this improved measure had been used.</p> <p><b>We have included mention of the improved smoking susceptibility measure in final paragraph discussing future research in this area.</b></p> <p>5. p6 ln33: There is no reference to the validation of the use of quitting intentions as a predictor of future behavior in a longitudinal study. Such a reference is needed to support this component of the paper. Suggest the Choi et al paper (see below). However, it is not clear what this adds to the current paper. On line 51, this is referred to as a cessation-related behavior, whereas it is not a behavior at all. Indeed, this would be better left out of the paper entirely as the cross-sectional study cannot add to the literature in this area.</p> <p><b>We agree with the reviewer and have dropped our analysis of quit intentions from the manuscripts. We instead suggest that this is an important area for future study.</b></p> <p>6. p9 ln 6: The justification for using two models in the results (also table 2) is not adequate and it doesn't add anything to the paper. These should be presented as a single model.</p> <p><b>The basis of the study is to examine the effects of smoke-free homes on susceptibility. As such, we felt a model building approach was important to look at model that have and have not adjusted for familial smoking status, and would allow for an examination of the impact on the main effects of SFH</b></p>

	<p><b>on smoking when familial smoking status was adjusted for. We have left the two models.</b></p> <p>7. p9 In26: It is unclear what presenting smokers adds to this table. The findings appear to be mainly related to the never smokers. Suggest removing the smokers columns. <b>We have removed the current-smokers column from Table 1.</b></p> <p>8. p9 In47: The authors have not presented their rationale for how rules on smoking in the house (when were they implemented) would impact intentions or how important these intentions are to future behavior — particularly when the topic discussed is dependence which, by definition, suggests that the behavior is not so voluntary. <b>We have removed intentions to quit from the analysis.</b></p> <p>9. p11 In45: The major limitation is the cross-sectional nature of this study with the authors trying to infer a temporal relationship between home rules and susceptibility to or initiation of smoking. <b>We recognize the limitations of the cross-sectional design and noted this in the original paper, making a particular point that we are only looking at measures of associations. We also call on additional longitudinal work to be done in this area. However, it should also be noted that our main findings are with regard to susceptibility to smoking and not actual current smoking, so we are measuring the propensity for future behaviour based on current smoke-free home status.</b></p>
<b>Reviewer 2</b>	Stanton A. Glantz
Institution	UCSF Helen Diller Family Comprehensive Cancer Center
General comments (author response in bold)	<p>1. The paper would be strengthened if the authors added an analysis of the relationship between home smoking bans and former smoking, i.e., youth who had smoked 100 cigarettes in their lifetime but not in the past 30 days. <b>There were a very limited number of students who reported being a “former” smoker and thus we were unable to carry out this analysis.</b></p> <p>There are a few points of clarification that would improve the paper.</p> <p>2. Page 4, line 6: Change “Apart from” to In addition to.” <b>Fixed.</b></p> <p>3. Change “environmental tobacco smoke” (the industry’s outmoded term) to “secondhand smoke” through. <b>Fixed.</b></p> <p>4. Page 5, line 7 and 14: Missing parentheses. <b>Fixed.</b></p> <p>5. Page 5, line 37: The term “negatively associated with” is ambiguous. Do the authors mean “associated with less smoking initiation,” which would be a positive outcome, or “associated with more smoking initiation,” which would be a negative outcome? <b>This sentence has been edited to improve clarity.</b></p> <p>6. Page 6, line 3: What was the direction of the association? <b>This sentence has been removed.</b></p> <p>7. Page 13, line 8-15: This statement is inconsistent with the data presented in the paper, which shows lower susceptibility to smoking. <b>What we were hoping to say here is that when homes are smoke-free yet family members are still smokers, the benefits of smoke-free homes are not realized (which is our main results with the stratified analyses). We have edited the sentence for clarity.</b></p> <p>8. Page 13, line 17: Don’t end the paper with the Limitations; add a conclusion. <b>The end of the manuscript has been edit and now ends with a section on implications for future research and policy and an appropriate concluding sentence.</b></p>
<b>Reviewer 3</b>	Roberta Ferrence
Institution	University of Toronto, Ontario Tobacco Research Unit
General comments (author response in bold)	<p>1. It would be useful to further address discrepancies in the literature, beyond stating that they exist. Some possibilities are different definitions of variables used, different concepts used, different age groups and possibly differences, usually over time in the proportion of homes with bans. When most homes have a ban, it becomes less of a predictor. <b>We have added some sentences providing context on youth exposure to second-hand smoke in the home. Regarding discrepancies in the literature, we have outlined in paragraph 2 what the discrepancies are. However, we are</b></p>

