

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	ASSOCIATIONS BETWEEN BODY WEIGHT PERCEPTIONS AND WEIGHT CONTROL BEHAVIORS IN SOUTH INDIAN CHILDREN— A CROSS-SECTIONAL STUDY
<b>AUTHORS</b>	Swaminathan, Sumathi; Selvam, Sumithra; Maria, Pauline; Vaz, Mario

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Pascal Bovet, associate professor, Institute of Social and Preventive Medicine, Lausanne, Switzerland
<b>REVIEW RETURNED</b>	08-Nov-2012

<b>RESULTS &amp; CONCLUSIONS</b>	<p>The paper presents the relationship of attempting to lose weight based on actual weight and perceived weight. These descriptive data are important to guide interventions, although, obviously more data will be needed to related perception of weight to other factors, perhaps through qualitative data. The paper is straightforward and well analyzed and well written.</p> <p>Authors might consider the following remarks.</p> <p>1) There may be some complex interactions within perception of own weight and weight loss attempt. For example, boys may wish to have larger weight as a symbol of “male power” while girls (particularly those of high SES) might favor a thing body, as shown in some of the papers referenced (e.g. Alwan et al). This might be difficult to factor in analyses, also considering the not too large sample. Therefore, it might be useful to show analyses separately for boys and men (at least in supplement files, if results are not too different according to gender, and to mention the main findings is the results section.</p> <p>2) Multivariate analysis in Table 1 includes many factors and some over adjustment may occur and result in some OR being underestimated as several of the indicators shown in Table 1 convey similar information (similar dimension of psycho-social forces). It would be useful to show an additional model (in the same table or in an additional table) that is adjusted only for the main variables that convey largely different psycho-social dimensions, for example, age, SES (school type), actual weight (thin, normal, overweight, obese), perception of being to thin, normal or too fat (and not include the other indicators such as parents perception (which may correlate quite a lot with children perception), parents’ education (which may correlates much with type of school) , child desire to lose weight (which is likely to correlate much with children perception of body weight), etc. Since the main focus of the paper is (legitimately) to distinguish “perception of own weight” and “actual weight”, a simplified model that is more parsimonious and include more independent variables could better provide the respective roles of these 2 major variables.</p>
----------------------------------	--

	<p>3) Odds ratios, when categories are too small, can be largely different (larger) than prevalence ratios. It would be interesting to show graphics showing the prevalence of “attempt to lose weight” according to categories of actual weight (too thin, normal, overweight) and categories of perception of weight (perceives weight as too thin, normal, too fat, a graph of joint categories of actual weight and perceived weight (i.e. a 3D graph with 3 categories in both actual weight and 3 categories of perceived weight). Because this relationship can change markedly in boys and girls and by age, it could be interesting to show 4 such graphs according to sex and age (boys-young, boys-old, girls-young, girls-old). This would provide a direct graphic evidence of the associations with a better measure of quantification (i.e. joint prevalence of the considered factors, with prevalence ratios which can be inferred from the graphics).</p> <p>4) Finally, authors only focus on attempt to lose weight. Similarly interesting would be an analysis of “attempt to gain weight”. Previous papers (including some referred in the paper) show that many children attempt to gain weight (including children with actual normal weight and even children with overweight) and this is of course a main reason for fueling the epidemic of overweight. It would be useful to also show these data as this “driving engine” may be just as large (if not larger) than the opposite “psychological engine” to lose weight when appropriate (when overweight). Again, it could be interesting to show these relationships along graphics with joint categories of actual weight (underweight, normal overweight) and perception (perception of being too thin, normal, too fat) as suggested in the previous paragraph (3). Also, it would be useful to analyze these relationships (patterns) by age and sex boys young, boys-old, girls-young, girls-old, and if a table is also provided using SES (e.g. school type) as an additional variable. Again, I would advise to not include too many variables in tables of multivariate analyses because many of the considered variables convey the same dimension and multivariate OR might be attenuated.</p> <p>5) While I would advise to have multivariate models based on fewer variables (those that are clearly fairly independent of each other), mainly contrasting actual weight and perceived body weight by children, it might be useful to show a correlation matrix of all these variables between each other (in Table 1) to document that many of these variables largely correlate to each other (and convey largely same information).</p>
--	--

