Workplace justice and health status of employees: A cross-sectional study from Taiwan

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Outline

• **Introduction** 5-1~5-6
  - Background
  - Importance of the research (literature review)
  - Objectives

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  - Data analysis

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  - Association of workplace justice with employee health outcome

• **Discussion** 3-1~3-3
Introduction 5-1

• Background


Job control, work load and social support affect the health of employees but little is known about the association of workplace justice on employees’ health status. <Kivimaki, M., M. Elovainio, and J. Vahtera / DeSanto Iennaco, J., et al. / Cropanzano, R., et al>


Public sector employees with multiple supervisors found smaller blood pressure elevations on days worked under a supervisor perceived as fair as compared with those on days worked under an unfair supervisor. <Wager, N., G. Fieldman, and T. Hussey, The effect on ambulatory blood pressure of working under favourably and unfavourably perceived supervisors. Occup Environ Med, 2003. 60(7): p. 468-74.>

The level of workplace justice is associated with increased risk of psychiatric morbidity, sleeping problems, poor self-rated health status, cardiovascular disease, and even death from cardiovascular disease are related to the level of workplace justice. <Elovainio, M., et al. /Miller, D.T., >

Objectives

- Evaluate the association between workplace justice and a variety of health outcomes.

- Explore whether the workplace justice independently predicts health after adjusting the other confounders.
Introduction 5-6

Employee’s Health

- Organization
- Individual
- External
Methods

• Study Sample

• The Council of Labour Affairs of Taiwan has conducted a nationwide survey of paid employees every 3–5 years since 1988. Subjects for this study were participants of the survey conducted in September 2010.

• A total of 23932 subjects completed and returned questionnaires, with an overall response rate of 87. For this study, we excluded subjects who were aged younger than 25 or older than 65 years. This resulted in a sample of 9,563 men and 7,803 women (N=17,366).
Based on existing questionnaires, seven items for workplace justice were selected. The seven-item workplace justice scale consists of three items for distributive justice,

1. one item for procedural justice
2. two items for informational justice
3. one item for interpersonal justice.
4. three items for distributive justice

Each item was listed as a statement and the response was recorded on a four-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree).
## Methods 5-3

### Workplace Justice (7 Items)

Original score (range 9-36) = \( Q1 + Q2 + (5 - Q3) + Q4 + Q5 + Q6 + Q7 + Q8 + Q9 \)

Standardized score (range 0-100) = \( \left[ \frac{(\text{original score} - 7)}{(36 - 7)} \right] \times 100\% \)

| Q1. My supervisor and management trust employees (interpersonal justice) | Trust       |
| Q2. Information released by my supervisor and management is reliable (informational justice) | Information reliable |
| Q3. In my company, employees’ work duties and responsibilities are arranged fairly (distributive justice) | Work arranged fairly |
| Q4. In my company, employees’ monetary rewards, benefits and welfare are arranged fairly (distributive justice) | Rewards arranged fairly |
| Q5. In my company, employees’ performance is evaluated fairly (distributive justice) | Performance evaluated fairly |
| Q6. During the process of making important decisions, my supervisor and management inform employees and provide sufficient information (procedural justice) | Information during decision making process |
| Q7. My supervisor and management treat employees with respect (interpersonal justice) | Respect     |
Data Analysis

Cronbach’s $\alpha$ coefficient was calculated for workplace justice to assess internal consistency. For both men and women, Cronbach’s $\alpha$ coefficients were 0.95 or greater for the workplace justice scale, indicating satisfactory internal consistencies.

SAS 9.1
1. Chi-square test
2. Multivariable regression models
Methods

Data analysis

- **Dependent variable:** self-rated health status, psychiatric morbidity, sleeping quality, disease

- **Independent variable:**
  1. **Demographic characteristics:** age, education
  2. **Work condition:** work hour, firm size, hiring mode
  3. **Psychosocial work characteristics:** workplace justice, job control, job demand, job insecurity, physical job demand
  4. **Individual health behavior:** exercise, smoking, alcohol,
Results 6-1
Scores of Workplace Justice by Age, Education
And Size of Enterprises

Age

Education

Size of Enterprises

- Junior school or below
- High school
- College
- Graduate

<10 10-199 >=200 G

Male Female
Results 6-2 Scores of Workplace Justice by Working Hours/week and Type of Employment

