Babel’s AAQ-II
do different languages result in different outcomes in Europe?

**INTRODUCTION**

- **RESEARCH USING PROCESS MEASURES**
  - ADVISED¹
  - CONDUCTED²

- **POTENTIAL PITFALLS OF TRANSLATION³**
  - CULTURAL NUANCES
  - FROM ENGLISH
  - NO REFLECTION OF REALITY


**ACCEPTANCE AND ACTION QUESTIONNAIRE – AAQ-II**

**Psychological Flexibility (PF):**

« (...) the ability to fully contact the present moment and the thoughts and feelings it contains without needless defenses, and, depending upon what the situation affords, persisting or changing in behavior in the pursuit of goals and values »


**AAQ-II**

- 10 items – 7 point Likert scale (total range: 10-70)
- Higher score = higher flexibility
- PF = dependent variable, instead of symptoms decrease


**AFFILIATIONS**

- Jean-Louis MONESTES, CNRS 8160, Centre Hospitalier Ph. Pinel (France)
- Nele JACOBS, Hasselt University, Diepenbeek (Belgium)
- Marco KLEEN, PsyAdvies.nl / Brain Dynamics Groningen, Groningen (Netherlands)
- Francis DE GROOT, Psychiatrisch Centrum Broeders Alexianen, Boechout (Belgium)
- Jacqueline A-TJAK, PsyQ, Zaandam, (Netherlands)
- Maria KAREKLA, University of Nicosia (Cyprus)
- Frank BOND, Goldsmiths, University of London (UK)
- Giovanni MISSELLI, Psy. D., IULM University, Milan; RESCMU (Italy)
- Matthieu VILLATTE, Ph.D., University of Picardie (France)
RESEARCH QUESTION
Do the translations of the Acceptance and Action Questionnaire II (AAQ-II) lead to different outcomes in Europe?

METHODS
- Combination of samples
  - Normal: N=1,186
    - Female: 78%
    - Male: 22%
  - Clinical: N=303
    - Female: 62%
    - Male: 38%
- Descr Stat + One-Way ANOVAs
- IC = Factor Analyses

RESULTS
- AAQ-II Scores Normal Samples
  - Mean (± SD)
    - Dutch: 52.03 (±9)
    - English: 48.04 (±8)
    - French: 47.72 (±10)
    - Greek: 50.45 (±10)
    - Italian: 50.13 (±9)
    - Merged: 50.23 (±10)
  - Remarks
    - Dutch scores higher than English (P<0.05) & French (P<0.001)
    - Italian & Greek scores higher than French (P<0.05; P<0.05)
    - F(4;1,181)=7.858, P<0.001

- AAQ-II Scores Normal vs Clinical Sample
  - Normal Sample
    - Mean (± SD)
      - Dutch: 52.03 (±9)
      - English: 48.04 (±8)
      - French: 47.72 (±10)
      - Greek: 50.45 (±10)
      - Italian: 50.13 (±9)
      - Merged: 50.23 (±10)
  - Remarks
    - Normal sample scores > clinical sample scores (P<0.001)

- Internal Consistency
  - Normal Sample
    - Cronbach's Alpha
      - Dutch: 0.89
      - English: 0.82
      - French: 0.82
      - Greek: 0.84
      - Italian: 0.83
      - Merged: 0.84
  - Remarks
    - Good internal consistency reliability for every sample (>0.80)

- Test-Retest
  - Normal Sample
    - Pearson Correlation
      - N=336
      - r=0.837 (P<0.01)
  - Remarks
    - Good test-retest reliability
CORRELATIONS WITH OTHER MEASURES (total sample)

<table>
<thead>
<tr>
<th>Language</th>
<th>AAQII-BDI-II</th>
<th>AAQII-WBSI</th>
<th>AAQII-MAAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merged</td>
<td>-0.705**</td>
<td>-0.630**</td>
<td>0.432**</td>
</tr>
<tr>
<td>Dutch</td>
<td>-0.689**</td>
<td>-0.734**</td>
<td>0.456**</td>
</tr>
<tr>
<td>French</td>
<td>-0.703**</td>
<td>-0.710**</td>
<td>0.425**</td>
</tr>
<tr>
<td>Greek</td>
<td>-0.748**</td>
<td>-0.538**</td>
<td>0.425**</td>
</tr>
<tr>
<td>Italian</td>
<td>-0.585**</td>
<td></td>
<td></td>
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</tbody>
</table>

** p<0.01

REMARKS
AAQII correlates negatively with depression, thought suppression and positively with mindfulness.

