Psychometric properties of the Polish version of The Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT)

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Summary

Aim. The aim of the study was to translate and validate the Polish version of the *Comprehensive Assessment of Acceptance and Commitment Therapy Processes* (CompACT). This is a self-report questionnaire used to assess psychological flexibility, including three scales: "Openness to Experience", "Behavioral Awareness" and "Valued Action".

Material and methods. A total of 791 individuals (423 women; 53.5%) aged 18–84, participated in the study. Additional data was gathered on life-satisfaction, the level of depression, anxiety and stress, psychological inflexibility, cognitive fusion, contact with present moment, self-perception, committed action, and valued living as the source of theoretical validity.

Results. The internal structure of the full 23-item version was not confirmed (analogically as in the studies on the original version). The internal structure of the shorter 18-item version of the CompACT was confirmed, and a new 9-item version was proposed. Both versions (18-item and 9-item) exhibited good psychometric properties, incremental validity and measurement invariance across gender.

Conclusions. CompACT-18 and CompACT-9 are reliable and valid tools to measure psychological flexibility and its three components.

Key words: psychological flexibility, acceptance and commitment therapy, CompACT

Introduction

Acceptance and Commitment Therapy (ACT) is a therapeutic approach classified as part of the so-called third wave of cognitive-behavioral therapies, with effectiveness

proven in over 1,050 randomized clinical trials, aiming to improve mental functioning and well-being by enhancing psychological flexibility (PF) [1–3].

According to the theoretical model and research findings on ACT, PF is identified as a core mechanism underlying its effectiveness [4–7] and is defined as the ability to engage in behaviors that align with one's values while being consciously present and open to all internal experiences (thoughts, feelings and bodily sensations). It comprises six processes: (1) contact with the present moment – being aware of present experiences, (2) self-as-context – noticing one's internal experiences from a perspective, (3) acceptance – making room for internal experiences, (4) defusion – noticing thoughts instead of being controlled by them, (5) values – understanding what matters, and (6) committed action – engaging in values-based behaviors [4]. These processes can also be categorized into three dimensions [8]: awareness (contact with the present moment, self-as-context), openness (acceptance and defusion) and engagement (values and committed action). The increase in PF levels and its individual processes was found to be significantly associated with an increase in life satisfaction and a decrease in psychopathological symptoms [5, 9].

Over the years, researchers have strived to develop effective methods for measuring PF. The commonly used Acceptance and Action Questionnaire AAQ-II [10], the only tool translated into Polish so far for assessing general psychological inflexibility, has been criticized for not comprehensively covering all processes of PF and for not ensuring measurement equivalence across diverse samples [7, 11–14]. As a result, new tools have been developed, often offering a more comprehensive assessment of PF with a multifactorial internal structure.

One of them is the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT) – a questionnaire that assesses PF using 23 items and three scales corresponding to the three dimensions of PF mentioned above: "Openness to Experience," "Behavioral Awareness" and "Valued Action" [15]. In a study by Flowers et al. [16], "Openness to Experience" and "Behavioral Awareness" were found to be significant predictors of depression, anxiety and stress symptoms, while "Openness to Experience" and "Valued Action" were significant predictors of life satisfaction.

Studies using CompACT have generally provided evidence of reliable and valid measurement of PF and changes in its levels over time [12, 15, 17–20]. However, they have also highlighted difficulties in confirming the tool's assumed internal structure. This has led to the development of shorter versions, such as the 18-item Portuguese version [21, 22], the 13-item Indonesian version [19], the 12-item Romanian version [20], as well as the 15-item and 10-item English versions [23, 24]. These shorter versions have demonstrated both the expected internal structure and excellent psychometric properties, leading to their frequent use in applied research [e.g., 25–28].

