Reviewer's report

Title: Unemployment and ill health: a connection through inflammation?

Version: 1 Date: 21 July 2009

Reviewer: Kaki M. York

Reviewer's report:

This paper describes a study investigating the relationship between unemployment and the inflammatory markers C-reactive protein and Interleukin-6. Unemployment is a significant stressor for most individuals. Stress has been shown to be related to increased inflammatory markers in numerous other studies. However, to the best of my knowledge only one previous study has examined the relationship between unemployment and inflammatory markers. That study was conducted in a different country, specifically, the United States, and only considered the relationship between unemployment and CRP. Other immune markers were not evaluated. Therefore, the significant association suggested by the results of this study represent a significant incremental increase in our understanding of the psychoimmunology of unemployment stress.

Major Compulsory Revisions:
1. I am concerned about the decision to artificially dichotomize immune marker values rather than analyzing the data continuously. As these variables are used in the principal analyses it would be better to treat the data continuously, then run secondary analyses to look at high/low effects for the purpose of aiding the reader in interpretation of the results.

Minor essential revisions
2. You mentioned that you controlled for “economic hardship” in the multivariate model but it isn’t clear how that was operationally defined? Did you use a separate questionnaire, did the examiner rate this, was this a response to a single item on a demographic questionnaire?

3. In the statistical methods section, it would be helpful if you explained which tests were used for which analyses instead of simply stating that chi square, t-test and Mann Whitney U’s were used for univariate analyses. The test should be paired with a specific hypothesis.

4. Also, you mentioned that you controlled for alcohol consumption. How was alcohol consumption measured?

5. In the discussion section, you conclude that “the association was even stronger after adjustments for several possible confounders. “ - I believe that this assertion is based on the change in P-values (since I don’t see that you performed effect size calculations) but I do not believe that would not be a correct interpretation of a change in p. It would be more correct to say that the model
remained significant even after controlling for identified covariate (you can restate the covariates or not, as you choose).

**Discretionary:**

6. Consider replacing the term “subject” throughout with “participant” or “individual” as appropriate. I think that most people feel the term “subject” implies we did something unpleasant to the person and also often implies that it was done against their will or without their knowledge. The term “participant” is more consistent with the modern informed consent process.

7. You used the expression “pilot study” several times throughout the paper. You may wish to change this term also. Pilot studies are not usually published as people anticipate increasing the sample size or modifying the methodology and hence reviewers and publisher might prefer to wait for final study results. You study appears to be a final study. You don’t talk about any plans for additional data collection, revised methodology or additional analyses so it might be more appropriate to refer to this as “the current study” or something similar.

8. On page 6, paragraph 3, you stated that you calculated BMI from height and weight. This is a common, but I think imprecise use of language. I believe that it would be more correct to say that you obtained an estimated BMI value rather than a “calculated” BMI, as calculation of true BMI requires full body immersion and measurement of water displacement.

9. It would help the reader if you repeat the names of the covariates in the results section when you provide the results of that analysis. If you control for the same variables in multiple analyses, you can probably just re-state them one time with the first analysis.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

'I declare that I have no competing interests’