Reviewer’s report

Title: Psychosocial vulnerability underlying four common unhealthy behaviours in 15-16-year-old Swedish adolescents: a cross-sectional study

Version: 0 Date: 03 Jul 2017

Reviewer: Diana Rancourt

Reviewer’s report:

This study used a large adolescent sample from Sweden to investigate psychosocial and sociodemographic factors associated with a range of health risk behaviors. Results suggested that better social relationships were associated with better well-being, which was associated with fewer health risk behaviors. This study benefited from a large sample and testing work that has been well-established in the US cross-culturally. Nonetheless, the manuscript would benefit from significant revisions to strengthen and clarify the rationale of the Introduction, measures included, and Results.

While I appreciate the authors' use of bolding to highlight important components of the manuscript, I've never seen bolding in a manuscript, either in submission or in publication.

Introduction

While the necessary content exists, the Introduction could benefit from extensive revisions and reorganization to more clearly present the study rationale, study hypotheses, and theoretical basis.

1. The authors include terms such as "psychological vulnerabilities", but do not explicitly define this term. Additionally, while citations for relevant research are presented, there is no overarching summary of these findings. The authors correctly state that the vast majority of the work in this area has been conducted in the US; however, more explicit justification is needed to support the idea that sociocultural risk models may vary, or at least the strength of the contributing factors, may vary cross-culturally.

2. The authors can save space by removing reference to the book in which the Individual Health Behaviors Model was published.

3. A clearer summary of the research findings supporting relevant theories would be helpful. For example, did Morgan test the IHBM or was another theoretical model the basis of that work?

4. The authors mention a number of theoretical models that are relevant to the current study, but it is unclear whether this study is proposing a new integrated theoretical model or simply testing the cross-cultural relevant of an established model.
Methods

1. Redundancy in Procedures section. Only need to state that the 82-item questionnaire was handed out to student participants who completed it via paper and pencil.

2. Information about the test-retest of the questionnaire was vague. Was the pilot study conducted with the same individuals who provided data for the current study? What was the reliability of the test-retest findings? Was it just one long questionnaire or were subscales of the 82 items identified?

3. The justification for including meal frequency as a variable seems like it would be more appropriately presented in the Introduction.

4. If the authors were using maximum likelihood estimation, why would they also use mean value replacement for missing variables? This seems like it would introduce additional bias.

5. Related, were there differences on demographic in terms of participants who were and were not missing data?

6. It would be clearer to the reader if the measures were separated into the broader constructs of interest (e.g., psychological vulnerability, health risk behaviors). It also would be helpful to describe "meal frequency" or include the item.

7. Different information for each of the measures is provided, which is confusing. Some measures include the number of items and sample items, whereas other measures only include a broad description of what it is intended to capture. More consistent information is needed and it would be helpful to know the alphas for each measure. For example, how many items assessed meal frequency? What would be an example of how "self-perceived economic situation" was measured?

8. What demographic variables were included?

9. How were the health risk behaviors measured?

10. The information about the latent variables should be included in the Results section since part of the analyses included testing the appropriateness of these latent variables.

Results

1. How was it established that the latent variables were of good fit and appropriate to use in the larger SEM model? How many items were originally included compared to how many items were retained?

2. On page 14 the authors describe "strong significant associations" - are the authors reporting unstandardized or standardized path estimates?
3. Model fit information should be presented before any model interpretation.

4. The authors mention indirect effects and include them in the tables, but do not discuss them at all.

Discussion

1. The authors describe the difference between the current study and Morgan's framework, but this leaves the reader wondering why different context were not investigated. Please justify why the current study is important if the different social contexts are theorized to be so important.

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

No

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?
If not, please explain in your comments to the authors.

Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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