Aim

Our study aims to translate the 23-item CompACT into Polish and evaluate the psychometric properties and internal structure of two versions of the tool: the full version and the 18-item version, as well as to develop a short 9-item version for use in scientific research[1]. Consistent with previous research findings, we anticipated: (1) a lack of fit for the internal structure of the full version of the tool, (2) good fit for the 18-item and 9-item versions, (3) measurement equivalence for both genders (similar to the results obtained by Trindade et al. [21]), (4) positive relationships between the tool's scales and measures of individual PF processes, such as contact with the present moment, self-perception, committed action, and value-consistent behavior, and negative relationships with cognitive fusion, (5) significant relationships between the tool's scales and life satisfaction (positive), and levels of depression, anxiety and stress symptoms (negative), and (6) negative relationships with psychological inflexibility.

Material and method

Participants, recruited via a professional research panel, were required to be over 18 years old. A total of 791 individuals completed the study, including 423 women (53.5%) and 368 men (46.5%), aged between 18 and 84 ($M = 49.24$; $SD = 16.29$). Most of the participants had completed high school ($N = 342$; 43.2%), 33.8% had higher education ($N = 274$), 12.0% had bachelor's degrees ($N = 88$), 27.2% had vocational education ($N = 115$), and 11.0% had primary education ($N = 87$). A large portion of the participants lived in rural areas ($N = 312$; 39.4%), 32.5% lived in cities with fewer than 100,000 residents ($N = 257$), 15.2% – in cities with 100,000 to 500,000 residents ($N = 120$), and 12.9% – in cities with more than 500,000 residents ($N = 102$).

The study was conducted online and received a positive opinion from the research ethics committee of the institution where the research was conducted. Participants were asked to complete a set of self-report tools.

The original 23 items of CompACT-23 were translated into Polish by three independent translators and then evaluated by three expert judges (all experienced in the field of contextual behavioral science). Following ISPOR practices [29], the back-translated final versions of the items were reviewed and adjusted as needed based on the recommendations of the original authors. The questionnaire retained its original instructions and response scale, with each item rated from 0 to 6 (0 = "Definitely disagree," 6 = "Definitely agree").

Based on the theoretical assumptions and empirical research findings regarding the relationships between PF and quality of life (well-being) and indicators of psychopathology mentioned in the *Introduction*, additional measures were applied to verify hypotheses and examine the validity of the Polish version of CompACT. *Satisfaction*

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[1]   The choice of versions was driven by the desire to provide practitioners and researchers with the longest and shortest versions possible, both with good psychometric properties and a confirmed internal structure.

with Life Scale (SWLS) [30, 31] was used to measure self-perceived well-being, *Depression, Anxiety and Stress Scale-21* (DASS-21) [32, 33] – to measure the level of depression, anxiety and stress symptoms. *Acceptance and Action Questionnaire-II* (AAQ-II) [10, 34] was used to measure general psychological inflexibility, and *Cognitive Fusion Questionnaire* (CFQ) [35, 36] – tmeasure the level of cognitive fusion. *Freiburg Mindfulness Inventory* (FMI) [35, 37] was used to measure the extent to which an individual has contact with a present moment, *Self-Experiences Questionnaire* (SEQ) [35, 38] – to measure self as context with two scales: "self as distinction" and "self as observer." *Committed Action Questionnaire 8* (CAQ-8) [35, 39] was used to measure the committed action and, finally, *Valuing Questionnaire* (VQ) [35, 40] with two subscales: "Progress" (enactment of values, including clear awareness of what is personally important) and "Obstruction" (disruption of valued living due to avoidance of unwanted experience and distraction from values) was used to measure the general valued living.

Confirmatory factor analysis (CFA) using maximum likelihood estimator with Satorra-Bentler correction (MLM) [41] was employed to examine the internal structure and measurement equivalence for both genders. A three-factor model consisting of three scales: "Openness to Experience," "Behavioral Awareness," and "Valued Action" was tested. Model fit was assessed based on the chi-square statistic (χ^2) and robust values of RMSEA, CFI, TLI, SRMR according to Hu and Bentler's criteria [42]: RMSEA ≤0.08; SRMR ≤0.08; CFI ≥0.90; TLI ≥0.95. Regarding gender, differences in fit were computed between nested models: configural (assuming the same internal structure in both gender groups), metric (assuming equality of factor loadings), scalar (assuming equality of intercepts), and residual (assuming equality of measurement errors). We adopted the following measurement equivalence criteria: non-significant difference in χ^2 values and/or values of ΔCFI ≤0.010, ΔRMSEA ≤0.030 and ΔSRMR ≤0.030 [43].

