A longitudinal comparison of depression in later life in the US and England

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Introduction

• Why study depression ...
  – ... in later life?
  – ... longitudinally?
  – ... comparatively?

Sorrowing old man, Vincent Van Gogh, 1890
Departing from two findings

- More depression among women than men (Piccinelli & Wilkinson 2000)
Possible explanations

1. Measurement instrument functions differently?

2. Difference in associations between social factors and depressive symptoms?

3. Background context effects?
Theoretical expectations

• Depression is not a monolithic disease, but an emotional disorder accompanied by physiological symptoms...
  - Mood (feeling sad, not enjoying life, ...)
  - Somatic symptoms (tiredness, sleep problems, ...)

• Somatic symptoms not unique to depression, but also related to chronic illnesses, cognitive impairment, general stresses of later life (Parmelee, 2007)
Centre for Epidemiological Studies
Depression scale (CESD)

- (Much of the time during past week),
  - You felt depressed?
  - You felt that everything you did was an effort?
  - Your sleep was restless
  - You were happy
  - You felt lonely
  - You enjoyed life
  - You felt sad
  - You could not get going

- Answer with Yes/No
1. Measurement

- **Multiple Group Confirmatory Factor Analysis (MGCFA)**

- **... CFA?**
  - A ‘theory-driven’ way to measure latent concepts through observed indicators
    - Theory-driven because the relations are specified before doing analysis
    - Latent concepts -> values / diseases
    - Observed indicators -> items / symptoms / ...

- **... Multiple group?**
  - Because we want to investigate the latent concept in several groups (countries/gender), and want to see if the structure between indicators and concept is the same in the different groups
Results MGCFA  
(wlmsv estimation on 2002 ELSA/HRS data)

<table>
<thead>
<tr>
<th>Whole sample</th>
<th>RMSEA</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CES-D scale (1 factor)</td>
<td>.075</td>
<td>.965</td>
</tr>
<tr>
<td>Mood and Somatic factor (2 factors)</td>
<td>.052</td>
<td>.984</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By country and gender (4 groups)</th>
<th>RMSEA</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 factor model (Mood &amp; Somatic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configural invariance</td>
<td>.055</td>
<td>.982</td>
</tr>
<tr>
<td>Metric invariance</td>
<td>.056</td>
<td>.977</td>
</tr>
<tr>
<td>Scalar invariance</td>
<td>.056</td>
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</tbody>
</table>

Note: Fit indices  
RMSEA: good fit if <.06  
CFI good fit if >.95  
(Hu & Bentler 1999)
Results Measurement

-> Depression is best measured using 2 separate scales, one for mood and one for somatic symptoms

-> Scales are equivalent over gender and country

-> Differences between countries and genders are not due to differential functioning of scale items
2. Differential associations

• Method:
  – Panel-data: multiple observations for each person
  – > Multilevel growth model to account for changes over time within individuals

• We do not want to impose a threshold on the number of symptoms needed to be categorised as depressed
  – > Count data instead of categorical approach
Mood Symptoms

mean = .7046; overdispersion = 2.546

- observed proportion
- neg binom prob
- poisson prob
Somatic Symptoms

mean = .7778; overdispersion = .3677
What’s comparable?

• ‘Ethnicity’
• Employment status
• Marital status
• Education
• Wealth
• Limitations in activities of daily living
  → + interactions with gender/wave/country
Gender, country and depressive symptoms

![Bar chart showing gender, country and depressive symptoms](image)

- **Gender:** Mood Men, Mood Women, Somatic Men, Somatic Women
- **Countries:** ELSA, HRS

The chart compares the prevalence of depressive symptoms among Mood Men, Mood Women, Somatic Men, and Somatic Women, using data from ELSA and HRS.
Ethnic differences in mood symptoms

![Bar chart showing ethnic differences in mood symptoms between white and other ethnic backgrounds in ELSA and HRS datasets.](image)
Partner status and mood symptoms

ELSA men  | ELSA women  | HRS men  | HRS women
Couple    | Single     | Separated| Widowed
Wealth gradient in mood
Educational differences in somatic symptoms

The graph illustrates the variation in somatic symptoms across different levels of education, comparing two datasets: ELSA and HRS. The x-axis represents the levels of education from low to higher, while the y-axis indicates the frequency or severity of symptoms.
Somatic symptoms and adl
Conclusion: Measurement

- CESD has very good properties to be used for comparative studies.
- In later life, it makes sense to distinguish mood symptoms from somatic symptoms.
  - Mood more influenced by partnership status (especially for men).
  - Somatic symptoms more related to educational differences and limitations in ADL -> might not be clinical depression.
Conclusion: Differential effects

- Being non-white or having a degree more associated with depressed mood in England compared to US

- Being single or having limitations in ADL gives higher chance for depressive symptoms in US
Conclusion: Background effects?

• The strongest sex: a construction of masculinity?
  – Suicide rates among men about 4 times higher
  – Coping works quite different between genders

• Psychotherapy culture in the USA:
  – Role of prior depression and treatment