

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Long-Term Weight Loss Success and the Health Behaviors of Adults in the United States: Findings from a Nationally Representative Cross-sectional Study
AUTHORS	Shuval, Kerem; Marroquin, Elisa; Li, Qing; Knell, Gregory; Pettee Gabriel, Kelley; Drope, Jeffrey; Yaroch, Amy; Chartier, KG; Fennis, Bob; Qadan, Mahmoud

VERSION 1 – REVIEW

REVIEWER	Mannucci, E. Azienda Osped Univ Careggi, Diabetes Agency
REVIEW RETURNED	11-Feb-2021

GENERAL COMMENTS	<p>The study reports an interesting survey on the association of reported intentional weight loss with reported behaviors. The main limitations of the approach (in particular, the cross-sectional nature of data and self-reporting of most parameters, including outcomes) are correctly recognized in the Discussion. However, there are some further points which should be addressed.</p> <p>Major points</p> <ol style="list-style-type: none">1. Apparently, baseline (pre-attempt at weight loss) BMI was not considered among possible moderators of weight loss. This is a major issue. The possible effect of baseline BMI on reported intentional weight loss should be reported, and used as a covariate in multivariate analyses on other factors affecting weight loss.2. Associations of weight loss with different parameters at univariate analysis should be synthetically reported. I suggest a table reporting mean(SD) or median(quartiles) or number(%) for each category of intentional weight loss, for each parameter imputed in multivariate models.3. The exclusion of a relevant number of subjects because of missing data is a major limitation of the study, and it should be recognized as such.4. The possible moderating effect of comorbidities and current drug therapies could produce a considerable distortion of results. If those data are available, they should be included in the analysis; otherwise, this should be recognized as a major limitation.5. I am perplexed on the cumulative “healthy behavior index”: unless it is properly validated, it adds little information and it could be a source of bias. <p>Minor points</p> <p>A. Introduction: the first two paragraphs report well-known elements of epidemiology and consequences of obesity, which are not directly related to the manuscript; they could be considerably shortened or altogether omitted.</p>
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	B. Discussion: the discussion of smoking status is problematic. Notably, patients some conditions which prevent vigorous physical exercise (eg., CHD, CHF, respiratory insufficiency), thus limiting weight loss, also induce a strong motivation to quit smoking.
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REVIEWER	Rana, Ziaul George Mason University, Nutrition and Food Studies
REVIEW RETURNED	13-Apr-2021

GENERAL COMMENTS	<p>18-22 (p-8): This information is not relevant to the manuscript Revise the following sentence in a clearer way. "The dependent variables pertained to lifestyle behaviors" Kcal: mean (SE) 2173.95: these values need be to rounded. There is not a need for this degree of precision. Authors need to elaborate on the exclusion criteria. For example, does the study exclude individuals with excessively small dietary intake of less than 500 kcal or excessive energy intake greater than 5000 kcal, etc. Why BMI was not included? Provide relevant rationale "have attained success through behaviors that were primarily detrimental to their health" -Generalizing from a few indicators is not appropriate. "however, their overall diet quality was similar to those who were not successful in LTWL" - Where is the evidence?</p> <p>The Result should present a calculated median weight change during the previous year among respondents.</p> <p>Why HEI-2015, not HEI-2015? The latest healthy eating index is now available with more precision. In particular, for this manuscript, this is more relevant. In 2015, the Empty Calories component was replaced with two discrete categories, Saturated Fat and Added Sugars, because the 2015 Dietary Guidelines emphasized limiting added sugars in the diet, and for the first time recommended that consumption of added sugars be kept to less than 10% of caloric intake. Additionally, with the replacement came two changes; solid fats were replaced by saturated fatty acids for the purpose of calculating the standard; and alcohol was removed as an item that contributes an effect to a specific component. Though excessive calories from alcohol are now no longer included within a separate component, total alcohol calories are included in the total calories (the denominator by which almost all standards are calculated); thus these calories are still accounted for in that way. (Ref: https://epi.grants.cancer.gov/hei)</p> <p>The Discussion needs the biggest improvement. Discussion lacks focus on the objectives and too much speculation. Some comparison with existing literature is unnecessary. Needs to analyze more deeply the generalizability of the results. Needs to assemble all the strengths to make the reader understand the importance of the study.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

The study reports an interesting survey on the association of reported intentional weight loss with reported behaviors. The main limitations of the approach (in particular, the cross-sectional nature of data and self-reporting of most parameters, including outcomes) are correctly recognized in the Discussion. However, there are some further points which should be addressed.

Response: Thanks for the positive feedback on our study as well as the important feedback provided aimed at improving the study.

Major points

1. Apparently, baseline (pre-attempt at weight loss) BMI was not considered among possible moderators of weight loss...

Response: Thank you for this suggestion. We now adjust for baseline BMI in all the multivariable models. Changes appear in the Tables and Results.

2. Associations of weight loss with different parameters at univariate analysis should be synthetically reported. I suggest a table reporting mean(SD) or median(quartiles) or number(%) for each category of intentional weight loss...

