Author's response to reviews

Title: Fifty Years of Fat: News Coverage of Trends that Predate Obesity Rates

Authors:

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Author's response to reviews: see over
Dear Professor Norris,

Thank you for suggesting changes to our Research Article now titled, “Fifty Years of Fat: News Coverage of Trends that Predate Obesity Prevalence.” We appreciate your helpful comments and have addressed them in this resubmission.

Reviewer 1 (Lisa Miclesfield)

Major compulsory revisions

Abstract:
1. The background should also include what has previously been shown in the field in order to set up the question that this study is trying to answer.
   - We added this to the background, “Obesity prevalence has risen in fifty years. The health literature generally expects media mentions of health risks to follow health risk trends. However, since food consumption trends precede obesity prevalence trends, this research investigates whether newspaper mentions of food predate obesity prevalence.”
2. It should be included in the abstract that food mentions exclude advertising.
   - We added the term “non-advertising” to describe the articles coded for food mentions.
3. It is preferable to use the term ‘associated’ rather than ‘related’ throughout the manuscript.
   - We have changed “related” to “associated” throughout the manuscript.
4. Some data should be included in the results section to allow the reader to determine if the association is “strong” or not, the authors cannot tell the reader.
   - We have added data to the results section of the abstract to allow the reader to assess the association for themselves and removed the word “strong.” It now reads, “US obesity prevalence is positively associated with New York Times mentions of sweet snacks (b=55.2, CI = 42.4 to 68.1, p = .000) and negatively associated with mentions of fruits b=-71.28, CI -91.5 to -51.1, p = .000) and vegetables (b=-13.6, CI = -17.5 to -9.6, p = .000).”
5. Pg 2, line 46: preferable not to use emotive terms such as ‘extreme’ if this difference has not been tested statistically. The results on pg 11 (line 224) suggest that the results were similar.
   - We have removed emotive terms such as “extreme” from this line, and have reviewed the manuscript to remove emotive terms in general.
6. Pg 3, line 50: The authors should not be directive by stating that ‘it is possible’, rather state that ‘it may be possible’.
   - We have changed “it is possible” to “it may be possible” on this line and have reviewed the manuscript to use the recommended language elsewhere.
7. Pg 2, line 44 and Pg 3, line 51: Should also include the significant association with fruits.
• We have now included the significant association with fruits (see quotation from item 4 above).

**Background:**
1. The study aims at the end of the background section should not be phrased as questions.
   • We have changed the study aims so that they are not phrased as questions on page 5 line 95: “This study examines whether media mentions of common foods – sweet snacks, salty snacks, fruits, or vegetables – are associated with national obesity prevalence. It then tests whether these media mentions predate or follow obesity prevalence. Finally, it examines patterns of media mentions of obesity comorbidities.”

**Methods:**
1. Pg 5, line 98, insert ‘has’ between ‘and’ and ‘won’.
   • Done.
2. Pg 5, line 99/100: Remove the sentence that newspapers influence culture as this is already in the background section.
   • Done.
3. Pg7, line 138: ‘obesity rate’ should be replaced by ‘obesity prevalence’ throughout the manuscript.
   • We have replaced “obesity rate” with “obesity prevalence” throughout the manuscript, including the title.
4. Pg 7, line 137: The first two sentences of this paragraph should be combined to read something like “A generalized linear model with a logit link was used to determine the association between annual obesity prevalence, as the dependent variable, and the percentage of articles mentioning vegetables, fruits, salty snacks and sweet snacks, as the independent variables.” This prevents unnecessary repetition.
   • We have replaced the first to sentences of this paragraph using the sentence you recommend (see page 7, line 149).
5. Pg 7, line 145-150: This is all a repetition of what is in the background section.
   • We have removed these lines from the paper.
6. Pg 9, para beginning with line 179: a significant part of this paragraph should be included in the background section. Only the methods for how it was measured and compared statistically should be included here.
   • We have moved a significant part of this to the background section (see page 5, line 89).

**Results:**
1. The incorrect figure appears for Figure 1.
   • Figure 1 is now correct.
2. The slope of the trend lines for sweet snack foods and obesity prevalence should be compared statistically. They cannot be referred to as “looking similar”.
   • We have eliminated the comment about its “looking similar” from this paragraph (page 9, line 192). The slope of the trend lines for sweet snack foods and obesity prevalence is presented in the next paragraph on page 10, line 200. “Obesity prevalence was significantly associated with lower percentage of articles mentioning vegetables (b=-13.6, 95% confidence interval [CI] = -17.5 to -9.6, p=.000) and fruits (b=-71.28, CI -91.5 to -51.1, p=.000).”
3. Pg 10, line 193: clarify that the article counts of the individual terms are a percentage of the number of total articles.
   - We have clarified, as suggested on page 9, line 193: “Tables 1 and 2 show article US and UK counts respectively (in addition to their percentage of the number of total articles) for the individual sweet and salty snack terms reported at ten-year snapshots over five decades, in order to illustrate simple, descriptive trends.”

