

Reviewer's report

Title: Change in diet, physical activity, and body weight among young-adults during the transition from high school to college.

Version: 1 **Date:** 19 February 2009

Reviewer: Elizabeth E Richardson

Reviewer's report:

In this manuscript, the authors aimed to examine changes in weight, dietary intake, and other health-related behaviors among college students during their freshmen year. Participants' weights were measured at the beginning and end of the fall semester, as were surveys about dietary intake, physical activity and other health behaviors. Results indicate an average weight gain of 1.5 kg over the 15-week semester, with 23% of participants gaining greater than or equal to 5% of their baseline body weight. Those gaining the most weight reported a decline in their physical activity from high school to college and were more likely to eat breakfast than those who did not gain $\geq 5\%$ of body weight.

Below, please find outlined specific concerns and suggestions I have regarding the manuscript. I hope these will serve to improve the quality of the manuscript and the impact it has on the scientific community. In particular, the authors have provided a limited overview of existing research in the Introduction, have provided limited information on the study sample (race/ethnicity, SES, etc..) and recruitment methods, should consider adjusting p-values given the multiple statistical tests conducted, and the limitations to the study design inherent in recruiting all participants from a single university that may be very limited in its racial/ethnic diversity and thus representation to the broader national community of college students.

Introduction - Major Compulsory Revisions

1. The introduction is lacking in sufficient detail. For instance, what percent of first year students gain weight and what is the average amount of weight gain? What specific unhealthy behaviors have been identified in college students that may be contributing to weight changes in college? These issues should be discussed in greater detail, allowing the reader to better compare the current study's findings with extant literature.
2. Please outline the specific hypotheses.

Methods

1. Major Compulsory Revision - Recruitment methods lacking in detail. Additional information is needed on how the study sample was obtained. How many students were approached to participate? What percent of the incoming freshman class does the study sample represent? Is the study sample reflective of the larger student body with respect to race, socioeconomic status, gender?

According to the Utah State website, it appears that there were a greater percentage of females that were enrolled in this study.

2. Retrospective recall of health behaviors. Baseline surveys asked participants to retrospectively report on behaviors from the last six months of high school. Thus, students were asked to recall their diet, physical activity, and other behaviors from three to eight months earlier, a not insignificant amount of time. For instance, at baseline, 12.7-24.3% of students reported having ever drank alcohol, while at December assessment, these numbers dropped to 10.6-13.9%. Can the authors explain this? I wonder how well students are able to recall these details over such a timeframe. I appreciate the authors raising this as a limitation in the Discussion section.
3. Please cite a reference justifying the decision to define a “clinically significant weight change” as greater than or equal to five percent of baseline body weight.
4. Major Compulsory Revisions - Please provide information on and documentation for the reliability and validity of the measures utilized.
5. Major Compulsory Revisions - Adjustment of p-values. Given the number of statistical tests being conducted, the authors should consider adjusting p-values needed for meeting statistical significance.

Results

1. Major Compulsory Revisions - Additional information needs to be provided on the study sample. In particular, information should be included on the race/ethnicity of participants.
2. I would suggest eliminating the word “However” that begins the second sentence of the third paragraph on p. 7.
3. If there is no significant change in height (for either males or females) and a significant weight gain (no differences between males and females), then how do the authors explain the finding that female increased in BMI units at a rate nearly double that of males?
4. I would recommend NOT describing the nonsignificant findings on campus living, dining hall meals, and vegetable intake listed on p. 8 of the manuscript. These are listed in Table 2 and that is sufficient.
5. In Tables 1 and 2, how do that authors explain the substantial declines in reported average daily calorie intake from high school to college? Is this an artifact of recall bias? It is hard for me to imagine that students could be reducing their average daily calorie intake by roughly 600 calories.

Discussion

1. Major Compulsory Revisions - Regarding the limitations of this study, my biggest concern has to do with the limited representation that comes from surveying students from a single university, and in particular, one that may not be reflective of the diversity of college campuses nationally. I was unable to locate any information on the Utah State website attesting to the race/ethnicity breakdown of its undergraduate students. This is critical information to include in

this paper and to discuss as a real limitation of this manuscript.

2. Consistent with the above issue, I wonder how else this study sample may differ from the broader college population. For instance, the alcohol consumption rates are dramatically lower than in previous reports. Is this because of the strong religious affiliation of the student body?

3. I would suggest eliminating references to such things as “the infamous freshmen-15”. This refers to popular media representations and does not need to be perpetuated in scientific journals. As a case in point, the present study documents a weight gain of 1.5 kg during the first semester of the freshman year.

4. On p. 9, 4th line of the 2nd paragraph, Levitsky is misspelled.

5. Bottom of p. 9, please clarify that it is 2.1 more meals per week in on-campus dining facilities.

6. How does reported average vegetable intake in this sample compare with other national sample data of college students?

NOTE: MAJOR COMPULSORY REVISIONS HAVE BEEN IDENTIFIED ABOVE, DISTINGUISHING THEM FROM MINOR ESSENTIAL REVISIONS

Please number your comments and divide them into:

- Major Compulsory Revisions
- Minor Essential Revisions
- Discretionary Revisions

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'