Response: Thanks for this constructive comment. In response, bivariate analysis was conducted and added to the paper. This addition now appears in Table 2, and a description of these results now appears in the Results section.

3. The exclusion of a relevant number of subjects because of missing data is a major limitation of the study, and it should be recognized as such.

Response: Thanks for pointing this out. The following has been added to the limitation section of the Discussion: "Finally, since a complete case analytic approach was taken, [12] the analytic sample did not include participants with missing information on the independent and dependent variables as well as covariates.

4. The possible moderating effect of comorbidities and current drug therapies could produce a considerable distortion of results. If those data are available, they should be included in the analysis; otherwise, this should be recognized as a major limitation.

Response: This is indeed a study limitation. Thus, the following was added to the Discussion section: "Additionally, while participants' self-reported health status was adjusted for in multivariable analysis, as with other similar NHANES studies, [22,45] medical conditions (e.g., diabetes, coronary heart disease) and subsequent prescribed medication, which could influence LTWL and health behaviors, were not accounted for in this study."

5. I am perplexed on the cumulative "healthy behavior index": unless it is properly validated, it adds little information and it could be a source of bias.

Response: In response to this comment, the healthy behavior index has been removed from the study.

Minor points

A. Introduction: the first two paragraphs report well-known elements of epidemiology and consequences of obesity, which are not directly related to the manuscript; they could be considerably shortened or altogether omitted.

Response: Thank you for pointing this out. In response, this section has been significantly shortened: it is now one paragraph only.

B. Discussion: the discussion of smoking status is problematic...

Response: We concur and in response the following has been added to the Discussion: "...which might have been the result (at least partly) of smoking's appetite suppression effects. This explanation, however, should be regarded as a supposition since variables needed to explain behavioral choices were not available in the dataset." And: "... Additionally, while participants' self-reported health status was adjusted for in multivariable analysis, as with other similar NHANES studies, [22,45] medical conditions (e.g., diabetes, coronary heart disease) and subsequent prescribed medication, which could influence LTWL and health behaviors, were not accounted for in this study."

Reviewer: 2

18-22 (p-8): This information is not relevant to the manuscript

Revise the following sentence in a clearer way. "The dependent variables pertained to lifestyle behaviors"

Response: Thanks for pointing this out. The information has now been omitted and the sentence has been revised: "It consists of bi-annual multistage cross-sectional data collection on the health and nutritional status of adults and children in the US.[21]"

Kcal: mean (SE) 2173.95: these values need be to rounded. There is not a need for this degree of precision.

Response: In response, the mean Kcal as well as the other variables in Table 1 have been rounded.

Authors need to elaborate on the exclusion criteria. For example, does the study exclude individuals with excessively small dietary intake of less than 500 kcal or excessive energy intake greater than 5000 kcal, etc.

Response: In response, the following has been added to the Methods to clarify: "Outliers were not removed from the dataset to minimize type 1 error.[22]"

Why BMI was not included? Provide relevant rationale

Response: In response, BMI is now included.

"have attained success through behaviors that were primarily detrimental to their health" -Generalizing from a few indicators is not appropriate.

Response: We concur and in response modified the language to make a more cautious statement: "have attained success through some behaviors that were likely detrimental to their health..."

“however, their overall diet quality was similar to those who were not successful in LTWL” - Where is the evidence?

Response: We agree and in response omitted this sentence.

The Result should present a calculated median weight change during the previous year among respondents.

Response: Thank you for this suggestion. We have now calculated and added the weight change. This change now appears in the manuscript.

Why HEI-2015, not HEI-2015? The latest healthy eating index is now available with more precision. In particular, for this manuscript, this is more relevant...

Response: In response, we now use HEI-2015 in the study. Thank you for this suggestion. Please see changes throughout the manuscript.

The Discussion needs the biggest improvement. Discussion lacks focus on the objectives and too much speculation. Some comparison with existing literature is unnecessary. Needs to analyze more deeply the generalizability of the results. Needs to assemble all the strengths to make the reader understand the importance of the study.

Response: Thanks for bringing this to our attention. In response, we now emphasize the strengths of the study and have significantly modified the Discussion as a result. For example, the following has been added to the Discussion: “The current study significantly contributes to the literature by exploring the health behaviors of adults attempting to lose weight from a national sample of Americans using 4 waves of NHANES data. Few studies to date have examined whether various levels of weight loss success are achieved through healthy weight loss practices in adults. Present findings show that higher levels of LTWL do not necessary equate with healthier behaviors.” Other paragraphs have been rewritten and some language has been omitted altogether. Please see Discussion section.

VERSION 2 – REVIEW

REVIEWER	Mannucci, E. Azienda Osped Univ Careggi, Diabetes Agency
REVIEW RETURNED	20-May-2021

GENERAL COMMENTS	The revision is satisfactory
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REVIEWER	Rana, Ziaul George Mason University, Nutrition and Food Studies
REVIEW RETURNED	07-Jun-2021

GENERAL COMMENTS	The authors addressed the issues that I had raised in my previous review. Almost all of the revisions and additions have been carried out in this manner. Despite some ignorable lags in the flow of the manuscript in some sections, it has become a nice document with important messages to convey to the audience.
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