Reviewer’s report

Title: Demographic differences in and correlates of perceived body image discrepancy among urban adolescent girls: a cross-sectional study

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Reviewer: Ingela Kvalem

Reviewer’s report:

Summary of findings

The focus in this study is to examine the demographic differences in body image discrepancy, and to determine the association of body image discrepancy with weight status, percent body fat, physical activity, sedentary behavior, and physical fitness among young adolescent girls. A sample of 1519 5th to 8th grade girls were presented with the Contour Drawing Rating Scale and questions on sedentary behavior, objective measures of BMI, physical fitness and activity were also collected. Body image discrepancy was not associated with sedentary behavior or physical activity, increased with weight status, and had a moderate association with percent body fat and a bivariate association with physical fitness. The results from the multiple hierarchical regression analysis showed that percent body fat was the only significant predictor of body image discrepancy in addition to the demographic variables race and grade level.

Overall impression

The overall impression is that this paper has too much focus on established research findings and too little on the possibility to expand on less well established aspects such as objectively measured physical activity and fitness among pre-teens and early adolescents. Since a descriptive study of the association between body weight and body image discrepancy does little to contribute to the existing research literature, the authors need to relate their literature review, research questions, and findings more specifically to the more interesting factors of physical fitness and activity (which is the strength of this paper). As of now, the introduction lacks theoretical or empirical argument for the second objective of the study, and the discussion does not address the findings from the regression analysis.

Some of the major changes the authors need to consider are listed below:

Abstract

* The methods paragraph is overly long and the results are poorly presented.

Introduction

1. I would encourage the authors to make a stronger case for the importance of the research questions and their implications.
a. Objectively measured physical activity in adolescence is still an understudied subject within body image research, and by extrapolating from studies from other age groups and populations it would give an opportunity to reflect upon the psychological and social mechanisms that may mediate the association between body image discrepancy and physical activity.

b. With regard to a possible association between physical fitness and body image there needs to be a clear argumentation for why an association could be expected, as well as possible causal mechanisms behind such an association.

c. Some of the studies used for comparison and as a basis for possible explanations of the findings in the discussion, should have been presented already in the introduction.

2. The presentation of the different body image constructs needs to be clearer. Body image is a multidimensional construct and the perception of the discrepancy between actual and ideal body weight/shape, which is measured with figure rating scales, are highly correlated with body evaluation (satisfaction/dissatisfaction).

a. This is also mentioned by the authors (ref. Wertheim et al.), and is an argument for referencing studies that have used figure rating scales as a measure of body satisfaction/dissatisfaction. The argument for dismissing these relevant studies in the literature review because they focus on the association between body dissatisfaction and health behaviour (physical activity), therefore seems strange and decreases the informational value of the review and the possibility to compare findings in the discussion section.

b. The same problem of choosing not to include studies that has used figure rating scales as a measure of body evaluation also occurs in the literature review of the association with demographic variables, and with sedentary behavior.

Results

* The presentation of the results would be more informative if a correlation table of all the study variables was included. This would give the readers an opportunity to examine the intercorrelations between the independent variables included in the regression analysis.

o The correlation between body image discrepancy and BMI would be interesting in addition of the presented weight group differences.

* Table 2 can be skipped - some of these results can be presented in the text instead

* Means and SD´s lower than 1 are usually presented as 0.xx, and not .xx.

Discussion
The discussion would benefit from less focus on the association between body image discrepancy and BMI/demographics, and more on the novel findings.

Although some of the significant associations disappear when possible confounders are introduced, these findings needs to be addressed in more detail and include possible explanations.

The regression analysis is hardly mentioned in the discussion. There seems to be a suppression effect where the demographic variables from step 1 only becomes significant when the other variables are introduced in step 2. Why is that? Which one of the new variables in step 2 is responsible for this suppression effect? How does this suppression effect influence the interpretation of the regression result?

I would also expound upon the limitations of the study:

To some extent it may a problem that a measure of body satisfaction/dissatisfaction was not included in this study. However, as mentioned in the introduction this figure rating scale is often used as a measure of body evaluation and the results can thus be compared with other studies that have done so.

There are other problems with this type of figure rating scale that ought to have been mentioned instead: the ecological validity of drawn figures and the problem of using these types of scales for pre-teens (see Gardner & Brown, 2010).

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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