<b>REVIEWER</b>	<p>Gemma Knowles Public Health, Epidemiology and Biostatistics University of Birmingham UK</p> <p>No competing interests to declare.</p>
<b>REVIEW RETURNED</b>	10-Dec-2012

<b>THE STUDY</b>	<p>The sampling strategy and inclusion criteria aren't fully described, however, the authors do direct the reader to another paper where they can find further details of the study.</p> <p>Please see attached word document for comments on the accuracy of the abstract and additional references that might be considered.</p>
<b>GENERAL COMMENTS</b>	Please note that some of the specified line numbers may be incorrect as it is difficult to see which number corresponds to which

line of text on my version of the manuscript. Sorry if this causes any confusion – hopefully you will be able to work out which bit of text I'm referring to in each instance.

**Summary:**

Overall, the paper is quite well written and reports interesting and original data regarding associations between body image perception and dissatisfaction, weight status, socio-demographics, and weight loss behaviours among 8-14yr children in India. The study benefits from a large sample size, the use of standardised protocols, objective measurement of weight status, a good response rate, and the availability of data on several potential confounding factors. The main finding of the study is the apparent importance of body size perceptions in predicting weight loss behaviours among young Indian children. The main limitation of the study is the cross-sectional study design, through which a causal relationship cannot be established.

The authors may wish to consider the following suggestions/comments:

**Abstract:**

Line 16: the sample size is given as n=1907, but the number of children included in the analysis is 1874 (stated on page 6, line 30). Please change accordingly, and report the accurate response rate in the method and/or results section.

Line 31: there are a few errors in this sentence (suggested changes are highlighted below), and it is unclear who the reference group are (ie NW/NW):

*“Thus, children who were normal weight but perceived themselves to be overweight / obese were three times more likely to attempt weight loss compared with those who accurately perceived themselves as normal weight, while the odds of attempting weight~~ing~~ loss were ~~the~~ highest for those who were overweight and perceived themselves to be so (AOR ~ 18).”*

Need to define the acronym AOR, either in the abstract or in the main text.

**Intro:**

The introduction is nicely written, clear, and easy to follow.

Page 4, line 13: Maybe rephrase the ‘unique situation’ in India because the dual-burden of under- and over-nutrition is also present in other countries (eg China and South Africa).

**Method and results:**

Are there any significant characteristic differences between the children included in this analysis (n=1874) and those not included?

(n=1907 or n=2083) For instance, are they similar in terms of age, gender, weight status, and SES?

The authors may wish to include further information about the questionnaire used in the present study. It is unclear if the parental body image questionnaire was identical to that completed by the children (pg 6, line 14 – ‘similar’), and the authors don’t comment on the reliability and validity of the questionnaire for this study-population (if such data exists).

Table 1 includes ‘desired body size’ (of both the child and parent) as a predictor of weight loss attempts but there doesn’t appear to be any information about this part of the questionnaire in the method.

Page 8, line 13 or 14 (unclear which line number corresponds to which line of text, sorry): need to add a full-stop after ‘...weight status’

### **Statistical analysis**

Page 6 line 49 to page 7 line 3: the authors describe the 6 weight status-perception categories used in the analysis. There isn’t a category for normal weight children who misperceived themselves as underweight. Were there any children who fall into that category?

It would be interesting to know if the authors explored any interaction effects between age, actual weight status, and weight perception in the associations with weight loss attempts? Did they only explore main effects of these predictor variables?

Did the authors make any adjustment for school/clustering in the present analysis? Different schools may have different approaches to health/lifestyle education and thus may need to be taken into account in the analysis?

Page 7, lines 14-20: I found that this section of text wasn’t very clear and could perhaps be reworded for clarity? E.g. ‘logistic regression models stratified by weight status and weight perception are also presented’ (or something similar)

Pg 7, line 45: need to delete either ‘were’ or ‘them’ because the sentence doesn’t make sense.

