Reviewer’s report

Title: Effort-reward imbalance and work ability: cross-sectional and longitudinal findings from the Second German Sociomedical Panel of Employees

Version: 1 Date: 20 June 2012

Reviewer: Richard Peter

Reviewer’s report:

This study investigates cross-sectional and longitudinal associations between effort-reward imbalance (ERI) and the work ability index (WAI) with data from the socioeconomic panel. This is an important topic given that the average workforce – not only in Germany- will become older and older during the next decades. Logistic regression analysis is applied. Methods are appropriate. Longitudinal findings show associations between ERI and WAI going in both directions. It is new knowledge that poor workability leads to deterioration in ERI and important for prevention. Although this is a well-written manuscript adding to the existing literature some points need to be considered.

Major points

1. Since two types of longitudinal analyses are presented, one with exclusion of baseline poor WAI and the other with exclusion of baseline ERI, the question must be asked whether these two samples differ and whether potential differences due to selection might have influenced the findings?

2. ERI and WAI both are concepts which use self-reported information and which require subjective evaluation. How can be made sure that the reported findings are not a result of personal factors like negative affectivity while answering to the questionnaires? This point needs at least to be discussed.

3. In multivariable analyses the effects of ERI on WAI and of WAI on ERI have been adjusted for psychological job demands ( according to the DC-model by Karasek. This might result in overadjustment (with ERI as dependent variable) or in multicollinearity (with WAI as dependent variable and ERI as independent). Job demands according to the DC-Model and efforts have often been used as proxy for each other in earlier studies considering that these scales are strongly correlated.

4. In longitudinal analyses significance should be tested one-sided since the direction of association between exposure and outcome is clearly defined.

Minor points

5. It could be mentioned that the ERI 16 item version without physically demanding work was applied

6. It could be mentioned in the ‘Statistical analysis’ Section that ERI was defined by values of the effort-reward ratio > 1.
7. A third interesting group to investigate beside those with new ERI following workability and those with new work inability following ERI could be those with worsening ERI between t0 and t1 given that numbers are sufficient. Deterioration in ERI wai, same applies to deterioration in WAI.

8. Discussion. 2. paragraph, first sentence: change ‘lower health-related behavior’ into ‘poorer health-related behavior’.

The lack of a prospective effect of physical demands on WAI is extensively discussed. Since the focus of this study is on ERI, this part of the discussion could be shortened.

**Level of interest:** An article of outstanding merit and interest 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