- **Working Hours/week**
  - <40
  - 40
  - 40~<=48
  - >48

- **Type of Employment**
  - Permanent
  - Non-permanent

- **Male**
- **Female**
Results 6-3

Scores of Workplace Justice by Psychosocial work characteristics

**Job control**

- Low
- High

**Job demands**

- Low
- Intermediate
- High

**Physical job demands**

- Yes
- No

**Job security**

- Insecure
- Secure

- Male
- Female
### Results 6-4

**Individual health status and health behaviors of study populations (%)**

#### Poor Health Status

<table>
<thead>
<tr>
<th>Condition</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-rated health</td>
<td>3.437</td>
<td>1.728</td>
</tr>
<tr>
<td>Psychoeurotic</td>
<td>18.9</td>
<td>23.5</td>
</tr>
<tr>
<td>Sleeping problem</td>
<td>21.9</td>
<td>35.6</td>
</tr>
<tr>
<td>Musculoskeletal disorder</td>
<td>43.29</td>
<td>15.3</td>
</tr>
<tr>
<td>Disease score ≥ 4</td>
<td>22.7</td>
<td>43.29</td>
</tr>
</tbody>
</table>

#### Health Behaviors (y/n)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure time exercise</td>
<td>13.9</td>
<td>11.3</td>
</tr>
<tr>
<td>Smoker</td>
<td>40.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Regular Alcohol drinking</td>
<td>16</td>
<td>1.7</td>
</tr>
</tbody>
</table>
## Results 6-5

### Association of workplace justice with Male employee’s health outcome

<table>
<thead>
<tr>
<th>Work Engagement Level</th>
<th>Poor SRH OR (95%CI)</th>
<th>Psychoneurotic disturbances OR (95%CI)</th>
<th>Sleeping problems OR (95%CI)</th>
<th>MSD OR (95%CI)</th>
<th>Disease score&gt;=4 OR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1.3 (0.8, 2.1)</td>
<td>1.8 (0.8, 3.7)</td>
<td>0.9 (0.7, 1.0)</td>
<td>1.0 (0.9, 1.2)</td>
<td>1.0 (0.8, 1.2)</td>
</tr>
<tr>
<td>Low</td>
<td>3.0 (1.8, 5.0)</td>
<td>3.6 (1.7, 7.7)</td>
<td>1.6 (1.3, 2.0)</td>
<td>2.0 (1.7, 2.4)</td>
<td>2.5 (2.0, 3.1)</td>
</tr>
</tbody>
</table>

### Notes
- *p<0.05 **p<0.01 ***p<0.001; Models controlling for Age, Type of Employment, Work Hours, Psychosocial Work characteristics and Health Behaviors.
## Results 6-6

### Association of workplace justice with Female employee’s health outcome

<table>
<thead>
<tr>
<th></th>
<th>Poor SRH</th>
<th>Psychoneurotic disturbances</th>
<th>Sleeping problems</th>
<th>MSD</th>
<th>Disease score&gt;=4</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=7,803</td>
<td>OR (95%CI)</td>
<td>OR (95%CI)</td>
<td>OR (95%CI)</td>
<td>OR (95%CI)</td>
<td>OR (95%CI)</td>
</tr>
<tr>
<td>WJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1.1 (0.7,1.7)</td>
<td>1.0 (0.6,1.6)</td>
<td>1.4 (1.1,1.7)</td>
<td>1.1 (1.0,1.3)</td>
<td>1.5 (1.2,1.8)</td>
</tr>
<tr>
<td>Low</td>
<td>1.9 (1.1,3.1)</td>
<td>1.4 (0.9,2.4)</td>
<td>2.4 (2.0,3.0)</td>
<td>2.3 (1.9,2.7)</td>
<td>3.1 (2.5,3.9)</td>
</tr>
</tbody>
</table>

*p<0.05  **p<0.01  ***p<0.001; Models controlling for Age, Type of Employment, Work Hours, Psychosocial Work characteristics and Health Behaviors.
The outcome of multivariate regression shows the strong relationship between workplace justice and the health status of employees.

The internal consistency of the questionnaire is more satisfied compared with the one from 2007.
Discussion 3-2

Limitation

- Data were collected using cross-sectional surveys
- Subjective measure, can be influenced by individual’s attitude
•higher levels of organizational justice, acting as a mediator behind more positive attitudes and better well-being employees stimulating higher levels of job satisfaction and organizational commitment and lower levels of psychological distress and sleeping problems.
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THANK YOU