### **Discussion:**

The authors could elaborate on the strengths and limitations of the study. For example, the authors could discuss the fact that, because of the cross-sectional nature of the study, and the design of their questionnaire, they were unable to obtain information regarding the frequency, duration, and intensity of weight loss efforts, or time-sequence of events (ie the time at which such behaviours occurred (current/recent/in the past)). The question simply asked ‘have you ever attempted to lose weight’, so it is possible that a child who is currently normal weight may report weight loss behaviours because they were overweight in the past (thus missing the underlying reason

	<p>for weight loss attempts in a presently normal weight child). Also, causal associations between weight perception and weight loss behaviours cannot be established in this cross-sectional study. The authors may also wish to comment on the limitations of the small numbers of children in each category when the analysis is stratified by actual and perceived weight status.</p> <p>The authors may wish to present a more balanced discussion when comparing their results to the existing literature, and suggest possible reasons for any discrepancies. For example, in the first paragraph of the discussion the authors cite studies that have reported ethnic-differences in body size perception, but there are also several studies that have failed to find evidence for ethnic differences in body image among children and adolescents.</p> <p>Page 9, line 12 or 13: this sentence (regarding desired body size) could be accompanied by some kind of discussion or comparison with previous studies. Currently, it feels like it's just tagged onto the end of a paragraph with no purpose.</p> <p>The authors report no age-differences in weight loss behaviours, and no effect of age in the logistic regression models. It would be interesting to know if the authors explored age as a continuous independent variable, or a categorical variable with more than 2 levels (ie not binary). What was the reason for using 10yr as the cut off for the 2 age categories? Also, were the children allowed to select more than one type of weight loss attempt?</p> <p>I hope some of these comments are useful to the authors. Apologies for any confusion caused by the line numbering (see note on 1<sup>st</sup> page).</p>
--	--

<b>REVIEWER</b>	Trisha M. Karr, Ph.D. Assistant Professor Saint Mary's University of Minnesota United States of America
<b>REVIEW RETURNED</b>	13-Dec-2012

<b>THE STUDY</b>	<p>1. In the Introduction, the authors note misperceptions of body weight status in regard to cultural norms and societal preferences generally. The authors also suggest that some children may be under-nourished and others may be overweight in this region. Please say more about how the degree of underweight and overweight reflect cultural norms in South India.</p> <p>2. In the Methods – Study Population section, the authors mentioned that 7 schools participated in the study. How were these schools recruited?</p>
------------------	---

	<p>3. In the Methods - Measurement section, the authors note that children wore “school clothing”. Was this clothing a uniform, suggesting that all students were wearing similar garments during the measurement of their heights and weights?</p> <p>4. In the Methods - Measurement section, the authors note that children and parents were asked about the children’s body weight. Is there psychometric evidence to note the utility of this measurement? If so, this information should be included in the paper in order to convey the degree of validity for the measure. If this measurement does not have psychometric utility, then the authors need to explain why this type of measurement was used in the study, as opposed to other available measures of body weight perception. Also, this type of measurement should be considered a limitation of the study.</p> <p>5. The manuscript includes a few issues including spacing (e.g., spaces after periods, numbers – page 7), missing quotation marks (page 6), and some grammatical problems.</p>
--	--

**VERSION 1 – AUTHOR RESPONSE**

Reviewer: Pascal Bovet, associate professor, Institute of Social and Preventive Medicine, Lausanne, Switzerland

The paper presents the relationship of attempting to lose weight based on actual weight and perceived weight. These descriptive data are important to guide interventions, although, obviously more data will be needed to related perception of weight to other factors, perhaps through qualitative data. The paper is straightforward and well analyzed and well written.

Authors might consider the following remarks.

1) There may be some complex interactions within perception of own weight and weight loss attempt. For example, boys may wish to have larger weight as a symbol of “male power” while girls (particularly those of high SES) might favor a thing body, as shown in some of the papers referenced (e.g. Alwan et al). This might be difficult to factor in analyses, also considering the not too large sample. Therefore, it might be useful to show analyses separately for boys and men (at least in supplement files, if results are not too different according to gender, and to mention the main findings is the results section.

