Author's response to reviews

Title: Individual and contextual factors associated with verbal bullying among Brazilian adolescents

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Author's response to reviews: see over
São Paulo, February 23rd 2015.

Dear Editor and reviewer,

Please find attached a point-by-point response to the reviewers comments and a revised version of our paper (Manuscript MS: 4044393081475940) entitled “Individual and contextual factors associated with verbal bullying among Brazilian adolescents”.

We appreciate very much the opportunity to present the paper again, taking into account the valuable contributions of the reviewer.

The authors.

Reviewer's report - Reviewer #1
Reviewer: Rebecca Ang

1. In this paper, the authors used a large Brazilian adolescent sample and examined the relative importance of contextual (city and school) factors and individual level factors to explain variance in verbal bullying. Overall, it is clearly written.

Authors: We appreciate the comments, they certainly improved the quality of the study. We have answered all the questions and modified the manuscript accordingly.

Major Compulsory Revisions

2. I will outline my key/major concerns here. The first is as follows. I'm curious - why would authors decided to only study/report verbal bullying in this paper? Were there different types of bullying measured? If yes, then all types of bullying should be included in this study. Authors built their entire case for support (please see literature review) around literature on bullying as a whole, not just verbal bullying - please see page 4 - 6. Bullying includes different forms of bullying, verbal, physical, etc. Let's take page 4 for a specific example. The studies authors' cited in the literature review looked at bullying in a more comprehensive manner. Therefore, in this paper, there is a disconnect between what this present study is examining (ie verbal bullying only) and the literature cited to support the case. Following from this point, authors are assuming that verbal bullying is synonymous with bullying as a whole, and that the risk factors and correlates of bullying are the same as the risk factors and correlates of verbal bullying, yet the study only examined verbal bullying. This also has implications for discussion and generalizability. If authors only examined verbal bullying, then it is only logical that authors cannot generalize across bullying as they do presently.

Two questions for revision:
a. Does the PeNSE 2009 consist of items that tap into other forms of bullying? If yes, then all other forms of bullying ought to be included in the paper to be consistent with the current literature review. Analyses will need to be re-run and discussion and conclusion may need to be adjusted accordingly.
b. If no, then authors need to adjust their literature review and discussion to more accurately reflect this. And authors need to be careful not to over-generalize beyond the limits of their data. Language needs to be correspondingly adjusted throughout.

Authors: Thank you, for this comment. The PeNSE dataset comprises only one question about verbal bullying. Therefore, it was not possible to analyze other forms of bullying. We agree with the reviewer that we should clarify the implications of having only studied verbal bullying and its correlates to support our study and findings. To avoid misleading the readers we amended the text throughout the paper to include the word “verbal” before bullying, and included the following statements, in order to clarify this aspect:

Introduction:

Line 121

“Bullying may take different forms, such as physical, verbal, relational/social or electronic (cyberbullying)[37, 38]. In Brazil, studies have shown that verbal bullying is the most prevalent form of bullying [39, 40], which is similar to the US and UK findings [41, 42]”.

Line 125

“The associations previously described came from studies that analyzed factors associated with bullying as a whole, but may also be important to explore specific predictors of each form of bullying. At the individual-level, some gender differences were found, for example associations with verbal and physical bullying[17]. Thus, it is possible that school and city-level predictors also vary according to the form of bullying assessed.”

Discussion:

Line 362

“It is possible that the association between inequality and bullying may be more related to other forms of bullying”.

Line: 369

“The lack of association might be attributable to the measurement of verbal bullying. Perhaps if we had measured bullying as a summary of all its forms (physical, verbal, relational, cyberbullying) these associations could have been found. Despite this, our result is in keeping with those reported by Wilson et al., 2013 in LMICs, for bullying measured as a whole[35].”

Line 412

“Additionally, the associations found or not found, can only be stated for verbal bullying and might differ for other forms of bullying or for bullying measured as a summary of its different forms. However, the lack of these measures in the surveillance used prevented us from exploring other associations.”
Conclusions:

"Finally studies exploring associations between other forms of bullying and other contextual variables, measured in rural/urban or central/peripheral neighborhoods; or comparing state capitals with small towns; including other family and school characteristics, which are more proximal to individuals, may provide a more accurate picture of the possible influence of contextual-level variables on bullying in Brazil."

