Reviewer’s report

**Title:** Adolescent wine consumption is inversely associated with long-term weight gain: Results from follow-up of 20 or 22 years

**Version:** 0  **Date:** 10 May 2019

**Reviewer:** Christie Bennett

**Reviewer's report:**

Title: Consider putting directional nature of relationship

Abstract:

Background: Awkwardly worded - please clarify

Methods: Please include sample size, ages and years when data was collected. Please identify what analyses were conducted.

Results: Please reword your results. Results are either statistically significant or not. Borderline significance as a term is not recommended. Further, p-values need to be reported.

Intro:

Missing period/full stop in line 37

Paragraph two of the introduction needs refining as it is currently lacks clarity. This is possibly due to the two ideas being presented (mechanisms and previous studies) and use of linking words and phrases that are un-necessary (this draws the readers attention away from what you are trying to say). A prime example of this is the use of 'In agreement' in line 33. Please clarify.

Clearly stated aim and hypothesis

Methods:

Please clarify the use of alcohol consumption data that is >34 years old.

Methods state that n=1904 were invited and 41% participated, which =781. However, 779 were included in analysis. Please check.

Further, n=779 were eligible for inclusion and 720 were included in the analysis. The exclusion criteria accounts for n=58 instead of n=59 - please check.
If maternal SES was used in some cases please state how many this variable was used for.

Was a validated questionnaire used to identify alcohol intake and physical activity?

Statistical analysis:

Were data tested for normality?

How were covariates selected? Please provide methodology.

Results:

Please conduct analyses on non-participants in this sample as the sample size and inclusion criteria is different in the paper referenced.

The result suggesting that there is an inverse relationship between alcohol and BMI needs to be re-written. As it is currently written, the results suggest that there is a relationship. However, the p-values do not suggest this. The wording is misleading. 'Boarderline significance' as a term is not recommended.

p-value for interactions was set at >0.1, please explain why the p=0.1 for interaction of potential con-founders is considered significant.

Discussion:

Main results presented in lines 168-169 are misleading as there is no statistical significance to support the statement that alcohol (more generally) was associated with lower BMI.

Line 174 is also misleading and unnecessary as the data suggests no evidence that SES mediates effect.

Lines 180-184 need to be supported by evidence.

Paragraph starting at line 185 repeats information presented in the introduction - please amend

Line 209-201 needs to be supported by evidence. Are the drinking habits different and if so by how much?

Line 215 - what type of bias and how does it impact results?
Please comment on whether the legal drinking age may have impacted these results. Further, the units of alcohol were low and whether this impacted on reliability of regression analysis.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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