Response: We agree with the reviewer. As per the reviewer’s suggestion, a stratified analysis has been done based on age and gender (as suggested by the other reviewers too). The results of this analysis are provided in Supplementary Table 2 and reported in the results section from line 240 to 246.

2) Multivariate analysis in Table 1 includes many factors and some over adjustment may occur and result in some OR being underestimated as several of the indicators shown in Table 1 convey similar information (similar dimension of psycho-social forces). It would be useful to show an additional model (in the same table or in an additional table) that is adjusted only for the main variables that convey largely different psycho-social dimensions, for example, age, SES (school type), actual weight (thin, normal, overweight, obese), perception of being to thin, normal or too fat (and not include the other indicators such as parents perception (which may correlate quite a lot with children perception), parents’ education (which may correlates much with type of school) , child desire to lose weight (which is likely to correlate much with children perception of body weight), etc. Since the main focus of the paper is (legitimately) to distinguish “perception of own weight” and “actual weight”, a simplified model that is more parsimonious and include more independent variables could better provide the respective roles of these 2 major variables.

Response: Thank you for the suggestion. Additional analyses, as suggested by the reviewer, have been carried out using age, medium of instruction (proxy for SES), actual weight status and child's perception of body weight while omitting those that could lead to over-adjustment, that is, parent's perception, parent's education and child/parent's desire to lose weight in the model. The result of this additional analysis has been appended in the same table as Model 2 and reported in the results (Lines 237-239).

3) Odds ratios, when categories are too small, can be largely different (larger) than prevalence ratios. It would be interesting to show graphics showing the prevalence of "attempt to lose weight" according to categories of actual weight (too thin, normal, overweight) and categories of perception of weight (perceives weight as too thin, normal, too fat, a graph of joint categories of actual weight and perceived weight (i.e. a 3D graph with 3 categories in both actual weight and 3 categories of perceived weight). Because this relationship can change markedly in boys and girls and by age, it could be interesting to show 4 such graphs according to sex and age (boys-young, boys-old, girls-young, girls-old). This would provide a direct graphic evidence of the associations with a better measure of quantification (i.e. joint prevalence of the considered factors, with prevalence ratios which can be inferred from the graphics).

Response: The odds ratio graph has been updated including 8 categories instead of the 6 used earlier. In addition, the suggested 3D graph using prevalence of "attempt to lose weight" stratified by age and gender has also been included as 3D graphs.

4) Finally, authors only focus on attempt to lose weight. Similarly interesting would be an analysis of "attempt to gain weight". Previous papers (including some referred in the paper) show that many children attempt to gain weight (including children with actual normal weight and even children with overweight) and this is of course a main reason for fueling the epidemic of overweight. It would be useful to also show these data as this "driving engine" may be just as large (if not larger) than the opposite "psychological engine" to lose weight when appropriate (when overweight). Again, it could be interesting to show these relationships along graphics with joint categories of actual weight (underweight, normal overweight) and perception (perception of being too thin, normal, too fat) as suggested in the previous paragraph (3). Also, it would be useful to analyze these relationships (patterns) by age and sex boys young, boys-old, girls-young, girls-old, and if a table is also provided using SES (e.g. school type) as an additional variable. Again, I would advise to not include too many variables in tables of multivariate analyses because many of the considered variables convey the same dimension and multivariate OR might be attenuated.

Response: We agree with the reviewer and some of these concerns have been addressed in our answers to earlier comments (e.g. the issue of over-adjustment and including fewer variables in the model). Unfortunately, we did not collect data on attempt to gain weight and this has been added in the section on limitations of the study.

5) While I would advise to have multivariate models based on fewer variables (those that are clearly fairly independent of each other), mainly contrasting actual weight and perceived body weight by children, it might be useful to show a correlation matrix of all these variables between each other (in Table 1) to document that many of these variables largely correlate to each other (and convey largely same information).

Response: A Correlation matrix table is given as Supplementary Table 1 and has been reported in the results section (lines 222-225).

Reviewer: Gemma Knowles  
Public Health, Epidemiology and Biostatistics  
University of Birmingham

UK

No competing interests to declare.

The sampling strategy and inclusion criteria aren't fully described, however, the authors do direct the reader to another paper where they can find further details of the study.

