Reviewer's report

Title: Associations of Military Divorce with Mental, Behavioral, and Physical Health Outcomes

Version: 3 Date: 3 December 2014

Reviewer: Annabel McGuire

Reviewer's report:

Minor Revisions

1. Last sentence of the first paragraph is a little awkward here. I would suggest moving it to the concluding sentence of the second paragraph and rewording it slightly.

2. The switch from divorce to marital dissolution and back again is a little disconcerting. I suggest sticking with the term divorce.

3. Page 5 line 116 - please explain what a military covariate..

4. Line 275-6 says that there was a relationship between PTSD and divorce within a 3 year period but Table 4 suggest that this relationship actually is restricted to the first year???

5. There is a repeated sentence at line 324 beginning It is also possible that the symptoms detected...

Major Revisions

6. Line 114 refers to participants who separated from the military service during the study time frame (N = 3419). This is 10% of the sample and one of the variables you analyze is the relationship between separation from the military and divorce. The exclusion of these subjects need to be more carefully explained and the term study time frame defined. It reads as though these participants completed both waves of the research and left the military some time after - at least that is how I read it. If this is the case then this needs to be carefully addressed.

7. Deployment is assessed at different time periods for the married and the divorced groups I understand this from an analytical point of view but what it does not address is whether those who divorced also deployed more or less prior to their divorce. It would seem to me that based on this analysis those who are divorced have a longer window relative to the study to deploy before their divorce but a shorter window after their divorce - married people can deploy anywhere in
the study time frame but divorced people have to deploy after they divorce. I think there needs to be a much clearer explanation of what is the time frame being analysed and relying on data from the Defense and what is the time period in which the participants completed the survey - see the first major revision note.

8. I would prefer to see the p values for the chi square tests included Table 1. Using the eyeball evaluation it appears that prior deployment might be related to recent divorce but this is difficult to determine as there are also errors in the percentages in the prior deployment rows and I did not have a calculator on hand. Could you please check Table 1 for other errors as well. Similarly outcomes appeared to vary based on occupation.

9. I would also like to see the statistical tests reported in Table 2.

10. Line 239 reports that recent divorce was not associated with separation from the military but, is this related to the number of participants who separated from the military but were excluded from the study (N= 3419) which is only a little lower than the number of participants who separated from the military but were included (N= 4134). Please clarify.

11. Line 283-284 and the paragraph beginning on line 327 refer to the similarity between divorced and single individuals in this sample - you don’t report this data so these references need to be excluded.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

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