Reviewer’s report

Title: Is the Association between Job Strain and Depressive Symptoms modified by Private Life Social Support? A Cohort Study of 1,074 Danish Employees

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Reviewer: Nancy Beauregard

Reviewer’s report:

This paper seeks to address an important gap in knowledge when it comes to untangling the relative contribution of work and non-work factors to workers’ mental health problems. Based on well-known longitudinal studies on the Danish working population, it investigates whether non-work social support buffers the deleterious effects of job strain on severe depressive symptoms. The paper has a contribution to the field, is well thought and well written, and leads to an interesting discussion on the place of non-work social support in the work stress literature.

Major revisions

1. Exclusion of cases at T1 and T2
We would like the authors to provide more details about how incident severe depressive symptoms were conceptualized and operationalize (Lines 99-105). From our understanding, three measurement points from both studies (PUMA and IPAW) were available. True incidence is at play when any case at T1 and T2 is excluded in the evaluation of the onset of the DV at the next measurement point (T2 and T3 respectively). With the current formulation, we were left wondering as to why T2 was solely used as the baseline for exclusion of cases, as true incidence could readily have been established from T1 to T2. One possible explanation is that DV may not have been available at T1, if it is so the case, we would like to recommend to explicitly stating this information.

2. Level of missing data on the private life support indicator
Given the pivotal role of that variable in the model, we would like the author to report of the % of missing data (line 129, the authors state “substantial levels of missing data for IPAW participants”). Furthermore, it may also be of interest to document if any systematic bias in non-response for this question (age, gender for instance) was found a priori to help contextualize the methodological choice for data imputation, and its impact on the interpretation of the findings.

3. The role of the occupation in the study
In the abstract, the authors refer to a “cross-occupational sample”, which indeed reflects an interesting diversity in occupations covered by both the PUMA and IPAW, although it is noteworthy to mention that none of these two large epidemiological studies are representative of the Danish general workforce. The
role of the occupation in the dynamics under study is specifically assessed with the introduction in the analyses of a SES indicator specific to the ISCO occupational code attributed to each participant. As such, and if our understanding of the creation of this indicator is valid, the data may therefore present an additional nested structure where not only measurement points are nested into each participant, but also each participant is nested within ISCO occupational codes (see Marchand et al., 2005 for an example). If it is so the case, multilevel regressions accounting for the dependence of the observations within occupations may be required. We understand that power issues impose a conservative use of multilevel modelling (more that 30 units at the occupation-level would conventionally be required). Accordingly, we would like to obtain more details as to whether such nested structure was present, and in the latter case, how it was accounted for in the statistical analyses.

This comment ties in to our next question, which deals with the following sentence: “data were analyzed by logistic regression, stratified by study to account for within-study clustering” (line 144). In their description of the two studies, the authors had previously mentioned that the PUMA sample may be more homogeneous in terms of occupations covered that the IPAW (lines 84 and ss). We therefore expected separate analyses for the PUMA and IPAW (and therefore the comment about requiring multilevel modelling might have only applied to the more occupationally heterogeneous IPAW). But, all Tables presented descriptive and multivariate statistics as if both studies had been pooled together. Again, please clarify a) how and why it is so the case and b) address the likelihood that there are occupational variations in the distribution of psychosocial risk factors and mental problems in that pooled sample (i.e., with an intraclass correlation).


Minor essential revisions

1. Terminology.

Lines 26 and 32: Although these terms are widely used now, it may be of interest to maintain a unique same for each psychosocial risk examined (psychological demands in the Background section vs work demands in the Methods section, idem for decision latitude and work control).

A similar comment could be made for: “severe depressive symptoms”, “depression”, etc.

Gender vs sex. Please refer throughout the article to the term “gender” when considering « socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women » (WHO, 2014). See for instance line 35. Line 153 more adequately reflects we believe dynamics
examined here.

http://www.who.int/gender/whatisgender/en/

2. Typos.
Line 25. “By” * 2
Line 41. “had an OR”, not and
Line 110, 132. 174 Table, not table, same with Figure

Discretionary revisions
1. Practical implications of the findings

We would be interested in reviewing maybe one or two practical implications for workplaces that could enhance prevention efforts in terms of workers’ mental health, above and beyond tertiary interventions as highlighted by the authors (i.e. early detection for treatment). For instance, as we see an increasing numbers of employers seeking to maintain a healthy workforce by providing opportunities at work and beyond, it is possible that the kind of opportunities driven by a social capital approach may be of interest here to promote at work and non-work social support beneficial to workers’ mental health.

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