3. My second key/major concern is as follows. I am wondering why authors chose to dichotomize continuous variables. Authors have chosen to dichotomize continuous variables such as age and nutritional status. Age is a continuous variable but authors have created age ranges hence artificially dichotomizing the variable. For nutritional status, BMI/age z score is continuous but once again authors have decided to dichotomize them into categories. I understand that authors would like to use multi-level logistic regression analysis as would be appropriate for this study. But authors can still use this analysis with continuous IVs. So why dichotomize naturally occurring continuous variables? Authors should not dichotomize both variables.

Research suggests that dichotomization of naturally occurring dichotomous variables results in unnecessary loss of variance (MacCallum, Zhang, Preacher, & Rucker, 2002).


Authors: We appreciate the suggestion, however the PeNSE survey did not collect age as a continuous variable, thus it is not possible to include the variable in any other form. In addition, the intention of this variable was to measure students as young (< 13 years old) or old (> 16 years old) for the expected age for 9th grade (14 or 15 years old) in Brazil. This difference could create an imbalance of power between students contributing to bullying occurrence. With regard to BMI, our aim was to assess the relationship between bullying and the different nutritional status (underweight, overweight, obese), because the risk of bullying does not follow a linear relationship with BMI. The previous literature has shown that both lower BMI and higher BMI may be associated with victimization. Additionally, to diagnose these nutritional statuses is more meaningful than the use of BMI as a continuous variable.

4. A third major/key concern is as follows. I refer to page 15. One important issue relates to the small contribution of contextual level (school, city) variables. One reason proposed for the lack of association between socioeconomic inequality and bullying is that inequality was not measured at the appropriate level. Assuming that this is true, then the problem lies with measurement - it, it is a measurement concern/problem - because authors do not have data to compare large cities/small towns, urban/rural areas and central/peripheral areas within cities. Therefore the inability to detect a contextual effect could be due to inadequate measurement and NOT due to the fact that these effects do not exist or are unimportant. Therefore, authors' conclusion that individual factors have greater explanatory power (see last 8 lines, page 15) is way too premature simply because we do not know and cannot rule out measurement
concerns/issues. So this is a very serious limitation as it directly affects the conclusions that authors can or cannot draw from their data and findings. (See also page 18, conclusion).

Authors: We understand the reviewer’s concern and we thank her for this. We would like to clarify that we stated that bullying variance at school and city level was of small magnitude, as assessed by ICC, but this does not mean it lacks importance. In addition, the variables measured at school and city levels were not associated with bullying, except school status (private). This means that per capita income, income inequality and violence are not associated with verbal bullying at city-level in Brazil, when comparing state capitals. However, if we had assessed these variables at another level (central x peripheral neighborhood, for instance), we could have found an association, but our data do not allow this analysis. If we had data from small towns, we could have compared these as well. In order to better explain our view we have amended the paragraph in the discussion and conclusion addressing this question as follows:

Results
Line 295
“In the empty model, the ICC showed that 1.8% and 0.3% of the total variance in verbal bullying occurred at school-level and city-level, respectively, and 97.9% at individual-level. These variances were statistically significant, showing clustering of bullying at these levels.”

Discussion:
Line 330
“The prevalence of self-reported verbal bullying was 14.2%, and most of the variance in bullying occurred at individual-level. Even though, the proportion of the variance explained at school level was fairly small, we found that students from private schools were more likely to report verbal bullying.”

Line 337
“The relative contribution of school and city-level in verbal bullying variance among this large sample of Brazilian students was of small magnitude but in keeping with other studies ranging from 0.6 to 4.0% within schools, and from 1.7 to 9.1% within cities[12, 14, 15, 30, 57].”

Conclusion
Line 433
“This study provided evidence that those contextual variables analyzed contributed little to explain the variance in verbal bullying, between schools and cities, among 9th grade school students in Brazil. Most of the bullying variance was accounted for at the individual level. This does not mean school or city-level lacks importance, but may suggest that city boundaries comparing only state capitals do not capture differences that shape the relevant environment for bullying occurrence [56].”

