Developing a culturally relevant measure of resilience.

Preconference workshop. Pathways to Resilience II, Halifax, Canada, 7th - 10th of June.

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Resilience scale for Adults (RSA)
Resilience scale for Adolescents (READ)

• Measuring resilience 1998
  – Existing scales
    • Wagnild and Youngs (1993) the Resilience Scale
  – Theory,
    • Overarching generally agree upon theory?
  – Definition
    • Firstly, a sense of self-esteem and self-confidence; secondly, a belief in one’s own self-efficacy and ability to deal with change and adaptation; thirdly, a repertoire of social problem-solving approaches (Rutter, 1985); ability to bounce back (Wolin & Wolin, 1993); good outcomes despite significant stress (Rutter, 2000)
  – Focus groups - No money
  – Empirical findings
    • 1) Personal dispositions, 2) Family coherence, 3) Social support from outside the family (Garmezy, 1985; Werner, 1993, Rutter, 1985)

Review of resilience literature

• A large literature review
• Identification of protective factors in resilience literature until we found no new factors
• 15 categories
  – Personal competence, self-efficacy, internal locus of control, temperament, hope, ego-strength, self actualization, social competence, education/professional life, religion, structured life,
  – Social support, family cohesion,
  – Problem solving abilities, exposure to stress
The development of the Resilience Scale for Adults (RSA)

- 295 positively phrased items was reduced to **45 items**
  - **5 factors**, total Cronbach’s alpha = .93
    - 1) Personal competence, 2) Social competence, 3) Structured style,
      4) Family cohesion and 5) Social resources
    - (Hjemdal, Friborg, Martinussen & Rosenvinge, 2001)

- **Differentiated** between a **normal sample** (N = 276)
  with **psychiatric out-patients** (N = 60)
    - All factors differentiated and RSA total \( t = 7.78^{***} \)
    - (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003)

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Criterion validity (N = 648)

**Correlations**

<table>
<thead>
<tr>
<th>Instruments</th>
<th>PC</th>
<th>SC</th>
<th>SS</th>
<th>FC</th>
<th>SR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of Coherence</td>
<td>.70</td>
<td>.36</td>
<td>.52</td>
<td>.55</td>
<td>.55</td>
</tr>
<tr>
<td>Optimism</td>
<td>.68</td>
<td>.48</td>
<td>.40</td>
<td>.42</td>
<td>.53</td>
</tr>
<tr>
<td>Active coping</td>
<td>.42</td>
<td>.28</td>
<td>.28</td>
<td>.23</td>
<td>.30</td>
</tr>
<tr>
<td>Satisfaction w/life</td>
<td>.62</td>
<td>.31</td>
<td>.43</td>
<td>.51</td>
<td>.48</td>
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<tr>
<td>Avoidance coping</td>
<td>-.16</td>
<td>-.21</td>
<td>-.18</td>
<td>-.21</td>
<td>-.28</td>
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<tr>
<td>Wishful Thinking</td>
<td>-.35</td>
<td>n.s</td>
<td>-.29</td>
<td>-.20</td>
<td>-.15</td>
</tr>
<tr>
<td>Symptoms, SCL</td>
<td>-.67</td>
<td>-.31</td>
<td>-.43</td>
<td>-.50</td>
<td>-.46</td>
</tr>
</tbody>
</table>

(Friborg & Hjemdal, 2004)
Acquiescence bias: Which response format is more appropriate?

O. Friberg et al. / Personality and Individual Differences 40 (2006) 873-884

Table 1
Examples of item transformations from a Likert to a semantic differential format

<table>
<thead>
<tr>
<th></th>
<th>Not true at all</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Likert format</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that my future looks promising</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to think of good conversational topics</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td><strong>Semantic differential format</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that my future looks</td>
<td>uncertain</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>To think of good conversational topics is</td>
<td>easy for me</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

RSA and number of factors

- Confirmatory factor analyses ($N_1 = 482$ and $N_2 = 201$)
  - Remaining 33 items
  - Six factors

<table>
<thead>
<tr>
<th></th>
<th>$\alpha_1$</th>
<th>$\alpha_2$</th>
<th>items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perception of self</td>
<td>.70</td>
<td>.81</td>
<td>6</td>
</tr>
<tr>
<td>2. Planned future</td>
<td>.66</td>
<td>.78</td>
<td>4</td>
</tr>
<tr>
<td>3. Social competence</td>
<td>.76</td>
<td>.75</td>
<td>6</td>
</tr>
<tr>
<td>4. Structured style</td>
<td>.69</td>
<td>.67</td>
<td>4</td>
</tr>
<tr>
<td>5. Family cohesion</td>
<td>.78</td>
<td>.79</td>
<td>6</td>
</tr>
<tr>
<td>6. Social resources</td>
<td>.69</td>
<td>.77</td>
<td>7</td>
</tr>
</tbody>
</table>