**limited two a 2 paragraph introduction by the CMAJ and cannot go into any more details.**

2. More discussion of future research and questions that need to be addressed.  
**The Interpretation Section now includes a paragraph on future directions for research and notes a couple of key areas where gaps in the literature exist.**

3. p7 Explain why students in Gr 9 and above were used.  
**Our key exposure is drawn from a question on home smoking rules and we felt that older youth would have a more accurate awareness of the presence of home smoking rules.**

4. I'm not clear why the two dependent variables used different cut-off points. Susceptibility included "probably not" with the "susceptible". This needs to be explained. Was the analysis done with the more conventional split of two and two as was done with intention to quit?

**As per the suggestion of another reviewer, analysis of intentions to quit has been removed. The cut-points for our analysis of smoking susceptibility draw on the work of Pierce et al, who originally validated the scale: Pierce, J.P., Choi, W.S., Gilpin, E.A., Farkas, A.J., Merritt, R.K., 1996. Validation of susceptibility as a predictor of which adolescents take up smoking in the United States. Health Psychol. 15, 355–361.**

5. Self-esteem seems to be the most important variable beside home bans. Perhaps more discussion on this.

**We agree with the reviewer that self-esteem appears to be an important factor, as does school academic performance and age. We have noted these associations in the results section but have not commented further on them in the Interpretation section in order to keep the focus on our primary exposure measure.**

6. Current smokers and non-smokers needs a clearer definition. Was any analysis done with slightly different cut-off points for these concepts? There seems to be a definition of never smoker on p11 but should be earlier. Did you analyze with "ever experimented" only combined with never smokers?

**We have dropped current smokers from the study and focused on never smokers. A definition of never smokers is provided in the methods section. We refer to the students as never smokers throughout the paper.**

7. While mention is made of family structure under Limitations section, this should be addressed earlier in the paper. Having a family member in the home who smokes may be quite different from having a family member who smokes and lives elsewhere. In some cases, a smoking household may not be one if the student doesn't live in the same household as the smoker.

**Having a family member who smokes is not our measure of direct exposure to second-hand smoke, per se, but rather draws on social learning theory. Our concern is the extent to which the youth receives consistent or differing messaging — that smoking is not allowed in the home or that youth should not be allowed to smoke, yet parents and other family do smoke. In this instance, the messaging is mixed and thus creates the discontinuity we note in our paper and leads to higher rates of smoking initiation. As such, whether the smoking parent lives with the child or not is not as important as whether they smoke or not. Given that the students indicate that their family members smoke means they are aware.**

8. The use of the abbreviation HSB is offputting as it is not a known abbreviation and the reader has to stop and think each time. This can be corrected by using the full three words or by limiting to one or two words in many places, such as "the ban" or "home ban". It usually doesn't need to be repeated as often.

**We have removed all abbreviations related to HSB. We have changed Home Smoking Bans to Smoke-Free Homes and we have written it out in full throughout the paper.**

A detailed edit to correct several minor errors.

9. Delete "Contrariwise" p4.

**Fixed.**

10. Adolescents plural p6, para 1 line 4.

**Fixed.**

11. Delete "those, p6, para 1 line 6.

**Fixed.**

12. Change "analysis" to "analyses" p6 para 1 line 11.

**Fixed.**

13. p7 para1, line 3 Change "that" to "who".

**Fixed.**

14. p9 para 1 line 2, end of sentence missing.

**Fixed.**

15. p9 para 1 line 7 change significant to significance.

**Fixed.**

There are numerous others errors throughout the paper that a careful edit will fix.

**Hopefully we have sufficiently edited the manuscript to address other small errors.**