Author's response to reviews

Title: Relationships between food consumption and living arrangements among university students in four European countries - A cross-sectional study

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Author's response to reviews: see over
Response to reviewers’ comments
(responses are interspaced and in bold)

Reviewer's report
Title: Differences in Food Consumption among University Students and their relation to students' living arrangements: A Cross Sectional Survey of Four European Countries
Version: 1 Date: 27 January 2012
Reviewer: Ardith Brunt
Reviewer's report:
Review of Manuscript: Differences in food consumption among university students and their relation to students' living arrangements: A cross sectional survey of four European countries

1. Is the question posed by the authors new and well defined?:
The purpose statement is present in the last paragraph of the Background section. This statement is fairly clear, although the results section did not provide all the information to make this purpose statement.

We now added more explicit testing of differences by gender and university site.

This appears to be newer data set than previous work. Since dietary intake is constantly changing, this information is always new. Separating into living arrangements in European universities appears to be new.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?
This appears to be a very small food frequency questionnaire (Perhaps 9 food item) with 4 to 5 demographic questions. It is noted that this does not include any quantity included…. Just did you eat it or not and how often. Much space is spent on development of the original survey which may not be important since it appears that the original survey was revised for this particular audience (citation 24). It does not mention if directions for each country were the same; however, since Bulgaria has higher food consumption in all areas, this may not be true.

We used a food frequency questionnaire with 9 indicator variables with a five point Likert scale indicating frequency of consumption. We changed the order of the sentences to improve the clarity of the description.

As much as we could assure in the process of translation, the direction were the same in all countries. This linguistic agreement does not rule out that there are some cultural differences which can result in different response patterns for different countries. We added this fact among limitations.

I have some concerns about the statistical methods section. First SPSS 17 should be cited within the paper.

We added a reference for SPSS.
Frequency data is presented as percentages. It would seem to me that the authors should have also run ANOVA to determine differences between the countries and between genders and residence before they run the logistic regression.

The frequency estimation was dichotomised for the purpose of the analysis, which used logistic regression. This causes some information loss (as compared to the original 5 point scale), but does not rely on assumptions of normal distribution and equal distances between categories as required for the linear regression. In that sense, we chose a more robust method with some information loss, but statistically correct.

ANOVA relies on the assumption of normality and interval scaling of the variables, which in our opinion is not the case for the food frequency questionnaire. In order to provide information about the significance of differences by sex and country, we added now p-values obtained from logistic regression with gender, country and their interaction as three independent variables. The corresponding p-values are presented in Tables 2 and 3. By this analysis we approximate what could be done by ANOVA without using this method, not meeting the distributional assumption in the case of these data.

It seems that living arrangements are really not clear. If students live with roommates in residence halls where food is provided is much different that students who live off campus with roommates and everybody has to acquire, prepare and eat their own food. Or perhaps they live in campus housing where meals are provided family style. This is not clear, and I am not sure the authors can tease this information out from the way they say their question was worded. If that is the case, then the value of the results of this study is greatly diminished.

Thank you for pointing this out. We cannot differentiate more exactly where the students got their food, as well as we cannot subdivide the group of those not living at home in a reasonable way. But having said that we can compare those living at parental home with those not living at parental home. We added these considerations among limitations.

3. Are the data sound and well-controlled? From what is presented, it appears so.

Thank you

4. Does the manuscript adhere to the relevant standards for reporting data deposition?

MAJOR CUMPULSORY REVISIONS
It just seems like bits and pieces are presented in the entire results section. Demographics at the beginning of the results should also be presented in table format.

We added a table describing demographics.

By presenting both N (%) and n (%), the population can be more fully described. Analysis should be presented overall for each country, overall separated by gender, and overall separated by living arrangements. Then perhaps analysis should then
divided by country. If the purpose is as stated to determine differences between countries, this should be observed overall in addition to all being separated out. Results of this kind of survey should definitely be longer than the background (both about 1.25 pages), and discussion (2.75).

We added additional stratifications for the original Table 1 (now Table 2) and expanded the description.

Food consumption by sex and country section: The % are provided, but were they significantly different from each other? That needs to be reported otherwise it appears that all are sig. different when my guess is that the authors are just talking about more or less related to the %.

We added the required significance tests.

The wording under comparison of dietary patterns of students have ‘other’ living arrangements is not consistent with regression analysis.

We corrected the wording.

The current table 1 is frequency of consumption, not prevalence of consumption.

We corrected the wording.

No levels of significance are provided for the various groups.

We added significance tests.

There is a discrepancy between the percentages for Denmark living with parents, and a statement in the discussion that all their populations had at least 48% of the students living with parents. Also could you label the columns with the entire country names. As is it is confusing.

Since now the percentage of students living with parents is not stratified by sex, the corresponding results were changed. We also added the full country names in tables.

Table 3 is very confusing.

We extended the description of Table 3. (now Table 5).

5. Are the discussion and conclusions well-balanced and adequately supported by the data?

Minor Essential
The authors have gone to great extent in finding other research about dietary intake in Europe and Asia. This section is too long compared to the results, it simply rambles and is difficult to follow.

We shortened the corresponding section.
I don’t understand why the authors used a Lithuania study to compare to Bulgaria instead of Denmark and Poland since the culture would be more similar to these countries.

**We agree that this comparison was not well justified and removed it.**

Top of page 8, the authors provide results of other studies concerning fruit, but make no mention of the results of their study.

**We rephrased the corresponding section.**

Somewhere it should be indicated that parents are more likely to provide healthful food. This means that the student doesn’t have to pay for it or prepare it which may be a challenge is students are studying in addition to working. Convenience and availability are huge.

**We have added such a statement at page 9 of the discussion.**

6. Do the title and abstract accurately convey what has been found?

**Discretionary Revisions:**
This seems like a very long title and can be shortened. The relationships between food consumption and living arrangements among university students in four European countries 16 words vs 22 words. I am sure this can be shortened to be more concise and still have the content of the article described.

**We shortened the title (we maintained description of the study type in the title as required by the BMC journals)**

Abstract: suggestion for second sentence. Food choice at the university can differ because of childhood food consumption patterns, sex and living arrangements. Food consumption may change especially if students are living away from the parental home.

**The second sentence was changed.**

In the results area of the abstract: “students not living at parental home consumed less fruit, vegetables and meat than those who resided outside of their family home in all…..” This seems like the same group to me….

**Thank you for noticing it, we corrected the error.**

Also typo at the end of that para…..parental come should be parental home.

**Corrected**

7. Is the writing acceptable? No major grammatical errors, however, it would be beneficial if an native English paper reviewed the paper for content. Areas seemed strangely worded, with some run-on sentences.
A native speaker reviewed the manuscript.

Reviewer's report
Title: Differences in Food Consumption among University Students and their relation to students' living arrangements: A Cross Sectional Survey of Four European Countries
Version: 1 Date: 25 January 2012
Reviewer: Najat Yahia
Reviewer's report:
Thank you for the invitation to review the above mentioned manuscript. Overall, the manuscript is well written and the research topic is interesting. I personally consider the manuscript as one of the good research articles in terms of design, methodology and the overall linguistic style. I have no comments on the manuscript as the authors have already pointed out the limitations of their findings in the discussion section.

Thank you very much for the positive appraisal.