Line 444
“Finally studies exploring associations between other forms of bullying and other contextual variables, measured at rural/urban or central/peripheral neighborhoods; or comparing state capitals with small towns; including other family and school characteristics,
which are more proximal to individuals, may provide a more accurate picture of the possible influence of contextual-level variables on bullying in Brazil.”

Minor Essential Revisions

1. Please see Table 2 - title. Level 1 contains a typographical error, please fix this.

Authors: We appreciate the suggestion; we have revised the title of table 2.

Statistical review

Yes, and I have assessed the statistics in my report.

Yes, but I do not feel adequately qualified to assess the statistics.

While I have the expertise to review and assess logistic regression, I am not familiar with the multilevel aspects of the analysis.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Declaration of competing interests: I declare that I have no competing interests.

Reviewer's report - Reviewer #2

Reviewer: Erin Kelly

This paper examined individual and contextual factors associated with verbal bullying among a large representative sample of Brazilian adolescents. It features a sound study design, interesting findings and a clear discussion of the implications. In addition, it examines an important question within a currently under-researched area, low to middle income countries.

Authors: We appreciate the comments, they certainly improved the quality of the study. We have answered all the questions and modified the manuscript accordingly.

Major Compulsory Revisions: Nil

Authors: Thank you.

Minor Essential Revisions:

1) Page 4, line 70 - add % sign; Page 4, line 85 - add supporting references; Page 5, line 107 - change 'have' to 'has'; Page 6, line 122 - add 'years' after 10-19, remove brackets from 'around 84%' and rephrase; Page 11, line 239 - add 'a' after being.

Authors: We appreciate the observations; we have revised the text to correct these mistakes.
2) Discussion - add a sentence that overall the individual factors were consistent with the literature - in addition to the limitations of the verbal bullying measure already discussed, it should also be noted that other forms of bullying were not measured and there may be different associations for different types of bullying (e.g. physical bullying may be more associated with violence - the findings regarding domestic violence were of great interest and importance and deserve more discussion e.g. implications for intervention)

Authors: Thank you for the suggestion. We have included a paragraph in the discussion as follows:

Line 374

Discussion: “Overall the associations between individual factors and verbal bullying were consistent with the literature, but cannot be extrapolated to other forms of bullying.”

We also included the role of family in bullying, in the conclusions:

Line 439

“Those individual variables strongly associated with verbal bullying might allow the identification of possible higher risk sub-groups that could be targeted for interventions in the future and denote the role of family arrangements and violence in verbal bullying victimization.”

3) Discretionary Revisions: - do the findings that individual level factors were much more important than school or city level factors have any implications for the current bullying interventions in Brazil? For instance, are the interventions currently school-level interventions or do they focus on the key factors identified? How could current interventions be improved in light of these findings?

Authors: The reviewer makes an interesting point. Our results suggested that the school and city variables tested are not associated with verbal bullying in the Brazilian context, but this does not mean that other school or city characteristics should not be considered when planning interventions. School characteristics not investigated may have an important role in bullying prevention and therefore future research should explore other aspects. In Brazil there is no national public policy regarding bullying prevention, but there are occasional interventions. Thus, we believe that our results on prevalence of verbal bullying and the description of individual characteristics associated with this form of aggression may provide information for policy makers and highlight this issue, thus promoting discussion about the need for interventions. To stress this question we included the following paragraph in the conclusion:

Conclusion:

Line 433

This study provided evidence that those contextual variables analyzed contributed little to explain the variance in verbal bullying, between schools and cities, among 9th grade school students in Brazil. Most of the bullying variance was accounted for at the individual level. This does not mean school or city-level lacks importance, but may suggest that city boundaries comparing only state capitals do not capture differences that shape the relevant environment for bullying occurrence [56].

Those individual variables strongly associated with verbal bullying might allow the identification of possible higher risk sub-groups that could be targeted for interventions in the future and denote the role of family arrangements and violence in verbal bullying victimization.
The profile of vulnerable adolescents to verbal bullying in Brazil can guide policy makers, teachers and school staff on bullying prevention.

Finally studies exploring associations between other forms of bullying and other contextual variables, measured at rural/urban or central/peripheral neighborhoods; or comparing state capitals with small towns; including other family and school characteristics, which are more proximal to individuals, may provide a more accurate picture of the possible influence of contextual-level variables on bullying in Brazil.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests