Reviewer's report

Title: A survey of diet self-efficacy and food intake in students with high and low perceived stress

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Reviewer: Peter Hannan

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Nastaskin & Fiocco,
“A survey of diet self-efficacy and food intake in students with high and low perceived stress”

Summary: University students in an introductory Psychology course were recruited to respond to a battery of 6 surveys assessing demographics, dietary self-efficacy (DSE), general self-efficacy (GSE), perceived stress (PS), fat screener, and sodium screener. Of 136 respondents, 6 were excluded. The authors conducted ordinary least squares regression with fat (sodium) score as outcome, independent variables DSE and PS and their interaction, adjusting for covariates. For presentational purposes they also examine the fat (sodium) score with DSE and PS dichotomized. No interaction was found for sodium score (DSE strongly negatively related to sodium score), while they found an interaction of DSE and PS on the fat score – low PS with high DSE was associated with lower fat score.

Major points:

1. The presentation of results focuses too much on statistical measures without providing the magnitude of effects. A plethora of p-values anchor the results, but p-values of themselves do not indicate a) direction (presuming, as should be, that a two-sided test is being used) nor b) magnitude. For example, in lines 313-317, while beta coefficients and p-values are presented, there is no effort to interpret coefficients; what does #=-1.07 for the interaction of PS and DSE mean. As for the results of the ANOVA, lines 318-320, only p-values are given and a reader who wishes to interpret the moderation of the association of DSE on fat score has to resort to the figure maybe measure the vertical differences against the y-scale.

2. This is most obvious in lines 291-299. F-statistics with 1 df in the numerator are much more interpretable by giving the difference and p-value rather than the F. Lower case “d” is undefined; as one who does not use SPSS, I do not know what “d” is reporting.

3. Related to the report of the interaction, the authors must be very cautious in presenting main effects in the presence of an interaction (lines 313-314) because any linear shift in the scale values (for example, centering) will change the main effect estimates while leaving the interaction estimate unchanged. The
implication is the need to present adjusted means from the ANOVA.

4. To cover the case when there is no significant interaction (lines 301-303, it would be better to move the conditional “…no interaction …” to the beginning of the sentence so that the reader is not querying the presentation of main effects while the reader is expecting information about interaction.

5. The above point is made more difficult because the text and Table present only means and SD for the fat and sodium scores. The fat score, based on 17 items scored 0-4 should have a potential range of 0-68. Mean fat score is reported as 21 (SD=8). Line 247 assures the reader that all measures “…were assessed for normality…”. In a sample of 130, the expected half-range (for a Gaussian distributed variable) is 2.6 SD (Biometrika Tables for Statisticians, Vol 1, Pearson and Hartley, Cambridge U.Press, 1956) or here about 21. So the lower limit of 0 is acceptable, but what is the actual range in the sample? Overall, the analytic scores should be given more “flesh” in Table 1. In lines 282-288 are reported the “potential score” – this would be more appropriate in the descriptions in the Measures section.

6. References are not always appropriate. For example, under Block Sodium Screener, reference [45] is invoked twice, but first, that reference (AMPM 2000) does not deal with sodium/salt intake, and second, to say it was “…created for use in cardiac rehabilitation centres, and a reliability study is planned {45}.” is both irrelevant and meaningless!

7. “Food intake” is loosely used, even in the title. The study as presented is about fat intake, and sodium intake. The Block Fat Screener provides scores also for Fruit/Vegetables which are part of “food intake” related to having a balanced, healthy food intake. Further, sodium comes from processed foods and especially snacks, and from added salt, but the authors ignore these important distinctions.

8. In the abstract and text (line 407-408) the conclusion jumps from improving DSE and lowering PS to “…improving overall physical and psychological health for the population.” This is rather a jump, given that lowering fat, sodium, and stress are only parts of the influences towards a healthy life.

9. Lines 307-320 deal with the dichotomies of PS and DSE in association with fat score and sodium score. A table of adjusted means for the 4 cells for each outcome would be most informative and easily interpreted. The graphics (Figures 1 and 2) need much better labeling, and would benefit by having the ANOVA p-value, as well as the Tukey p-value(s) directly annotating the graphic.

10. The Background is much too long.

11. The discussion is often duplicative – of material in the Background, or of Results. It jumps (e.g. line 350) to “nutrient intake” which was not examined. Lines 377 – 388 introduce a totally unexpected topic which these data are inadequate to introduce (with an “interestingly”).

Minor points:
1. The authors explain well how the N=136 was reduced to n=130 for analysis; nowhere are we given information about the number in the potential pool – that
is, the response rate.

2. In line 210 note that Cronbach’s alphas do not measure validity, but consistency.

3. Unnecessary decimals make the reading more difficult. What does a mean BMI of 21.93 (SD=4.97) add to mean BMI 21.9 (SD=5.0)? And elsewhere.


5. Lines 285-289 just repeat what is readily accessible in Table 1.

6. The order of introducing fat score and sodium score changes throughout the text, making it unnecessarily a bit more difficult to keep track.

Typos, grammar:

1. Line 50 “…greater fat and sodium intake” – “greater” should be” lower” presumably.

2. Line 240 “their” change to “the” to match the singular “…participant…”

3. Line 328 “None of these variables was …” not “were” because the subject “None” is singular.

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.