Response: The sampling strategy has now been included in the methods section from line 104 to 114.

Please see attached word document for comments on the accuracy of the abstract and additional references that might be considered.

Some of my comments didn't fit with the above categories so please refer to the attached word document for additional suggestions/questions.

Responses to comments from attached document:

Swaminathan et al 2012. Body weight perception influences weight loss behaviours in South Indian children across a wide body weight range – a cross-sectional study.

Please note that some of the specified line numbers may be incorrect as it is difficult to see which number corresponds to which line of text on my version of the manuscript. Sorry if this causes any confusion – hopefully you will be able to work out which bit of text I'm referring to in each instance.

Summary:

Overall, the paper is quite well written and reports interesting and original data regarding associations between body image perception and dissatisfaction, weight status, socio-demographics, and weight loss behaviours among 8-14yr children in India. The study benefits from a large sample size, the use of standardised protocols, objective measurement of weight status, a good response rate, and the availability of data on several potential confounding factors. The main finding of the study is the apparent importance of body size perceptions in predicting weight loss behaviours among young Indian children. The main limitation of the study is the cross-sectional study design, through which a causal relationship cannot be established.

The authors may wish to consider the following suggestions/comments:

Abstract:

Line 16: the sample size is given as n=1907, but the number of children included in the analysis is 1874 (stated on page 6, line 30). Please change accordingly, and report the accurate response rate in the method and/or results section.

Response: We thank the reviewer for pointing out this error. The change in the abstract has been made. The response rate has also been reported in the methods section (lines 171-173)

Line 31: there are a few errors in this sentence (suggested changes are highlighted below), and it is unclear who the reference group are (ie NW/NW):

“Thus, children who were normal weight but perceived themselves to be overweight / obese were three times more likely to attempt weight loss compared with those who accurately perceived themselves as normal weight, while the odds of attempting weighting loss were the highest for those who were overweight and perceived themselves to be so (AOR ~ 18).”

Need to define the acronym AOR, either in the abstract or in the main text.

Response: The changes suggested have been made in the abstract. The acronym AOR has now been defined in the abstract.

Intro:

The introduction is nicely written, clear, and easy to follow.

Page 4, line 13: Maybe rephrase the 'unique situation' in India because the dual-burden of under and over-nutrition is also present in other countries (eg China and South Africa).



Response: The sentence has been changed to “In India, there is a large burden of under-nutrition alongside increasing overweight and obesity.”

Method and results:

Are there any significant characteristic differences between the children included in this analysis (n=1874) and those not included? (n=1907 or n=2083) For instance, are they similar in terms of age, gender, weight status, and SES?

Response: Comparison of socio-demographic characteristics between the responders and non responders has been carried out and included in the methods section (lines 171 – 173). Socio-demographic characteristics between responders and non-responders were comparable.

The authors may wish to include further information about the questionnaire used in the present study. It is unclear if the parental body image questionnaire was identical to that completed by the children (pg 6, line 14 – ‘similar’), and the authors don’t comment on the reliability and validity of the questionnaire for this study-population (if such data exists).

Response: Changes have been made in the methods section of the document from line 142- 145. A pilot study was done where 60 children were interviewed and the questionnaire tested for acceptability. No changes were required and hence the main study was carried out using this questionnaire. There are no reliability or validity data for this questionnaire in this study population and this has been commented under the limitations of this study. We had also evaluated perceived body image using Stunkard’s silhouettes (in the children only); we have compared these results with the simple questionnaire based perception of body weight and the details of this comparison have been added in the methods section (lines 153-163).

Table 1 includes ‘desired body size’ (of both the child and parent) as a predictor of weight loss attempts but there doesn’t appear to be any information about this part of the questionnaire in the method.

Response: Thank you very much. The section in the questionnaire related to desired body size has now been included, including changes in the previous paragraph (lines 146-152).

Page 8, line 13 or 14 (unclear which line number corresponds to which line of text, sorry): need to add a full-stop after ‘...weight status’

Response: The full stop has been added.

