Determining minimally important score differences in scales of the Copenhagen Psychosocial Questionnaire

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2nd International workshop on the COPENHAGEN PSYCHOSOCIAL QUESTIONNAIRE – COPSOQ
Freiburg, September 9-10, 2009
Differences

- Surveillance studies
- Interventions studies
- Statistical significant
- Minimally important difference
Minimally important differences (MID)

- **Distribution-based methods**
  - Standard deviation, effect size etc

- **Anchor-based methods**
  - Reduction in sickness absence days
  - Increased productivity
  - Employees evaluations of improvements
MIDs

- 0.5 Standard deviation

- The Magical Number 7, Plus Or Minus 2

Miller GA. The Magical Number 7, Plus Or Minus 2 - Some Limits on Our Capacity for Processing Information. Psychological Review 1956;63(2):81-97.
Purpose of the study

- To determine minimally important differences for scales in COPSOQ
Method

- COPSOQ I
  - 1857 ---1062 mailed questionnaire

Analyses
  - MIDs 0.5 SD for all scales
MID based on COPSOQ I study

- Average MID for long version scales
  - 9.2 (6.8-14.9)

- Average MID for medium version scales
  - 10.8 (7.6-14.9)
Method

- Better Psychosocial Work Environment
- 14 entreprises and public institution
  - Industrial sector, Health care sector, Information and knowledge work
- COPSOQ I questionnaire
  - Baseline 2004/2005, response rate 88%
  - Follow up 2006/2007, response rate 78%
- Study population 1505 employees
- Interventions
  - Intensions to improve the psychosocial work environment
## Scale - Global change item

<table>
<thead>
<tr>
<th>Scale</th>
<th>Global change item</th>
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<tbody>
<tr>
<td>Quantitative demands (4)</td>
<td>Has your work pressure increased?</td>
</tr>
<tr>
<td>Influence at work (4)</td>
<td>Do you have more influence on your own work?</td>
</tr>
<tr>
<td>Predictability (2)</td>
<td>Are you better informed about changes and plans for the future?</td>
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<td>Social support from colleagues (3)</td>
<td>Do you get better help and support from your colleagues?</td>
</tr>
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<td>Social support from supervisor (3)</td>
<td>Do you get better help and support from your immediate superior?</td>
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<td>Job satisfaction (4)</td>
<td>In general, would you say that your workplace is better than before</td>
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## Analyses, example

### Work pressure – Quantitative demands

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<th>Change, T-test</th>
<th>Adjusted Change, GLM</th>
<th>Normalised adjusted change SD units</th>
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<tr>
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<td>44</td>
<td>- 4.5 (-9.1; 0.2)</td>
<td>-3.5 (-7.6; 0.5)</td>
<td>-0.20 (-0.44; 0.03)</td>
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<tr>
<td>Same</td>
<td>511</td>
<td>-0.9 (-1.9; 0.1)</td>
<td>0.0</td>
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<tr>
<td>Worse</td>
<td>913</td>
<td>4.9 (4.0; 5.8)***</td>
<td>5.9 (4.4; 7.3)***</td>
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**Normalised adjusted change in scale (SD units)**

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<th>Scale score</th>
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<th>Worse conditions</th>
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<td>Quantitative demands</td>
<td>-0.20</td>
<td>0.34</td>
</tr>
<tr>
<td>Influence at work</td>
<td>0.16</td>
<td>-0.24</td>
</tr>
<tr>
<td>Predictability</td>
<td>0.31</td>
<td>-0.37</td>
</tr>
<tr>
<td>Social support from colleagues</td>
<td>0.23</td>
<td>-0.38</td>
</tr>
<tr>
<td>Social support from supervisors</td>
<td>0.51</td>
<td>-0.84</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>0.43</td>
<td>-0.37</td>
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<td>Average (numerical)</td>
<td>0.31 (6.2 points)</td>
<td>0.42 (8.9 points)</td>
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Discussion

- Difficult to capture the contents of a multi-item scale in single change item
  - Job satisfaction
- Intervention study
- Recall period
- Change item with only 3 categories
Change item, Jobsatisfaction

In general, would you say that your workplace is better than before?

Regarding your work in general. How pleased are you with
- your work prospects?
- the physical working conditions?
- the way your abilities are used?
- your job as a whole, everything taken into consideration?
Discussion

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Change item, Jobsatisfaction

In general, would you say that your workplace is better than before?

☐ Yes, better than before
☐ The same as before
☐ No, worse than before
Conclusion - recommended MIDs

- Quantitative demands 0.3 SD
- Influence 0.2 SD
- Predictability 0.3 SD
- Social support, colleagues 0.3 SD
- Social support, supervisor 0.7 SD
- Job satisfaction 0.4 SD
- Other COPSOQ scales 0.5 SD