- Absolute fit: Chi Square = 46.92, $p = .07$
- Relative fit: RMSEA ranging from .013 to .042
Personality and Experiments with pain

- **Big 5 personality** and RSA in cross sectional studies ($N = 482$)
  - Correlations varying between .64 and .12
  - Principal component analyses indicate **shared and unique variance**
    - (Friborg, Barlaug, Martinussen, Rosenvinge & Hjemdal, 2005)

- **Pain and RSA** in an experimental study ($N = 80$)
  - Higher scores on RSA predicted lower levels of subjective report of stress and pain (only in the high stress condition)
    - (Friborg, Hjemdal, Rosenvinge, Martinussen, Aslaksen & Flaten, 2006)

Predicting health

- **Prospective** study of students ($N = 159$)
  - Tracked the occurrence of stressful life events over a 3 month period in a healthy sample with scores below cut-off scores on psychiatric symptoms
  - Results: Students that reported higher RSA scores on 2) Planned future and 3) Social competence and encountered stressful life events developed fewer depressive and anxious symptoms, than lower scores.
    - (Hjemdal, Friborg, Stiles, Rosenvinge & Martinussen, 2006)

- **Predicting hopelessness** ($N = 666$)
  - (Hjemdal, Friborg, Stiles, submitted)
Resilience, vulnerability and symptoms all the same?

- Resilience just counterpart of vulnerability and psychopathology? ($N = 1581$)
  - Joint principal components analyses of items from RSA, HADS (Hopkins Anxiety and Depression Scale), HINT (Habitual Index of Negative Thinking)
  - Results shared common variance but also unique contribution, thus more than counterpart to vulnerability and psychopathology
    - (Friborg, Hjemdal, Martinussen, & Rosenvinge, 2009)

The RSA cross-culturally

- Confirmatory factor analyses:

- Belgium – ($N = 385$)
  - Absolute fit Chi-square = 900.18, $p < .001$ relative fit
    - RMSEA = .047, HSCL-25 $r = -.43$, SOC-13 $r = .61$
      - (Hjemdal, Friborg, Braun, Kempenaers, Linkowski & Fossion, conditionally accepted)
  - Brazil ($N = 221$)
    - Absolute fit Chi-square = 929.27, $p < .001$ Relative fit
      - RMSEA = .065, HSCL-25 $r = -.38$, SOC-29 $r = .71$
        - (Hjemdal, Roazzi, Dias, & Vikan, 2009)
- Persian ($N = 373$)
  - Absolute fit Chi-square = 735, $p < 0.01$, Relative fit
    - RMSEA = 0.037; Differentiates between runaway girls and a control sample
      - (Jowkar, Friborg, & Hjemdal, 2010)
Resilience scale for Adolescents (READ) the development

- Confirmatory factor analysis supported a 5 factors, 28 items
- N = 425 adolescents (13-16 year of age)

1. Personal competence (8 items) (α = .85)
2. Social competence (5 items) (α = .82)
3. Structured style (4 items) (α = .69)
4. Family cohesion (6 items) (α = .85)
5. Social resources (5 items) (α = .78)

(α = .94, total READ)

(Hjemdal, Friborg, Stiles, Martinussen, & Rosenvinge, 2006)

READ related to mental health

- Correlational designs
  - Higher scores on READ total score and all factor scores predict lower levels of depressive symptoms (N = 387)
    - Even when controlling for age, gender, negative life events, bullying and social anxiety symptoms
      - (Hjemdal, Aune, Reinfjell, Stiles, Friborg, 2007)
  - Significant positive associations with other social indicators (parental care, close relationships, general health)
    - negative association with indicators of mental health problems (anxiety, depression, self-harm, suicide ideation, parasuicid, violent behavior, alcohol/drug use) (N = 6724)
      - (von Soest, Mossinge, Stefansen, Hjemdal, 2010)
## Resilience for adolescents and adults

- **Adolescents**  
  - 28 items
  1. Personal competence
  2. Social competence
  3. Structured style
  4. Family cohesion
  5. Social resources

- **Adults**  
  - 33 items
  1. Perception of self
  2. Planned future
  3. Social competence
  4. Structured style
  5. Family cohesion
  6. Social resources

## Ongoing research projects

- **Adults (RSA)**  
  - Exploration of the RSA in several clinical treatment projects, e.g. Randomized Controlled Trials
  - Prospective exploration of stress, resilience and cognitive vulnerability (N = 1724)
  - Diverse cross-cultural validations

- **Adolescents (Resilience Scale for Adolescents: READ)**  
  - Prospective study of psychiatric disorders and READ (N = 1500)
  - Diverse cross-cultural validations
Thank you for your time

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References

- Hjemdal, O., Vogel, P., Solem, S., Hagen, K., Stiles, T. C. (Conditionally accepted)
- Hjemdal, O., Friborg, O., Braun, S., Kempenaers, C., Linkowski, P., & Fossion, P. (Conditionally accepted)