Using Quantitative and Qualitative Approaches to Study Job Stress in Different Cultural, Gender, and Occupational Groups

Cong Liu, Paul Spector, and Lin Shi

Background

• Job stress research
  – Job stressors
  – Job strains
  – The relations between job stressors and job strains

• Job stress in special populations
  – Cultural groups
  – Gender groups
  – Occupational groups
Quantitative Vs. Qualitative Method

- Quantitative approach: Rating scales
  - Mean comparisons
  - Relation comparisons

- Qualitative approach: Stressful Incident Record
  - Replicate the quantitative results
  - Group-specific job stressors and strains

Job Stress in Different Cultures

- Individualistic US vs. Collectivistic China

- Hypothesis 1a. US employees would perceive higher level of job autonomy than Chinese employees; however, US employees would still report more stressful incidents related to lack of job control.

- Hypothesis 1b. US employees would experience more anger/frustration whereas Chinese employees would experience more anxiety/depression.

- Hypothesis 1c. Country would moderate the relation between job autonomy and job satisfaction. There would be a stronger job autonomy – job satisfaction relation in the U.S. than in China.
Job Stress for Men and Women

- The Institute for Social Research Model (Katz & Kahn, 1978)

- Different gender roles expected for men and women (Iwasaki, Yoshi, MacKay, & Ristock, 2004)
  - Men: Finances; women: social life (McDonough & Walters, 2001)
  - Hypothesis 2a. Women would experience more interpersonal conflict at work than men.

- The differential vulnerability hypothesis (McDonough & Walters, 2001; Roxburgh, 1996)
  - Hypothesis 2b. Women would experience more job strains than men
  - Hypothesis 2c. Gender would moderate the relation between interpersonal conflict and job satisfaction. Specifically, the relation would be stronger for women than for men.

Job Stress in Different Occupations

- Occupation-specific job stress models (e.g., Pousett & Hanse, 2002)

- Hypothesis 3a. University faculty would experience higher level of job autonomy than support staff.

- Hypothesis 3b. University support staff would experience more job strains than faculty.

- Hypothesis 3c. Occupational level would moderate the relation between job autonomy and job satisfaction. Specifically, the relation would be stronger for university staff than for faculty.
Method

• Participants
• Measurement
  – Quantitative scales
    • Job autonomy
    • Interpersonal conflict
    • Frustration
    • Depression
    • Job satisfaction
  – Qualitative scales
    • Stressful Incidents Record (Keenan & Newton, 1984)
• Procedure

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>134</td>
<td>129</td>
</tr>
<tr>
<td>Female</td>
<td>198</td>
<td>173</td>
</tr>
<tr>
<td>Faculty</td>
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<td>166</td>
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<tr>
<td>Staff</td>
<td>159</td>
<td>136</td>
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<tr>
<td>Quantitative</td>
<td>300</td>
<td>286</td>
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<tr>
<td>Qualitative</td>
<td>179</td>
<td>187</td>
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<tr>
<td>Total</td>
<td>336</td>
<td>312</td>
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</table>

Culture-Specific Job Stressors and Strains

<table>
<thead>
<tr>
<th>Job stressors</th>
<th>US</th>
<th>China</th>
<th>Job strains</th>
<th>US</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Constraints</td>
<td>42</td>
<td>47</td>
<td>1. Anger</td>
<td>41</td>
<td>18</td>
</tr>
<tr>
<td>2. Workload</td>
<td>42</td>
<td>33</td>
<td>2. Anxiety</td>
<td>19</td>
<td>65</td>
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<tr>
<td>3. Conflict</td>
<td>38</td>
<td>38</td>
<td>3. Frustration</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>4. Lack of control</td>
<td>38</td>
<td>6</td>
<td>4. Overwhelm</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>5. Job evaluations</td>
<td>3</td>
<td>21</td>
<td>5. Helplessness</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>7. W-F conflict</td>
<td>3</td>
<td>7</td>
<td>7. Withdraw</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>13</td>
<td>8. Energy</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Overall</td>
<td>179</td>
<td>187</td>
<td>Other</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td>Overall</td>
<td>142</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(\chi^2 = 52.53, \text{ df } = 7, \ p = .001\)

