Author's response to reviews

Title: The relationship between healthy behaviors and health outcomes among older adults in Russia

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Author's response to reviews: see over
Reviewer's report
Title: The relationship between healthy behaviors and health outcomes among older adults in Russia
Version: 3
Date: 7 October 2014
Reviewer: Andrew Stickley

Reviewer's report:
The relationship between healthy behaviors and health outcomes among older adults in Russia
The authors have addressed the points I raised previously in a satisfactory manner. There are however, several further issues.

Major compulsory revisions

Methods

1. For the description of the ethnicity variable on lines 304-306 it would be useful if the authors could give one example of an ethnic group from the Caucasus region, Volga region and from Middle Asia.

We followed the reviewer's advice and added examples.

2. In lines 323-330 the authors explain about average marginal effects. I am not sure how common it is to use this type of outcome with the self-rated health categories, so if possible the authors should explain a little bit more about this technique and cite a previous study(studies) which has used this method when examining self-rated health.

This technique is commonly used, for example in the paper of Jesus M. Carro and Alejandra Traferri “Correcting the bias in the estimation of a dynamic ordered probit with fixed effects of self-assessed health status”.

To compare magnitudes of the effects of different variables and estimates relative effects must be investigated (i.e. ratio of coefficients), and at the average marginal effects for the variables with a coefficient significantly different from zero. Average marginal effects show how many individuals have a significant marginal effect in the sample given their particular situation and unobserved characteristics [67, 68]. This technique was used to determine which of the four healthy behaviors had the largest and most significant effect.


Minor essential revisions

Introduction
3. Line 93. It is stated that “Pomerleau et al. [16] found the fewest abstainers in Russia...” However, this statement needs to be given a context to become meaningful i.e. “When examining drinking in the Commonwealth of Independent States, Pomerleau et al...”
This was changed according to the reviewer’s suggestion.

4. Line 97. It states “Perlman et al. [17]...” However, Perlman was the sole author of the article.

This mistake was eliminated according to the reviewer’s suggestion.

5. On line 107 the word “men” needs to be changed to “males” as the Kislitsyna et al. study that is quoted (i.e. [19]) was undertaken among Russian adolescents not adults.

This mistake was eliminated according to the reviewer’s suggestion.

6. The text on lines 128-129 repeats the text on lines 68-69. The text in one of these places should be changed so there is no direct overlap.

The information in lines 128-129 was eliminated to avoid repetition.

Theoretical background
7. The text on lines 173-174 is repeated on lines 176-177. This needs to be changed.

The repetition was eliminated.

Methods
8. Lines 222-223 it states “Wave 1 data from Russia” were used. However, in the Abstract on lines 22-23 it states that “Wave 1...data (2007-2010) collected in the European portion of the Russian Federation were used for this study.” So, which statement is correct – were the data from the whole of Russia or just from the European part of Russia?

We changed the text in accordance with the information from the Methods section:

Wave 1 Study on Global AGEing and Adult Health data (2007–2010) collected in the European portion of the Russian Federation, southern federal districts of the European portion of Russia and from the Asian portion of the country were used for this study.

9. On lines 223-224 it states that data from “417 respondents aged 18-49 years...were used for the present study”. However, this is not correct. Data were only used from respondents aged 50 and above – so this reference to the population under 50 should be removed as it is confusing.

As suggested by the reviewer we deleted this reference.

10. On lines 252-253 it describes the ‘normal fruit and vegetable consumption’ variable which is categorized as 1 if a respondent had more than 5 servings a day and 0 if they had fewer than 5. However, how were those respondents who had exactly 5 portions a day categorized?

People consuming exactly 5 servings are included in the group of adults with normal consumption of fruits and vegetables:
The normal fruit and vegetable consumption variable was thus dichotomized as 1 (≥5 servings of fruits and vegetables per day) and 0 (fewer than 5 servings/day) and derived by summing the quantities of these foods consumed per day.

11. Line 290. The (Cockerham et al., 2006) citation is referenced in the wrong style.

The reference style was changed accordingly.

Results
12. On lines 335-336 it says: “Russian nation where >50% of men and <20% of men were single.” This sentence does not make sense and needs to be rewritten.

We rewrote it as: More than 80% of the respondents were of Russian nation. While more than 50% of females are single only 20% of males are single.

13. Lines 361-363 it mentions about “Non-Russian nationality decreased the probability of very good self-rated health and increased the probability of very bad health...” However, the authors need to be more precise here in describing their results – as not all non-Russian groups had worse health.

This mistake was eliminated:
Also, being a male of a nation Other than Russian, Ukranian/Belorussian, Nation of Caucasus, of Volga region, Middle Asia or Altaian/Buryats/Kalmyks decreases the probability to assess health as very good and increases the probability to assess health as very bad compared to being a Russian. On the other hand, ethnicity is insignificant for females in this sample.

Discussion
14. On lines 405 and 406 it mentions the term “alcohol addiction”. This would be better if it was replaced with “heavy drinking” or “heavy alcohol consumption”.

This mistake was eliminated.

15. On lines 487 to 488 the authors mention the “CI96% overlap”. What is this referring to?

We tried to clarify that another limitation closely related to the gender gap is the potential lack of clinical relevance of gender differences due to CI96% overlap, which indicates that there is no statistically significant differences between genders for some variables.

16. On line 492 the word ‘al’ needs to be replaced with the word “all”.

This mistake was eliminated.

References
17. For reference 18 the abbreviated journal form is incorrect – it should be ‘Alcohol Alcohol’ not ‘Alcohol’.

This mistake was corrected.
18. Reference 20 is incomplete – a full reference needs to be added here.

We completed the information in the reference 20.

**Level of interest:** An article whose findings are important to those with closely related research interests  
**Quality of written English:** Acceptable  
**Statistical review:** No, the manuscript does not need to be seen by a statistician.  
**Declaration of competing interests:**  
I declare that I have no competing interests.

Reviewer's report  
**Title:** The relationship between healthy behaviors and health outcomes among older adults in Russia  
**Version:** 3  
**Date:** 25 September 2014  
**Reviewer:** Luana Giatti  
**Reviewer's report:**  
The relationship between healthy behaviors and health outcomes among older adults in Russia

Second version  
Below some observations:

1) The authors improved the introduction section. But the article would benefit if the information were restricted to more relevant aspects, making the text more elaborate and concise.

*We tried to give the introduction more focus to make it more elaborate and concise.*

2) The same information was presented in introduction in lines 68-70 (Gurina et al. [6] found that 1.8% (n = 11) of older adults in their sample had frank malnutrition and 17.3% (n = 106) were at risk of malnutrition) and in lines 128 and 129 (Gurina et al. [6] identified 11 (1.8%) older adult participants with frank malnutrition and 129 106 (17.3%) who were at risk of malnutrition in the St.
Petersburg district).

The information in lines 128-129 was deleted to avoid repetition.

3) Objective could specify that the study investigate the relationship between SELF-RATED health and…….

Thank you for the comment, we specified this in the objectives section.

4) The study population was the participants of the SAGE Wave 1. The information about the age of study population should be described in methods (older than 50 years). In addition, in results there is the following information: “A total of 3938 respondents aged 50–100 (mean, 65) years participated in the survey”; but, Table 1 presents missing values in age variable. If the study population is the participants with 50 years and more, participants with missing data in age should be excluded.

The figures at the top of table 1 were corrected in accordance with the SAGE report.