Author’s response to reviews

Title: Family Psychosocial Assessment in the Clinical Setting

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Author’s response to reviews:

Dear Andre,

Thank you for your review and for the opportunity to respond to the comments of the reviewers. Please find below a point by point response (in bold face) to your review comments and those of the other reviewers.

I attach additional points which should be addressed:

1) Please replace “[2] [3, 4]” with [2-4]: Done

2) Please, add a reference for Family Health Questionnaire (FHQ): The Family Health Questionnaire is a novel questionnaire and was developed by the authors. A reference is provided to a pilot study of the questionnaire.

3) When you report the p-values higher than the significance level (eg, p> 0.05), dot not use “p > 0.05” but report the original p-value (“p = 0.12”):

In the original submission we were following Kline’s guidelines (Beyond significance testing, 2004) of only reporting values based on whether they met our criteria for statistical significance. However, we’ve gladly revised the paper to include the actual p values.
4) You should calculate Fisher's z test to assess differences between correlations. Without this analysis, you cannot compare the strength of the correlations. For example, the statement "The strongest correlation with pediatric behavioral problems was with parental stress ("I always feel stressed"); r = .74, p < .05) and report of domestic violence (r = .70, p < .05)" should be avoided without this analysis.

In this case, we aimed to describe what variables are associated with the FHQ scores and didn’t intend to imply that any association was significantly stronger than any other. To address this concern, we have included the full correlation matrix.

Reviewer reports:

Sandra Wiebe (Reviewer 3): This manuscript describes the internal validation of a new scale, the Family Health Questionnaire (FHQ). This scale is comprised of 10 risk factors drawn from the literature, and is intended to be quick and easy to administer. Such a scale would clearly be useful to practitioners; however, I had a number of serious concerns about the statistical analyses that need to be addressed.

- The presentation of the exploratory factor analysis is missing many details and the interpretation may be incorrect. The authors report that 1- and 2-factor models differ significantly, but interpret this as favouring the 1-factor (simpler) model. However, a significant chi-square difference test generally indicates that the more complex model is preferred, as the improvement in fit to the data is "worth" the loss in parsimony.

This is a great point. For reasons of brevity we had not detailed other issues with the 2, 3 and 4 factor models that would preclude them from being acceptable. Specifically, most of the factor loadings in the two factor model were not significant whereas one single item was having almost all of it’s variability accounted for by the second factor. This hopefully serves to explain why the single factor model was actually a better fit than the two factor model and the others.

In reporting factor analysis results, it would be useful to provide a table with other fit indices if available (RMSEA, CFI, SRMR) to help evaluate model fit, for all models tested.

Unfortunately, in a latent factor model using solely binary indicators, it’s not possible to get the RMSEA, CFI or SRMR. Nevertheless, we had added the chi-square value for the single factor model to show that it doesn’t differ significantly from the observed correlation matrix.

- More broadly, the analyses do not match the conceptualization of FHQ scale. The scale is initially described as a set of formative indicators, but reflective measurement models are tested. Reflective measurement assumes the indicators all stem from a common cause (here, latent risk). 
In formative measurement, indicators are conceptualized as contributing to a common latent composite. The latter seems more appropriate here.

This is another great suggestion by the reviewer. Unfortunately, it is not possible to test a formative measurement model using binary predictors. Even when we relax this constraint to the models and tested a latent formative measurement model, the models weren’t able to converge despite numerous attempts to provide reasonable starting values. Whereas we agree with the reviewer that this is an interesting empirical question, we lack the type of data that would allow us to test it.

- The Discussion largely reiterates points from the introduction, with relatively little space devoted to considering the findings and their implications. Discussion section revised.

- Page 8, lines 19-29 - the sample size doesn't seem to add up. If 315 participants were recruited, minus 2 parents who declined to participate and one parent with a language barrier, this should leave a sample size of 312, not 313 as reported. (Error corrected).

- Page 9, lines 53 & 56 - references to Figures 2 and 3 should both reference Figure 1. Revised

- There are numerous typos and grammatical errors throughout the manuscript. Manuscript reviewed and proofread for grammatical errors and typos.

Kar Pui Caitlin Chan (Reviewer 4): This study highlights the importance of developing a screening tool for the identification of family risk factors on children's behavioral problems. However, the purpose of the study was not clearly stated. It is ambiguous if the authors tried to develop a scale for assessing/detecting family risk factors. Therefore, more elaboration and justification regarding the rationale of the study are needed. Otherwise, it is hard to examine the appropriateness of the research design and to interpret the findings.

The Family Health Questionnaire (FHQ) was developed by the authors to screen families for psychosocial risk factors that are associated with adverse behavioral and mental health outcomes among their children.

The aim of this study was to confirm the correlation between the FHQ as a measure of family psychosocial risk and PSC-17 as a measure of the behavioral wellbeing of the child. We also aimed to examine the properties of the FHQ to determine its validity as a screening test.
For the background session, the relationships between different indicators and concepts should be clearly illustrated. More evidence/explanations should be given to indicate the needs of developing a scale for assessing/detecting family risk factors. We reviewed the manuscript to clarify the need for developing the scale.

For the methods session, the contents should be clearly put under sub-sessions of "participants", "procedures of data collection", "ethical concerns", and "measures", etc. A session illustrating how the data was being analyzing is also important. For the Family Health Questionnaire (FHQ), more elaboration on the dichotomous scale is needed. Authors should also concern about the issue of scale validity. Methods section revised to address above concerns.

For the result session, the findings are not very well-organized. Some figures in Table 1 are missing and the findings presented in Table 2 are not relevant to the contents of the main text. (For example, what are the columns "Mean Difference in PSC" and "t(df)" for? They were not mentioned in the main text. Was t-test conducted? What was the purpose of running a t-test?)

We’ve added reference to the t-tests in the main body of the manuscript. In terms of the reasoning, the t-tests justify the use of modeling the association between the latent FHQ construct and overall PSC scores.

The reliability and validity of the FHQ should be reported besides the result of factor analysis. Unfortunately, the use of Cronbach’s alphas on binary categorical variables are not interpretable. Nevertheless, we’ve calculated the estimated reliability and added to the text,

The authors may consider seeking advice from statistic experts.

We’d be happy to pursue additional statistical consulting for any remaining concerns the reviewers have, though we feel they’ve been addressed herein.

Since the purpose of the study is not clear, the interpretation of the result may be inconclusive. Further studies are needed to confirm the findings of the study and test the validity and utility of this instrument in different settings.
Thank you to all the reviewers for their thorough review. We hope we addressed the concerns raised and hope that the revision helped make the paper clearer and stronger.

Please let me know if you have any questions.

Best regards,

Arwa Nasir