To provide information on the theoretical validity of the scales, correlations between the CompACT scales and other variables were calculated. We also decided to examine the incremental validity of the adapted scales, namely, whether they explain more variance than a simple measure of psychological inflexibility using the previously available tool – the AAQ-II [15]. For this purpose, a hierarchical regression analysis was conducted, where psychological inflexibility was included in the first step, and the CompACT scales were included in the second step. Life satisfaction as well as levels of depression, anxiety and stress were treated as dependent variables.

All the analyses were conducted with the use of SPSS v. 25 and R v. 4.3.0, package laavan v. 0.6–15 [44, 45]. The final Polish version of the tool, all the codes and data are available at: https://osf.io/b7vpm/?view_only=a7f8052399d84cda9fc4b33088ddbe4e.

Results

The CFA was conducted on three versions of CompACT: the original 23-item version, an 18-item version (due to its very good psychometric properties found in previous

studies), and a specific, Polish 9-item version developed because other available shorter versions presented poor fit to the data[2]. The selection of items for CompACT-9 was based on the magnitude of standardized path coefficients for each of the three scales of the tool. The three-factor model presented a non-acceptable fit for the CompACT-23 and a satisfactory fit for the CompACT-18 and – 9: $\chi^2(227) = 137.328$; $p < 0.001$; *robust* RMSEA = 0.090 (90% CI: 0.086–0.095), SRMR = 0.115; *robust* CFI = 0.782; *robust* TLI = 0.757 for CompACT-23; $\chi^2(132) = 488.513$; $p < 0.001$; *robust* RMSEA = 0.067 (90% CI: 0.060–0.073); SRMR = 0.085; *robust* CFI = 0.915; *robust* TLI = 0.901 for CompACT-18 and $\chi^2(24) = 73.996$; $p < 0.001$; *robust* RMSEA = 0.061 (90% CI: 0.045–0.077); SRMR = 0.032; *robust* CFI = 0.972, *robust* TLI = 0.958 for CompACT-9. Standardized path coefficients were high and loaded onto the expected scales for both CompACT-18 and – 9. Subsequent analyses were conducted for these two versions.

Measurement equivalence was verified concerning gender. The results are presented in Table 1. Differences in χ^2 values suggest equivalence only at the metric level (equal structure and factor loadings). However, relatively small differences in CFI, RMSEA and SRMR values suggest full measurement equivalence. Since the χ^2 statistic is highly sensitive to sample size, while ΔCFI is considered the least sensitive to model complexity and sample size [46], it seems justified to base conclusions on ΔCFI values (≤0.010) and additionally on ΔRMSEA (≤0.030) and ΔSRMR (≤0.030) [43], and consider the measurement fully equivalent (also at the scalar level and measurement errors) for both genders.

The internal consistency of CompACT-18 and – 9 scales was satisfactory with Cronbach's alpha between 0.62 and 0.88 (Table 2). Spearman's *rho* correlations were calculated between the scales due to the violation of the normal distribution assumption (Table 2). "Openness to Experience" was most strongly and negatively related to psychological inflexibility and cognitive fusion. "Behavioral Awareness" and "Valued Action" present similar pattern of correlations and are most strongly related to depression, anxiety and stress symptoms, psychological inflexibility, cognitive fusion, values obstruction (negatively), life-satisfaction, contact with present moment, self as distinction, self as observer, committed action, and progress of values (positively). CompACT-9's "Openness to Experience" scale seems to present better theoretical validity, as it presents stronger relationships with other measures. Correlations between compatible scales of the CompACT-18 and the CompACT-9 are very strong in the case of "Behavioral Awareness" and "Valued Action." The medium correlation between "Openness to Experience" scales suggests their slightly different functioning. Overall, obtained results support the validity of both tools.

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[2]   due to space constraints, these data are not presented

Table 1. **Measurement invariance of CompACT-18 and – 9 across gender**

Model	χ² (*df*)	χ² *diff*	p Δ χ² *diff*	*robust* CFI	ΔCFI	*robust* RMSEA (CI)	ΔRMSEA	SRMR	ΔSRMR
CompACT-18									
Configural	791.613 (264)			0.917		0.066 (0.059, 0.073)		0.084	
Metric	819.353 (279)	23.922	0.066	0.915	0.002	0.065 (0.058, 0.072)	0.001	0.086	0.002
Scalar	865.352 (294)	55.218	<0.001	0.909	0.006	0.066 (0.059, 0.072)	0.001	0.087	0.001
Residual	913.949 (312)	24.420	0.142	0.907	0.002	0.064 (0.058, 0.071)	0.002	0.088	0.001
CompACT-9									
Configural	91.202 (48)			0.976		0.056 (0.038, 0.074)		0.032	
Metric	97.371 (54)	4.234	0.645	0.976	0.000	0.052 (0.035, 0.069)	0.004	0.036	0.004
Scalar	109.506 (60)	12.639	0.049	0.974	0.002	0.052 (0.036, 0.068)	0.000	0.038	0.002
Residual	107.710 (69)	3.450	0.944	0.978	0.004	0.045 (0.027, 0.060)	0.007	0.040	0.002

robust CFI – the robust Comparative Fit Index; *robust* RMSEA – the robust Root Mean Square Error of Approximation; SRMR – the standardized Root Mean Square Residual; the χ² difference was calculated with the use of Satorra-Bentler method [48].

Table 2. **Descriptive statistics and Spearman's rho correlations of CompACT-18 and – 9**

Scales	*M*	*SD*	*Sk*	*SESk*	*Kt*	*SEKt*	*α*	OE-18	BA-18	V-18	OE-9	BA-9	VA-9
OE-18	12.16	5.85	0.43	0.09	0.13	0.17	0.732						
BA-18	20.04	6.36	-0.36	0.09	-0.56	0.17	0.831	0.283**					
VA-18	36.26	7.97	-0.64	0.09	0.23	0.17	0.882	-0.097**	0.518**				
OE-9	11.05	3.40	-0.14	0.09	-0.49	0.17	0.622	-0.509**	-0.692**	-0.463**			
BA-9	12.88	12.88	-0.56	0.09	-0.54	0.17	0.804	-0.222**	-0.944**	-0.563**	0.689**		
VA-9	14.64	14.64	-0.95	0.09	0.67	0.17	0.771	-0.071*	0.506**	0.915**	-0.445**	-0.547**	
LS	20.41	6.53	-0.33	0.09	-0.37	0.17	0.906	0.009	0.316**	0.527**	-0.326**	-0.344**	0.492**
DPR	5.85	5.32	0.89	0.09	-0.07	0.17	0.911	-0.163**	-0.489**	-0.506**	0.523**	0.512**	-0.449**
ANX	4.48	4.62	10.17	0.09	0.62	0.17	0.867	-0.168**	-0.458**	-0.416**	0.457**	0.472**	-0.392**
STR	7.10	5.26	0.51	0.09	-0.56	0.17	0.911	-0.193**	-0.462**	-0.439**	0.520**	0.479**	-0.391**
PINF	21.28	10.05	0.49	0.09	-0.55	0.17	0.933	-0.261**	-0.522**	-0.493**	0.594**	0.545**	-0.457**
CF	21.27	10.45	0.46	0.09	-0.63	0.17	0.961	-0.235**	-0.457**	-0.433**	0.550**	0.484**	-0.386**
MI	36.90	7.93	0.05	0.09	-0.40	0.17	0.862	-0.002	0.430**	0.657**	-0.410**	-0.452**	0.602**
SED	24.22	8.37	-0.01	0.09	-0.15	0.17	0.925	0.014	0.473**	0.653**	-0.451**	-0.493**	0.601**

table continued on the next page

SEO	28.67	9.80	-0.09	0.09	-0.16	0.17	0.946	-0.013	0.451**	0.671**	-0.412**	-0.476**	0.616**
CAQ	31.24	7.73	-0.04	0.09	-0.20	0.17	0.848	0.091*	0.582**	0.709**	-0.555**	-0.589**	0.672**
VP	18.08	6.33	-0.30	0.09	-0.15	0.17	0.854	-0.063	0.407**	0.696**	-0.370**	-0.441**	0.647**
VO	9.53	6.31	0.49	0.09	-0.21	0.17	0.839	-0.184**	-0.632**	-0.577**	0.606**	0.648**	-0.542**