RESULTS

FACTOR ANALYSIS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DUTCH</th>
<th>ENGLISH</th>
<th>FRENCH</th>
<th>GREEK</th>
<th>ITALIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEM 1</td>
<td>0.422</td>
<td>0.365</td>
<td>0.273</td>
<td>0.083</td>
<td>0.200</td>
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<tr>
<td>ITEM 2</td>
<td>0.791</td>
<td>0.775</td>
<td>0.700</td>
<td>0.700</td>
<td>0.669</td>
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<tr>
<td>ITEM 3</td>
<td>0.708</td>
<td>0.732</td>
<td>0.760</td>
<td>0.706</td>
<td></td>
</tr>
<tr>
<td>ITEM 4</td>
<td>0.754</td>
<td>0.765</td>
<td>0.749</td>
<td>0.768</td>
<td>0.780</td>
</tr>
<tr>
<td>ITEM 5</td>
<td>0.810</td>
<td>0.808</td>
<td>0.801</td>
<td>0.801</td>
<td>0.738</td>
</tr>
<tr>
<td>ITEM 6</td>
<td>0.597</td>
<td>0.447</td>
<td>0.572</td>
<td>0.595</td>
<td>0.541</td>
</tr>
<tr>
<td>ITEM 7</td>
<td>0.726</td>
<td>0.748</td>
<td>0.825</td>
<td>0.825</td>
<td>0.606</td>
</tr>
<tr>
<td>ITEM 8</td>
<td>0.739</td>
<td>0.729</td>
<td>0.710</td>
<td>0.710</td>
<td>0.668</td>
</tr>
<tr>
<td>ITEM 9</td>
<td>0.784</td>
<td>0.590</td>
<td>0.728</td>
<td>0.715</td>
<td>0.728</td>
</tr>
<tr>
<td>ITEM 10</td>
<td>0.701</td>
<td>0.356</td>
<td>0.156</td>
<td>0.396</td>
<td>0.553</td>
</tr>
</tbody>
</table>

REMARKS
Weaker loadings (<.40) for items 1 and 10 Positively worded

DIFFERENCES EXPLAINED BY TRANSLATIONS?

- Skewness and kurtosis are in the acceptable range, hence, a slight translation difference might be responsible:
  - Original item 1: Its OK if I remember something unpleasant
  - French back-translation: If a bad memory crops up, I don’t shut the door on it
  - Greek back-translation: I feel fine if I recall something unpleasant
RESULTS

- DIFFERENTIAL ITEM FUNCTIONING - COMPARING ITEMS

<table>
<thead>
<tr>
<th>Item</th>
<th>English</th>
<th>French</th>
<th>Greek</th>
<th>Italian</th>
<th>Dutch</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>14.59</td>
<td>6.71</td>
<td>13.97</td>
<td>28.94</td>
<td>10.34</td>
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<tr>
<td>2</td>
<td>18.03</td>
<td>5.52</td>
<td>13.11</td>
<td>10.06</td>
<td>0.15</td>
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<tr>
<td>3</td>
<td>1.52</td>
<td>0.14</td>
<td>0.18</td>
<td>0.39</td>
<td>3.18</td>
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<tr>
<td>4</td>
<td>0.24</td>
<td>31.44</td>
<td>3.85</td>
<td>1.94</td>
<td>0.38</td>
</tr>
<tr>
<td>5</td>
<td>0.22</td>
<td>0.18</td>
<td>0.51</td>
<td>3.37</td>
<td>3.10</td>
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<tr>
<td>6</td>
<td>0.75</td>
<td>6.15</td>
<td>2.12</td>
<td>0.00</td>
<td>1.05</td>
</tr>
<tr>
<td>7</td>
<td>2.30</td>
<td>58.12</td>
<td>15.57</td>
<td>10.94</td>
<td>0.26</td>
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<tr>
<td>8</td>
<td>0.84</td>
<td>1.52</td>
<td>0.05</td>
<td>0.57</td>
<td>1.00</td>
</tr>
<tr>
<td>9</td>
<td>1.02</td>
<td>16.00</td>
<td>0.00</td>
<td>0.44</td>
<td>0.44</td>
</tr>
<tr>
<td>10</td>
<td>5.05</td>
<td>0.10</td>
<td>0.62</td>
<td>0.16</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Mantel Chi-Square  p < .01 (With DIFAS 4.0 - Thanks to Randall Penfield, Univ. Of Miami)

REMARKS
A lot of differences among each item, due to language items can be slightly differently understood across languages

CONCLUSION

DO THE TRANSLATIONS OF THE ACCEPTANCE AND ACTION QUESTIONNAIRE II (AAQ-II) LEAD TO DIFFERENT OUTCOMES IN EUROPE?

- The AAQ-II can be used in all the languages studied
- Other translations to be validated: Japanese, Norwegian, Portuguese, Swedish…
- Flexibility discriminates normal from clinical samples in all cultures
- Psychological flexibility is a cross-cultural construct

We’re all the same!