Reviewer's report

**Title:** Divorce, divorce rates, and professional care seeking for mental health problems in Europe: a cross-sectional population based study

**Version:** 3  **Date:** 21 June 2009

**Reviewer:** Lisa Strohschein

**Reviewer's report:**

This is the second time that I am reviewing this manuscript. I think the authors have been responsive to the comments of other reviewers, however, there is still one glaring limitation that was pointed out by reviewers 2 and 3 that was not addressed and appears to be not well understood by the authors. I restate the problem in the major compulsory revisions section below.

I still believe this paper is worth publishing, and think that the addition of tests of the interaction between country-level divorce rates and being divorced in the revised paper makes for potentially a very interesting finding (although I note a concern with their analysis below that the authors should address).

**Major Compulsory Revisions**

I find that the authors continue to assume that their study is an analysis of the effects of *changes* in marital status on health care utilization, rather than simply an assessment of marital status differences in health care utilization. For example, on page 4, the authors reference studies that link changes in family composition to health outcomes (but their study is cross-sectional and does not have measures of length of time in current marital status meaning that they cannot distinguish the newly divorced from those who have been divorced for a longer period of time). On the same page, the authors suggest that the presence of children may be a source of support during the divorce process. Let's be clear here: this study is unable to speak to the process of divorce. The authors simply don't have information on how long the respondent has been in their current marital status and consequently, the authors conflate *becoming* divorced/separated with *being* divorced/separated. The former is the short term consequences (approx 2 years post-separation) known as the crisis period where health outcomes reflect immediate responses to the stresses associated with the change in marital status; the latter represents the chronic strains associated with occupying a role (being divorced) that may have few social rewards. To repeat: because the authors only have information on current marital status and do not know how long a respondent has been in that status, they can only evaluate what it means to be divorced, and they are unable to speak to the consequences of what it means to become divorced. Without this clarification, the authors continue to overstate their findings.

Interestingly, the authors do correctly indicate on page 8 what their analysis
actually does accomplish: “we examine first whether there is a difference in professional health care use for emotional or psychological problems between the married or cohabiting and the divorced or separated”. They also correctly summarize their results on page 18. This is the kind of language that needs to be adopted throughout the rest of the paper: the authors are only testing marital status differences, they are not testing the effects of experiencing divorce or going through the divorce process.

Below, I detail more examples of how the authors conflate being divorced with the process of going through divorce. All of these statements below are unhelpful because they imply that the authors are testing whether going through divorce affects health care utilization, when in actuality, all the authors can do is evaluate marital status differences in utilization (what does it mean to be divorced).

1. Page 5: the authors indicate “Some researchers assert that experiencing a divorce or separation has a more severe impact on the mental health of women than men [28,29], which may explain higher mental health care consumption by women during and after divorce.”

2. Page 6: “After a divorce, people experience a reduction of their social network and available social support. In addition to the loss of their former partner, they also lose half of their relatives and, often, some shared friends [37]. We can therefore expect the divorced to have a higher mental health care use because of a lack of social support.”

3. Page 7: “We expect to see differences between countries in their use of mental health services following a breakup”.

4. Page 20: “Our hypothesis that women would display a greater increase than men in mental health care use after their breakup could not be confirmed.”

5. Page 19: “Because our results are in line with the only longitudinal study, to our knowledge, on this topic [9], we believe that at least a substantial part of the differences in mental health care use is a consequence of the divorce or separation.”

It is important to point out that respondents who had ever experienced divorce/separation but are in a married relationship at the time of interview are treated in this analysis as married or cohabiting. This reiterates my point that the authors are only able to speak to current marital status differences in health care utilization, and they cannot identify whether higher utilization is a consequence of having experienced divorce or separation.

Minor Essential Revisions

I think that the authors should also present the country-level information on divorce rates and supply of professional care in the descriptives table (being careful to note the different n).

The authors also need to change how they describe their interaction (page 15).
Remember in a poisson model, one is estimating the predicted number of counts, but the authors instead report percentages. Because the authors had grand centred their terms, I was only able to calculate predicted number of visits for married (but see point below) and divorced at the mean (ie. divorce rate is necessarily estimated to be 0):

Holding all other terms constant, the equation would be:

\[-2.035 + 0.119(\text{divorce rate}) + 0.368(\text{divorce}) - 0.218(\text{divorce} \times \text{divorce rate})\]

For divorced: \[-2.035 + 0.119(0) + 0.368(1) - 0.218(0) = -1.667\]
Predicted number of visits\(=\)0.189

For non-divorced: \[-2.035 + 0.119(0) + 0.368(0) - 0.218(0)(0) = -2.035\]
Predicted number of visits\(=\) 0.131

Note that the authors indicate that for married and divorced respectively, 13.2% and 18.6%, respectively, make use of health care services in countries with mean overall divorce rates (page 15). No, the predicted number of visits is 0.13 and 0.19 respectively.

I am not sure why the authors had included an interaction term for divorced but not for the other marital status groups. Doesn’t this create problems of interpretation: what is the reference group in the interactions – note that above I have called them the non-divorced because they include those who are married, widowed, single and other. Do the authors obtain similar results when they include the other marital status categories in the interactions? (this includes the gender interactions – should be done with each marital status category)

Other changes:

Page 3: “or do not include data on women only” should be “or include data on women only”

Table 2: divorced/separated should be divorced/separated

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

**Quality of written English**: Needs some language corrections before being published

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

**Declaration of competing interests**:

I declare I have no competing interests