Statistical analysis

Page 6 line 49 to page 7 line 3: the authors describe the 6 weight status-perception categories used in the analysis. There isn’t a category for normal weight children who misperceived themselves as underweight. Were there any children who fall into that category?

Response: The category “normal weight perceived to be underweight (NU) as well as overweight/obese perceived as underweight has been added and further analysis and graphs are based on this.

It would be interesting to know if the authors explored any interaction effects between age, actual weight status, and weight perception in the associations with weight loss attempts? Did they only explore main effects of these predictor variables?

Response: To understand the interaction effects, as per the other reviewer's suggestions, a stratified analysis has now been done and the results included in the results section. Changes have been made accordingly in the statistical analysis section.

Did the authors make any adjustment for school/clustering in the present analysis? Different schools may have different approaches to health/lifestyle education and thus may need to be taken into account in the analysis?

Response: We did not make any such adjustment. We were concerned about the relatively small sample size for some of these analyses.

Page 7, lines 14-20: I found that this section of text wasn't very clear and could perhaps be reworded for clarity? E.g. 'logistic regression models stratified by weight status and weight perception are also presented' (or something similar)

Response: This has been re-worded in the manuscript.

Pg 7, line 45: need to delete either 'were' or 'them' because the sentence doesn't make sense.

Response: The word "were" has been removed.

Discussion:

The authors could elaborate on the strengths and limitations of the study. For example, the authors could discuss the fact that, because of the cross-sectional nature of the study, and the design of their questionnaire, they were unable to obtain information regarding the frequency, duration, and intensity of weight loss efforts, or time-sequence of events (ie the time at which such behaviours occurred (current/recent/in the past)). The question simply asked 'have you ever attempted to lose weight', so it is possible that a child who is currently normal weight may report weight loss behaviours because they were overweight in the past (thus missing the underlying reason for weight loss attempts in a presently normal weight child). Also, causal associations between weight perception and weight loss behaviours cannot be established in this cross-sectional study. The authors may also wish to comment on the limitations of the small numbers of children in each category when the analysis is stratified by actual and perceived weight status.

Response: Thank you very much for your insight and suggestions. All your suggestions have been included in the manuscript.

The authors may wish to present a more balanced discussion when comparing their results to the existing literature, and suggest possible reasons for any discrepancies. For example, in the first paragraph of the discussion the authors cite studies that have reported ethnic-differences in body size perception, but there are also several studies that have failed to find evidence for ethnic differences in body image among children and adolescents.

Response: We have modified the discussion to also include reference to the absence of ethnic differences in some studies as for instance in studies on UK adolescents.

Page 9, line 12 or 13: this sentence (regarding desired body size) could be accompanied by some kind of discussion or comparison with previous studies. Currently, it feels like it's just tagged onto the end of a paragraph with no purpose.

Response: The sentence on desired body size has been elaborated upon as a paragraph from line

286-293.

The authors report no age-differences in weight loss behaviours, and no effect of age in the logistic regression models. It would be interesting to know if the authors explored age as a continuous independent variable, or a categorical variable with more than 2 levels (ie not binary). What was the reason for using 10yr as the cut off for the 2 age categories?

Response: We have explored age as continuous as well as multiple categories (quartiles) and found that there was no effect of age on the analysis. The age categories that we used were based on the WHO cut off (below) used to define adolescence (above 10 years).

World Health Organization: Nutrition in adolescence. Issues and challenges for the health sector. Discussion paper. In: Book Nutrition in adolescence. Issues and challenges for the health sector. Discussion paper (Editors.). City: World Health Organization; 2005.

Also, were the children allowed to select more than one type of weight loss attempt?

Response: Children were allowed to select more than one type of weight loss attempt. However, less than 2 % of children selected more than one type of weight loss attempt. For these children only the first one selected was taken for analysis.

I hope some of these comments are useful to the authors. Apologies for any confusion caused by the line numbering (see note on 1st page).

Reviewer: Trisha M. Karr, Ph.D.  
Assistant Professor  
Saint Mary's University of Minnesota  
United States of America

1. In the Introduction, the authors note misperceptions of body weight status in regard to cultural norms and societal preferences generally. The authors also suggest that some children may be under-nourished and others may be overweight in this region. Please say more about how the degree of underweight and overweight reflect cultural norms in South India.

