Reviewer's report

Title: Relationship between single and multiple perpetrator rape perpetration in South Africa: A comparison of risk factors in a population-based sample

Version: 3 Date: 9 January 2015

Reviewer: Jessica Draughon

Reviewer's report:

- Major Compulsory Revisions

1. From the results presented in Table 2, I am unable to determine the differences between the three rape perpetration categories and thus cannot see for myself the differences discussed in the results section. It would seem appropriate that ORs for both differences examined should be presented – one for the difference between men who do not rape, and those who do (both SPR and MPR), and then an additional OR for the difference (or lack thereof) between men who do not commit MPR and those who do.

2. Conclusions section – sentence 3: This sentence is not supported by your findings – it makes sense based on the background information given, but it is not strictly something your findings can speak to. Perhaps rewording the sentence so that it doesn’t sound like it is based on findings from the research presented herein. Furthermore, removing it altogether still leaves a strong conclusion to the article – one that is founded in the results presented.

- Minor Essential Revisions

3. In the introduction section – second paragraph: It is unclear whether the authors are referring to SPR or MPR in this paragraph. The final sentence of the previous paragraph discusses both SPR and MPR. Consider rephrasing the sentence to start “MPR is often colloquially termed ‘streamlining’ and research…” for clarity.

4. Introduction section – second paragraph – sentence 3: Consider rephrasing, the final portion of the sentence “to their sexual propositions” is unclear – I think you’re talking about women having to be submissive to men’s sexual propositions, but I had to read it several times.

5. Introduction section – second paragraph – sentence 5: should “particular” be “particularly”? and consider rewording “if one discovers that she has another partner” to something more like “if a man discovers that his female partner has been sleeping with another man” or some such. Right now the sentence is unclear.

6. Introduction section – fifth paragraph – sentence 1: please clarify what was meant with the parenthetical statement “(including in education)”. Does this mean
unemployed including being unemployed in the field of education? Or does it mean un-educated?

7. In the Methods Section – subheading “Ethical Issues” add “a” between “was” and “major” in sentence 4.

8. Results section: Throughout the results section the authors include lists of percentages (% v % v %) without really orienting the reader. I got through three paragraphs wondering if I was looking at a different three groups for each paragraph or if it was the same three groups across all paragraphs. I had to go back and read it again. It is also confused by the fact that the group proportions presented in the parenthetical statements are not always the same as discussed in the text e.g. men who raped being both those who did SPR and MPR being lumped together. I would suggest an orienting sentence at the beginning of the results section and setting up the three groups for the readers that “proportions will be presented as follows (never raped v. SPR v. MPR)”.

9. Results section – first paragraph – sentence 1: This sentence (and the corresponding sentence in the abstract) need to be rephrased for clarity. Without looking at the sample totals (as in the abstract) this sentence does not make sense. Perhaps something along the lines of “Among the total sample, 27.6% (466/1686) of men had ever raped and 8.8% (149/1686) perpetrated MPR, thus among the subsample of men who had ever raped 31.9% (149/466) had raped with multiple perpetrators.”

10. For Table 1 please be sure to include a note describing all abbreviations used in the table (e.g. “GEM scale”). The table should stand on its own without the reader having to refer back to the measures section.

- Discretionary Revisions

11. I question the utility of including the term “streamlining”. It seems to unnecessarily muddy the waters when there are several terms being introduced. If I understand correctly, it is included to demonstrate the cultural normative of MPR among young male South Africans. Would you be able to include a sentence as to why it is called streamlining? And as above in #2 this probably wouldn’t seem as out of place if I was clear we were discussing streamlining as a synonym for MPR.

12. Introduction section – Sixth paragraph – sentence 3: What other countries? A list of a few that were included in the two citations would be helpful especially since the titles of the citations tell us this is an international problem, but not which countries were studied. I understand that depending on how many countries were included in the two citations an exhaustive list might not be possible, but were there other African countries included? Especially since the UN multi-country study is what is relied up on in the discussion section for comparison, it would be nice to see what other countries are experiencing high rates of MPR

13. The authors use the phrase “accentuation of SPR” to describe MPR
throughout the manuscript. This is somewhat vague and confusing. Accentuation is an emphasis. I don’t think of MPR as “an emphasis” of SPR. The authors also refer to a continuum of violence with MPR being considered more extreme than SPR but not inherently different in causation. This is much more appropriate. I would encourage the authors to rethink the use of the word “accentuation” and consider instead introducing the continuum of violence language earlier in the manuscript.

14. Method section – subheading “measurement of rape”: It would be lovely to see the actual questions asked since measuring rape in research studies is such a contentious topic and since they were adapted from the questions used in the citations. At the very least I would like to see the MPR questions fully.

15. Method section – subheading “other variables” - paragraph 3 – last 2 sentences: This seemed like an odd place to include special permissions especially since you are not giving the entirety of the scale to the readers. I understand that the information has to be included somewhere, this just seems out of place and somewhat distracting.

16. Results section – It would be nice to see ORs included throughout the results not simply in the tables. I don’t want to have to look at the tables to see the numbers.

17. Discussion section – first paragraph – sentence 1: Would you please include the range from the UN report of men who had ever raped?

18. Discussion section – first paragraph – sentence 2: Please consider using a less-jargon-y phrase than “gender order”. “Gender hierarchy” was used in the introduction and seems clearer to me.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests