Psychosocial exposures and direct participation labour management practices

COPSOQ International Workshop
Paris, 7-8 October 2015

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What about factors that shape psychosocial work environment??

Kristensen TS (2010)

Targeting work organisation context when analysing working conditions...

McDonald et al (2008)

Macro factors: legislation, public policies…
much more …..

Psychosocial Exposures
- Quantitative and qualitative demands
- Control
- Social support
- Rewards
- Work-family conflict

Health
Wellbeing
Productivity
Quality

Social inequalities

much more …

Image source: MacDonald, Härenstam, Warren, Punnett adaptation (Occup Environ Med 2008; 65)
Our focus

- Labour Management Practices (LMP) as indicators of work organisation that include many aspects of the way work is designed, organised and managed.

- Following the segmentation theory, we understood LMP as a set of strategic actions at company level aimed at:
  - recruiting,
  - using, developing,
  - promoting, rewarding,
  - and keeping or dismissing workers

(i.e. work process design and working methods, working time, employment or pay management practices)

Why LMP?

• **Because:**
  - Mainly decided at shop floor level so could be change there
  - By top management, middle management, workers’ reps, workers... if they see it possible: they know barriers, opportunities, weaknesses and strengths and they have the power and actual possibility to change them

But:
  - Influenced by social, institutional and economic context
  - Vary according to occupational class, sex, age or ethnic group

Nonetheless:
  - Help us to reverse usual preventive practice in Spain focus on individual issues (stress management, palliative treatment)
  - Help us to enforce social and technical aspects of jobs
  - Pertinent features for primary preventive interventions tips
Origin of risk

Risk exposure

Psychosocial factors

Risk assessment

Health effects

Health surveillance

MACRO LEVEL
International division of labour
Legislation

MICRO LEVEL
Labour Management Practices

Psychosocial factors and upstream but at workplace level: LMP
Focus

Social Segregation (class, gender, age, ethnic)

Labour Management Practices:

- Working methods (taylorism, direct participation, functional mobility …)
- Working time (length, schedules, availability, demands, adaptation possibilities)
- Recruitment (contract types, replacement, seniority)
- Pay (income, pay structure …)

much more …

Psychosocial Exposures

whether and how certain LMPs are associated to psychosocial exposures to know more about factors shaping them

Social inequalities

Image source: MacDonald, Härenstam, Warren, Punnett adaptation (Occup Environ Med 2008; 65)
Sub-study direct participation

Social Segregation (class, gender, age, ethnic)

Direct Participation
Labour
Management
Practices:

- Delegative direct participation
- Consultative direct participation

Psychosocial Exposures

- Work pace
- Influence
- Possibilities for development
- Support from colleagues
- Support from supervisors
- Recognition

Social inequalities
Quantitative part

3 questions:

- Which direct participation formulas are associated to what psychosocial risk dimensions?

- Such associations are the same when distinguishing among occupational groups? And sex?

- Do such associations remain when direct participation is applied together with precarious labour management practices such as temporary labour contract or in a context of staff shortage (both of them very common in my country)?
Methods

- Cross-sectional study
- Representative sample of salaried workers (N=4938)
- Standardized questionnaire, through personal interviews, at household, 2010
- Associations where assessed by ordinal logistics analysis
- Dependent variables: psychosocial risk exposures
- Independent variable: Direct participation
- Adjusting variables: occupational class, sex, age and 10 LMP indicators (working hours, schedule settings, employment status, seniority, promotion, staffing levels, work planning, salary purchasing power….)
- Stratification variables: occupational class, sex, employment status and staffing levels
We use ordinal logistic models to estimate associations by odd ratios between psychosocial risks dimensions and direct participation formulas, in terms of the odds of being in a higher quintile (a better one) for each of the 6 CoPsoQ dimensions considered as dependent variables regarding direct participation formulas.

When interpreting the results, it must be borne in mind that the OR are between consecutive quintiles of the 6 psychosocial dimensions, being the worst quintile for health the reference category. For LMP variables, the poor category was the reference too. In order to know the OR reflecting the distances between the lowest and the highest quintile, shown OR must be raised to the fourth power. Thus an OR equal to 1.30 implies an OR of 2.85 if we consider the lowest and highest quintile of the psychosocial dimensions, and OR equal to 1.46 turns into 4.54.

Association is considered significant only with a p-value under 0.001.
Results

5 out of 6 chosen psychosocial risk dimensions show significant association with Direct participation LMP.

Results support the hypothesis that influence and possibilities of development were associated with Direct Participation LMP in a positive way: its application could have a positive effect on these exposures. Moreover direct participation formulas were associated to support dimensions and recognition in a positive way too.

The increase in the odds of being in a more favourable situation for health on psychosocial exposures is bigger when using both formulas of direct participation

Table 1. Associations between psychosocial exposures and DP formulas. OR from ordinal logistic regression model adjusted by 13 variables. NB: p< 0.001

<table>
<thead>
<tr>
<th>Total Population</th>
<th>CONTROL</th>
<th>DEMANDS</th>
<th>SOCIAL SUPPORT</th>
<th>REWARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INFLUENCE</td>
<td>POSSIBILITIES FOR DEVELOPMENT</td>
<td>WORK PACE</td>
<td>COWORKERS SOCIAL SUPPORT</td>
</tr>
<tr>
<td>DDP wo CPD</td>
<td>1,46</td>
<td>1,18</td>
<td>1,00</td>
<td>1,00</td>
</tr>
<tr>
<td>CDP wo DDP</td>
<td>1,35</td>
<td>1,46</td>
<td>0,95</td>
<td>1,35</td>
</tr>
<tr>
<td>DDP +CPD</td>
<td>1,67</td>
<td>1,52</td>
<td>0,92</td>
<td>1,36</td>
</tr>
</tbody>
</table>
Results stratified by employment status

Table 3. Associations between psychosocial exposures and DP formulas. OR from ordinal logistic regression model adjusted by 12 variables. NB: p<0.001

<table>
<thead>
<tr>
<th></th>
<th>INFLUENCE</th>
<th>POSSIBILITIES FOR DEVELOPMENT</th>
<th>WORK PACE</th>
<th>COLLEAGUES SOCIAL SUPPORT</th>
<th>SUPERVISOR SOCIAL SUPPORT</th>
<th>RECOGNITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNSTABLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDP wo CPD</td>
<td>1.71</td>
<td>1.12</td>
<td>0.94</td>
<td>1.00</td>
<td>1.09</td>
<td>1.27</td>
</tr>
<tr>
<td>CDP wo DDP</td>
<td>1.41</td>
<td>1.45</td>
<td>0.90</td>
<td>1.20</td>
<td>1.61</td>
<td>1.45</td>
</tr>
<tr>
<td>DDP + CDP</td>
<td>1.64</td>
<td>1.40</td>
<td>0.96</td>
<td>1.21</td>
<td>1.37</td>
<td>1.26</td>
</tr>
<tr>
<td>STABLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDP wo CPD</td>
<td>1.37</td>
<td>1.20</td>
<td>1.03</td>
<td>1.0</td>
<td>1.13</td>
<td>1.07</td>
</tr>
<tr>
<td>CDP wo DDP</td>
<td>1.30</td>
<td>1.48</td>
<td>0.96</td>
<td>1.41</td>
<td>1.62</td>
<td>1.23</td>
</tr>
<tr>
<td>DDP + CDP</td>
<td>1.61</td>
<td>1.57</td>
<td>0.92</td>
<td>1.41</td>
<td>1.67</td>
<td>1.42</td>
</tr>
</tbody>
</table>

- Association still remains, a bit better for unstable in some dimensions: see recognition.
Results stratified by occupational class

Table 2. Associations between psychosocial exposures and DP formulas OR from ordinal logistic regression model adjusted by 12 variables. NB: p< 0.001

<table>
<thead>
<tr>
<th>Occupational Class</th>
<th>Influence</th>
<th>Possibilities for Development</th>
<th>Work Pace</th>
<th>Colleagues Social Support</th>
<th>Supervisor Social Support</th>
<th>Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unskilled ex workers</td>
<td>DDP wo CPD</td>
<td>1.56</td>
<td>1.18</td>
<td>1.03</td>
<td>1.05</td>
<td>1.16</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>1.30</td>
<td>1.90</td>
<td>1.00</td>
<td>1.45</td>
<td>1.51</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>1.58</td>
<td>1.45</td>
<td>1.01</td>
<td>1.40</td>
<td>1.42</td>
</tr>
<tr>
<td>Semi-skilled ex workers</td>
<td>DDP wo CPD</td>
<td>1.47</td>
<td>1.05</td>
<td>0.96</td>
<td>1.04</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>1.64</td>
<td>1.21</td>
<td>0.97</td>
<td>1.48</td>
<td>1.96</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>1.70</td>
<td>1.37</td>
<td>0.90</td>
<td>1.40</td>
<td>1.75</td>
</tr>
<tr>
<td>Skilled ex workers</td>
<td>DDP wo CPD</td>
<td>1.36</td>
<td>1.25</td>
<td>1.03</td>
<td>0.94</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>1.16</td>
<td>1.45</td>
<td>0.96</td>
<td>1.18</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>1.62</td>
<td>1.61</td>
<td>0.93</td>
<td>1.26</td>
<td>1.55</td>
</tr>
<tr>
<td>Supervisors</td>
<td>DDP wo CPD</td>
<td>1.34</td>
<td>1.19</td>
<td>0.70</td>
<td>0.91</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>1.72</td>
<td>1.25</td>
<td>0.47</td>
<td>1.61</td>
<td>1.80</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>2.00</td>
<td>1.64</td>
<td>0.70</td>
<td>1.75</td>
<td>2.09</td>
</tr>
<tr>
<td>Lower professionals</td>
<td>DDP wo CPD</td>
<td>1.60</td>
<td>1.62</td>
<td>1.00</td>
<td>0.98</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>1.35</td>
<td>2.83</td>
<td>0.66</td>
<td>1.86</td>
<td>1.97</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>1.75</td>
<td>2.01</td>
<td>0.90</td>
<td>1.54</td>
<td>1.60</td>
</tr>
<tr>
<td>Higher professionals</td>
<td>DDP wo CPD</td>
<td>1.14</td>
<td>1.10</td>
<td>1.24</td>
<td>0.96</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>CDP wo DDP</td>
<td>0.90</td>
<td>1.68</td>
<td>3.11</td>
<td>1.43</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>DDP +CDP</td>
<td>1.19</td>
<td>1.85</td>
<td>0.87</td>
<td>0.92</td>
<td>0.76</td>
</tr>
</tbody>
</table>
Future

Social Segregation (class, gender, age, ethnic)

Labour Management Practices:

- Working methods (taylorism, direct participation, functional mobility ...)
- Working time (length, schedules, availability, demands, adaptation possibilities)
- Recruitment (contract types, replacement, seniority)
- Pay (income, pay structure ...)

Psychosocial Exposures

- Control
- Social support
- Rewards
- Work family conflict

whether and how certain LMPs are more likely to lead to psychosocial exposures

Social inequa

THANKS!!!! Clara

Image source: MacDonald, Härenstam, Warren, Punnett adaptation (Occup Environ Med 2008; 65)
Psychosocial risk exposures and labour management practices. An exploratory approach

CLARA LLORENS¹,², RAMON ALÓS², ERNEST CANO³, ARIADNA FONT¹, PERE JÓDAR⁴, VICENTE LÓPEZ¹, ALBERT NAVARRO⁵, AMAT SÁNCHEZ³, MIREIA UTZET⁵ & SALVADOR MONCADA¹

¹Union Institute of Work Environment and Health (ISTAS), Barcelona and Valencia, Spain, ²Department of Sociology, School of Political Science and Sociology, Autonomous University of Barcelona (UAB), Spain, ³Department of Economics, School of Social Sciences, University of Valencia (UV), Spain, ⁴Department of Political Sciences and Sociology, Pompeu Fabra University (UPF), Barcelona, Spain, and ⁵Biostatistics Unit, School of Medicine, Autonomous University of Barcelona, Spain
Among the 14 possible associations of each psychosocial scale with LMP variables, several scales showed significant associations with more than 8 LMP variables: Influence (12)
Role clarity. Control over working times (11), Insecurity and Esteem (10); Meaning of work, Commitment to the workplace, Predictability, and Sense of community (9).
The psychosocial scales with fewest significant associations were Quantitative demands with 2 associations and Demands for hiding emotions with 3.
Most relevant results referred to the LMP variable Consultative and Delegative participation in methods (19 out of 21 significant associations and the strongest associations -14 out of 21 had ORs higher than 1.4.- with psychosocial scales)
Based on our results, if direct participation formulas are used, the best situation for health in “influence” is 120% more frequent, in “possibilities for development” is 70% more frequent, in “social support from supervisors” is 68% more frequent (…) and in “recognition” is 58% more frequent (…).
Pre-post study with comparison group

Target: stocks department

Goal: to monitor and assess a participatory work redesign intervention process to reduce psychosocial exposures
Stocks department
Workers proposals in preventive circles

- Weekly meetings for the discussion and agreement on how to do the weekly production (tasks assignment and order of tasks, methods used)

- Maintenance and minor repairs (now outsourced) done by workers, after necessary training

- Participation in decisions on machinery and equipment purchases
Delegative direct participation changes

- Production is located according to workers decisions, improving manoeuvrability

- 1 loader and 1 train with 3 convoys are used instead of 1 train and 1 loader, time is saved and there is less anxiety about other departments having bottles to work with

“We work in a much better way and quantity reminds the same”
Consultative direct participation proposals

- Buying lower pallets, so there is more space
- Cage modifications, preventing bottled-glass falling on them
Pre-post intervention results: influence & poss. development

**Stocks Influence**

- Julio 2005:
  - 70.59
  - 17.65
  - 11.76

- Enero 2009:
  - 37.50
  - 12.50
  - 50.00

**Stocks Poss. development**

- Julio 2005:
  - 68.75
  - 18.75
  - 12.50

- Enero 2009:
  - 43.75
  - 25.00
  - 31.25
### Pre-post intervention results: social support and recognition

#### Stocks

<table>
<thead>
<tr>
<th>Social support</th>
<th>Julio 2005</th>
<th>Enero 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.22</td>
<td>55.56</td>
<td>62.50</td>
</tr>
<tr>
<td>22.22</td>
<td>12.50</td>
<td></td>
</tr>
<tr>
<td>55.56</td>
<td>25.00</td>
<td></td>
</tr>
</tbody>
</table>

#### Stocks

<table>
<thead>
<tr>
<th>Recognition</th>
<th>Julio 2005</th>
<th>Enero 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.22</td>
<td>61.11</td>
<td>50.00</td>
</tr>
<tr>
<td>16.67</td>
<td>37.50</td>
<td></td>
</tr>
<tr>
<td>61.11</td>
<td>12.50</td>
<td></td>
</tr>
</tbody>
</table>