Response: A sentence on the cultural norms has been added in the introduction as highlighted in the document (Lines 72-75).

2. In the Methods – Study Population section, the authors mentioned that 7 schools participated in the study. How were these schools recruited?

Response: The recruitment strategy has now been included in the methods section of the manuscript (Lines 104-114).

3. In the Methods - Measurement section, the authors note that children wore “school clothing”. Was this clothing a uniform, suggesting that all students were wearing similar garments during the measurement of their heights and weights?

Response: All the children were measured with their school uniforms.

4. In the Methods - Measurement section, the authors note that children and parents were asked about the children’s body weight. Is there psychometric evidence to note the utility of this measurement? If so, this information should be included in the paper in order to convey the degree of validity for the measure. If this measurement does not have psychometric utility, then the authors need to explain why this type of measurement was used in the study, as opposed to other available measures of body weight perception. Also, this type of measurement should be considered a

limitation of the study.

Response: Stunkard's silhouettes were used to visually assess the body image perception of current weight and ideal or desired weight (in the children only), in addition to the questions on body weight perception. A Kappa statistics was employed to obtain agreement between the visual image and questions. This has been added in the methods section (lines 153 to 163). We did not test for reliability.

5. The manuscript includes a few issues including spacing (e.g., spaces after periods, numbers – page 7), missing quotation marks (page 6), and some grammatical problems.

Response: The required changes have been made.

We have also made some changes in the text where needed for clarity. This has also been indicated in red font in the manuscript.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Pascal Bovet Associate professor Institute of Social and Preventive Medicine University of Lausanne Switzerland
<b>REVIEW RETURNED</b>	18-Jan-2013

<b>GENERAL COMMENTS</b>	The issues raised in my previous review have been well addressed, as well, it seems to me, as issues raised by the other reviewers
-------------------------	--

<b>REVIEWER</b>	Gemma Knowles Public Health University of Birmingham, UK
<b>REVIEW RETURNED</b>	22-Jan-2013

<b>RESULTS &amp; CONCLUSIONS</b>	There remains some strong wording throughout the paper with regards the "influence" of perception on weight loss attempts. eg Line 281: "Clearly, perceptions influence their decision to try to lose weight.", line 285, line 342, etc. These kinds of statements cannot be inferred from cross-sectional studies. The authors should consider re-wording these sentences to show that it is an 'association' rather than a causal effect. There are other instances throughout the paper where this applies (including the title).
<b>GENERAL COMMENTS</b>	There are some remaining grammatical errors and typos throughout the paper that need amending.  Some sentences should possibly be followed by a citation but aren't (eg line 59, line 62-623, 67-68, etc). The authors might wish to check through the paper once more.

## VERSION 2 – AUTHOR RESPONSE

Reviewer: Pascal Bovet  
Associate professor  
Institute of Social and Preventive Medicine University of Lausanne Switzerland

The issues raised in my previous review have been well addressed, as well, it seems to me, as issues raised by the other reviewers

Thank you very much.

Reviewer: Gemma Knowles  
Public Health  
University of Birmingham, UK

There remains some strong wording throughout the paper with regards the "influence" of perception on weight loss attempts. eg Line 281: "Clearly, perceptions influence their decision to try to lose weight.", line 285, line 342, etc. These kinds of statements cannot be inferred from cross-sectional studies. The authors should consider re-wording these sentences to show that it is an 'association' rather than a causal effect. There are other instances throughout the paper where this applies (including the title).

The title has now been changed to "Associations between body weight perceptions and weight control behaviours in South Indian children– a cross- sectional study". The word "influence" has been removed from the document in the lines indicated by the reviewer. The other parts of the document has also been checked for inconsistencies and corrected.

There are some remaining grammatical errors and typos throughout the paper that need amending.

This has been reviewed and corrected to the best of our knowledge.

Some sentences should possibly be followed by a citation but aren't (eg line 59, line 62-623, 67-68, etc). The authors might wish to check through the paper once more.

The citations have been added. The paper has been checked.