\(\chi^2 = 72.84, \text{ df } = 7, \ p = .001\)
Cultural Comparisons in Specific Job Stressors and Strains

• Job stressors
  – Quantitative job autonomy: US > CN ($t = 7.58$, $df = 578$, $p = .001$)
  – Qualitative job control: US > CN ($\chi^2 = 28.08$, $df = 1$, $p = .001$)

• Job strains
  – Quantitative results:
    • Frustration: No difference
    • Depression: CN > US ($t = -1.74$, $df = 568$, $p = .08$)
  – Qualitative results:
    • Anger/frustration: US > CN ($\chi^2 = 11.93$, $df = 1$, $p = .001$; $\chi^2 = 24.45$, $df = 1$, $p = .001$)
    • Anxiety/helplessness: CN > US ($\chi^2 = 30.15$, $df = 1$, $p = .001$; $\chi^2 = 6.06$, $df = 1$, $p = .001$)

Culture Moderates the Relation between Job Autonomy and Job Satisfaction

($\Delta R^2 = .009$, $p < .05$)
Gender-Specific Job Stressors and Strains

<table>
<thead>
<tr>
<th>Job stressors</th>
<th>Male</th>
<th>Female</th>
<th>Job strains</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Workload</td>
<td>21</td>
<td>20</td>
<td>2. Frustration</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>3. Conflict</td>
<td>10</td>
<td>28</td>
<td>3. Anxiety</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>4. Lack of control</td>
<td>10</td>
<td>28</td>
<td>4. Overwhelm</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>5. Work mistakes</td>
<td>6</td>
<td>0</td>
<td>5. Sadness</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Other (e.g., W-F conflicts)</td>
<td>8</td>
<td>5</td>
<td>Other (e.g., helplessness)</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Overall</td>
<td>70</td>
<td>108</td>
<td>Overall</td>
<td>46</td>
<td>94</td>
</tr>
</tbody>
</table>

\( \chi^2 = 22.21, \ df = 5, \ p = .001 \)

Gender Comparisons in Specific Job Stressors and Strains

- **Job stressors**
  - Quantitative results: No significant difference in *interpersonal conflicts*
  - Qualitative results: Women reported more *interpersonal conflicts* \( \chi^2 = 3.43, \ df = 1, \ p = .046 \)

- **Job strains**
  - Quantitative results: Women experience higher level of *depression* \( F = 4.13, \ df = 1, \ p = .04 \)
  - Qualitative results: No significant difference
Gender Moderates the Relation between Interpersonal Conflict and Job Satisfaction

\[ \Delta R^2 = .009, \, p = .098 \]

Occupation-Specific Job Stressors and Strains

<table>
<thead>
<tr>
<th>Job stressors</th>
<th>Faculty</th>
<th>Staff</th>
<th>Job strains</th>
<th>Faculty</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Workload</td>
<td>26</td>
<td>16</td>
<td>2. Frustration</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>3. Conflict</td>
<td>17</td>
<td>21</td>
<td>3. Anxiety</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>4. Lack of control</td>
<td>20</td>
<td>18</td>
<td>4. Overwhelm</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>5. Work mistakes</td>
<td>6</td>
<td>0</td>
<td>5. Sadness</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Other (e.g., W-F conflicts)</td>
<td>9</td>
<td>4</td>
<td>Other (e.g., helplessness)</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Overall</td>
<td>103</td>
<td>76</td>
<td>Overall</td>
<td>80</td>
<td>61</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 11.87, \, df = 5, \, p = .04 \]
Occupational Comparisons in Specific Job Stressors and Strains

- **Job stressors**
  - Quantitative job autonomy: No significant difference
  - Qualitative job autonomy: No significant difference

- **Job strains**
  - Quantitative results:
    - Turnover intentions: Support > Faculty ($F = 5.92$, $df = 1$, $p = .02$)
  - Qualitative results:
    - Anger: Faculty > Support ($\chi^2 = 3.35$, $df = 1$, $p = .046$)
    - Frustration: Support > Faculty ($\chi^2 = 8.94$, $df = 1$, $p = .001$)

Occupation Moderates the Relation between Job Autonomy and Job Satisfaction

- ($\Delta R^2 = .016$, $p = .03$)
Conclusions, Limitations and Future Research

- Conclusions

- Limitations and future study