Measuring self-construals (自我建构) with random intercept item factor analysis

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What is self-construals (自我建構)?

• Educational researchers often measure self-construals in the research and use it to predict behaviors

• **Independent self-construal (獨立我):** Favour autonomy and distinction from others; direct communication

• **Interdependent self-construal (互依我):** Favour maintaining harmonious relationships with others; respect authority

• Example: Feeling of embarrassment (不好意思的感覺) is positively related to interdependent self-construal and negatively related to independent self-construal.

  (Markus & Kitayama, 1991; Kwan, Bond, & Singelis, 1997; Oyserman, Coon, & Kemmelmeier, 2002; Singelis, Bond, Sharkey, & Lai, 1999)
Sample items in Singelis’ Self-Construal Scale

• Independent self-construal (獨立我):
  – Speaking up during a class is not a problem for me.
  – I enjoy being unique and different from others in many respects.

• Interdependent self-construal (互依我):
  – I have respect for the authority figures with whom I interact.
  – It is important for me to maintain harmony within my group.

(Singelis, 1991)
Measurement of Self-Construals

- **Two Factors** (二因素): independent and interdependent self-construals as two separate constructs

- **One Factor** (一因素): treating independent and interdependent self-construals as a single factor: Independence - Interdependence (獨立我 - 互依我)

  (Na & Kitayama, 2011)
Acquiescence Response Style
(默許同意回答風格)

• Participants’ tendency to agree regardless of an item’s actual content

• Bias correlations in the positive direction (在正方向偏袒相關):
  – Inflate positive correlations and deflate negative correlations (令正相關加強;令負相關變弱)

• Acquiescence response style exists in the measurement of self-construals

(Kam & Meyer, 2015; Schimmack, Oishi, & Diener, 2005)
Normal Confirmatory Factor Analysis

Construct

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8
Random Intercept Item Factor Analysis

Construct

Item 1

1

Item 2

1

Item 3

1

Item 4

1

Item 5

1

Item 6

1

Item 7

1

Item 8

1

Acquiescence (Random Intercept)
Current Study

• Question 1: Does acquiescence response style exist in data?

• Question 2: After controlling for acquiescence, does the data show one-factor model or two-factor model of self-construals?

• Question 3: After controlling for acquiescence, how do the self-construals correlated with external constructs?
Study

• 525 undergraduate students (258 females) in Beijing
• -3 (Strong Disagree) to +3 (Strongly Agree)

• Measures
  – Singelis (1994) Self-Construal Scale
  – External measures
    • Rosenberg (1965) Self-Esteem Scale
    • Modesty subscale in IPIP NEO agreeableness (Goldberg et al., 2006)
Question 1: Does acquiescence response style exist in data?
<table>
<thead>
<tr>
<th>Models</th>
<th>Model Fit Indices</th>
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<tbody>
<tr>
<td></td>
<td>$\chi^2$</td>
</tr>
<tr>
<td>TWO-FACTOR MODEL</td>
<td></td>
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<tr>
<td>Two-factor</td>
<td>1356.34</td>
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<tr>
<td>Two-factor with acquiescence</td>
<td>1232.81</td>
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$\Delta \chi^2 = 123.53, \Delta df = 1, p < .001$
Question 2: After controlling for acquiescence, does the data show one-factor model or two-factor model of self-construals?
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<tbody>
<tr>
<td></td>
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<td>$df$</td>
<td>$p$</td>
<td>TLI</td>
<td>CFI</td>
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<td>One-factor with acquiescence</td>
<td>1273.54</td>
<td>404</td>
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<td>.57</td>
<td>.63</td>
<td>.06</td>
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<td>.59</td>
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<td>.06</td>
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</table>

$\Delta \chi^2 = 40.73, \Delta df = 1, p < .001$
Question 3: After controlling for acquiescence, how do the self-construals correlate with external constructs?

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<thead>
<tr>
<th></th>
<th>Raw Scores</th>
<th>Two-factor with Acquiescence</th>
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<tbody>
<tr>
<td></td>
<td>Independence</td>
<td>Interdependence</td>
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<tr>
<td>Self-Esteem (自尊)</td>
<td>.21***</td>
<td>-.02</td>
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<tr>
<td>Modesty (謙遜)</td>
<td>-.28***</td>
<td>.26***</td>
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<td></td>
<td>.14***</td>
<td>-.26***</td>
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<td></td>
<td>-.39***</td>
<td>.33***</td>
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</table>
Discussion

• Independent self-construal and interdependent self-construal are still two separate factors after acquiescence response style is controlled for.
  – No evidence that “Independence – Interdependence” work

• Educational researchers interested in studying classroom behaviors may employ random intercept item factor analysis to control for the effect of acquiescence response style.
Limitations and Future Directions

• Examine self-construals only among Beijing students

• Compare self-construals data across cultures