4. Should clarify in Figures 1, 2 and 3 that the diamond symbols represent obesity data collection waves.
   - We have added this text to the figures: “Diamond symbols represent obesity data collection waves.”

5. P-values should be to 3 decimal places.
   - We have made all p-values 3 decimal places.

6. Pg 10, line 203: This sentence should read as follows “Obesity prevalence was not significantly associated with the percentage of articles mentioning salty snacks between 1960 and 2010.”
   - We have changed the text to your suggestion on page 10, line 202, “Obesity prevalence was not significantly associated with the percentage of articles mentioning salty snacks between 1960 and 2010 (b=53.94, CI = -51.1 to 159.0, p=.310).”

7. Pg 10, line 206: please include p values with the R2 and Chi2 results.
   - We have included p values on page 10, lines 208 and 210.

8. Pg 11, line 216: at the end of the sentence include ‘(data not shown)’.
   - We have included this on page 10, line 217, “Results were similar for two-, four- and five-year lags (data not shown).”

9. Pg 11, line 228: Details of what Figure 3 is showing must be outlined in the text ie. Paragraph 2 of this section should appear before paragraph 1.
   - We have changed this paragraph substantially. This section (page 11, line 229) now begins with details of what Figure 3 is showing, with the text of what was paragraph 2 appearing first in this section now. Further, we removed the content of paragraph 1 (except the first sentence) from the manuscript. See item 10 below (the next point) for an explanation.

10. Pg 11: The results comparing mentions of foods and co-morbidities appear out of nowhere. The concept of “relative reporting of obesity and its co-morbidities with the mention of sweet snacks….” has to be introduced in the background etc.
    - We agree, and we think that introducing this in the background would also appear out of nowhere, so we eliminated the noted paragraph from the current revision. We can put it back in and develop the background more if the reviewers prefer this.

Discussion:
1. The discussion should not begin with a question.
   - The discussion no longer begins with a question. On page 11, line 239, it now reads, “This study investigates whether media mentions of food accurately reflect trends related to obesity prevalence.”

2. Pg 12, line 253: This paper has shown that obesity prevalence follows media food mentions so the authors cannot state that it does ‘not just precede’.
   - We have removed “not just precede” from the sentence on page 12, line 243.

3. Supporting or conflicting literature needs to be included in the Discussion.
• We have cited conflicting literature in the discussion on page 11, line 141.

4. More than half of the discussion contains limitations of the study. This is of concern!
• We shortened the limitation part of the discussion section without eliminating critical points (page 11, lines 247-255).

Other comments:
This is a very interesting paper however I have some concerns about the writing style and formatting which is more suited to a social marketing journal. While interesting for a public health journal, the writing style needs to be more “scientific” rather than how it appears now which is more of a commentary. The authors have to be aware of terms such as “birds eye view of trends”, “could usefully help”, “in other words”, “shedding light”, “less attention” “provide clues”, and more emotive words such as ‘dramatically’. In addition, as a scientific paper it should not be written in the first person. There is also a lot of repetition throughout the manuscript.
• We changed the language to be more scientific, switching from first to third person and reducing repetition in the paper. We have eliminated terms such as “birds eye view of trends”, “could usefully help”, “in other words”, “shedding light”, “less attention” “provide clues”, and more emotive words such as ‘dramatically’.

Reviewer 2 (Lennert Veerman)

Compulsory revision
I would like a table for the UK part of the study too, please.
• We include this new table (see Table 2 on page 17).

Discretionary revision
Would it be feasible to relate the changes in food mentions to the change in obesity rates? That would give a more stringent test of the relationship.
• Given the short deadline to resubmit the manuscript, we have not added additional analyses to the paper.

Minor essential revisions
Line 229: “It is notable to compare…” Is that a proper expression?
• We have removed this expression from the paper.

Line 236: .59% -> 0.59%
• This detail was removed from the manuscript per my response to reviewer 1, comment 4 pertaining the Discussion section.

Line 260-263: I don’t quite understand this. When a single article contains more than one of the terms, the number of media mentions could be deflated or inflated depending on whether you counted articles or mentions, but not both at the same time?
• We agree that this was (regretfully) confusing. Since we are trying to shorten the limitations section, these confusing sentences have been eliminated. We were trying to say that some articles might contain more than one term in a category (e.g., one article might contain “chocolate” and “cake” for the category of sweet snacks), on the one hand.
And some terms may appear more or less in a single article (e.g., “chocolate” may appear once in one article and 20 times in another). Thus, media mentions may be either inflated or deflated as a way to quantify media exposure. However, we do not think this is a major limitation because comparatively from year to year and between categories the inflations or deflations would likely be similar and therefore be subtracted out. We can put this explanation back in if the reviewers prefer.

Figure 1 does not depict what its title suggests it should – it is identical to Figure 2. Consequently, I could not examine the intended Figure 1.

- Figure 1 is now correct.

We have still no conflicts of interest and affirm that the results of this study are not published or under consideration for publication elsewhere. Both authors have seen and approved the contents of the submitted manuscript. We look forward to the feedback of the reviewers and the editors. Many thanks for your consideration.

Sincerely,

Brian Wansink and Brennan Davis