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Further examination of the factor structure of the Comprehensive assessment of Acceptance and Commitment Therapy processes

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BACKGROUND:

Psychological flexibility is the main target of intervention of Acceptance and Commitment Therapy (ACT; Hayes et al., 1999). The Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT; Francis et al., 2016) was developed to address the limitations of previous questionnaires assessing the construct. The current study aimed to further validate the CompACT's proposed three-factor structure with confirmatory factor analysis and examine its longitudinal measurement invariance.

METHOD

- Non-clinical sample of U.S. adults
- Confirmatory factor analysis and item factor analysis performed in M*plus* v. 8.3 (Muthén & Muthén, 1998-2017).
- Measurement invariance examined over three timepoints over the span of three months (Ns = 485, 360, 269).

A CompACT **short form** demonstrated **adequate reliability**, as well as **partial measurement invariance over time.**

CompACT-15 Items	CompACT Item #
Openness to Experience (OE) Subscale	
One of my big goals is to be free from painful emotions.	2
I try to stay busy to keep thoughts or feelings from coming.	4
I tell myself I shouldn't have certain thoughts.	8
I go out of my way to avoid situations that might bring difficult thoughts, feelings, or sensations.	11
I work hard to keep out upsetting feelings.	15
Behavioral Awareness (BA) Subscale	
I rush through meaningful activities without being really attentive to them.	3
I find it difficult to stay focused on what's happening in the present.	9
Even when doing the things that matter to me, I find myself doing them without paying attention.	12
I do jobs or tasks automatically, without being aware of what I'm doing.	16
It seems I'm "running on automatic" without much awareness of what I'm doing.	19
Valued Action (VA) Subscale	
I can identify the things that really matter to me in life and pursue them.	1
I make choices based on what's important to me, even if it is stressful.	7
I behave in line with my personal values.	10
I am able to follow my long-term plans times when progress is slow.	17
I can keep going with something when it's important to me.	23

RESULTS

- A three-factor model provided inadequate fit for the original items at each timepoint.
- The CompACT-15 short form demonstrated adequate fit for the data at all three time points (for all fit indices except for $\chi 2$):
  - **Baseline**: $\chi 2$ (df = 87) = 174.51, TLI = .96, CFI = .97, RMSEA = .05 [CI: 0.04, 0.06], SRMR = 0.05.
  - **Follow-up 1**: $\chi 2$ (df = 87) = 191.47, TLI = .94, CFI = .95, RMSEA = .06 [CI: 0.05, 0.07], SRMR = 0.06.
  - **Follow-up 2**: $\chi 2$ (df = 87) = 141.647, TLI = .97, CFI = .97, RMSEA = .05 [CI: 0.03, 0.06], SRMR = 0.05.
- **Item factor analysis (IFA)** indicated that response options were differentiable for the 15 items, and that the three factors demonstrated good reliability (≥.80) over the range of the traits. BA's reliability ≥.80 when trait values are at −2.5 SD below the mean and remain at ≤.94 to +1.6 SD above the mean. VA's reliability ≥.80 when trait values are at −3.6 SD below the mean and remain at ≤ .94 to +1.7 SD above the mean. OE's reliability ≥.80 when trait values are at −2.6 SD below the mean and remain consistent at .90 to +2.5 SD above the mean.
- Results of **longitudinal measurement invariance analyses** indicated that:
  - Partial metric (weak), partial scalar (strong), and partial residual (strict) variance invariance held over time.
  - Full structural invariance also held.

IMPLICATIONS:

- Partial measurement and full structural invariance of the CompACT-15 indicates that it can be used to measure change in each latent factor over time.
- Further testing of the CompACT-15 is necessary in different and diverse samples.