M – mean; *SD* – standard deviation; *SESk* – standard error of skewness; *SEKt* – standard error of kurtosis; α – Cronbach's alpha; *OE* – Openness to Experience; BA – Behavioral Awareness; VA – Valued Action (-18 means the scales of the CompACT-18 and – 9 means the scales of the CompACT-9); LS – the level of life-satisfaction; DPR – the level of depression symptoms; ANX – the level of anxiety symptoms; STR – the level of stress symptoms; PINF – the level of general psychological inflexibility; CF – the level of cognitive fusion; MI – the level of contact with present moment; SED – self as distinction; SEO – self as observer; CAQ – the level of committed action; VP – progress of values; VO – obstruction of values

** $p < 0.001$; * $p < 0.05$.

The results of the regression analysis for CompACT-18 and – 9 were analogous (Table 3). Psychological inflexibility was the strongest predictor of all dependent variables; however, the "Behavioral Awareness" and "Valued Action" scales were also significant predictors. The difference in explained variance was small (consistently with the results obtained by Francis et al. [15]) for depression, anxiety and stress scales. However, in the case of life satisfaction, adding the "Behavioral Awareness" and "Valued Action" scales to the model increased the explained variance by 10% and 7% for the Comp-ACT-18 and CompACT-9 scales respectively.

Table 3. **Hierarchical linear regression with psychological inflexibility and CompACT-18 and- 9 scales as predictors of life-satisfaction, depression, anxiety, and stress symptoms**

Scales	Life-satisfaction	Depression	Anxiety	Stress
CompACT-18				
Step 1				
PINF	-0.562**	0.786**	0.689**	0.771**
Step 2				
PINF	-0.438**	0.693**	0.600**	0.706**
OE	-0.034	0.031	0.013	0.014
BA	-0.073*	-0.068*	-0.121**	-0.062*
VA	0.362**	-0.138**	-0.059	-0.075*
CompACT-9				
Step 1				
PINF	-0.562**	0.786**	0.689**	0.771**
Step 2				
PINF	-0.472**	0.686**	0.598**	0.697**

OE	-0.059	-0.021	0.014	-0.058
BA	-0.027*	-0.085*	-0.141**	-0.046*
VA	0.315**	-0.093**	-0.049	-0.033*

β – standardized coefficients; for the CompACT-18 life satisfaction: 31.5% vs 41.6% of variance explained ($\Delta R^2 = 10.1$); depressive symptoms: 61.8% vs 64.2% of variance explained ($\Delta R^2 = 2.4$); anxiety symptoms: 47.5% vs 49.2% of variance explained ($\Delta R^2 = 1.6$); stress symptoms: 59.5% vs 60.5% of variance explained ($\Delta R^2 = 1.0$); for the CompACT-9 life satisfaction: 31.5% vs 38.9% of variance explained ($\Delta R^2 = 7.4$); depressive symptoms: 61.8% vs 63.6% of variance explained ($\Delta R^2 = 1.8$); anxiety symptoms: 47.5% vs 49.3% of variance explained ($\Delta R^2 = 1.8$); stress symptoms: 59.5% vs 60.3% of variance explained ($\Delta R^2 = 0.8$); ** $p < 0.001$; * $p < 0.05$; explanations of abbreviations as in table 2.

Discussion

In the conducted study, we translated CompACT into Polish and obtained results consistent with our hypotheses. As a result, we presented two versions of the tool, which, due to their satisfactory psychometric properties, can be recommended for clinical work and scientific research.

Similar to other international adaptations of CompACT [19, 20, 22], we did not confirm the three-factor internal structure for the original 23-item questionnaire, once again confirming the mismatch of this version of the tool to empirical data. However, the 18-item version showed a satisfactory fit, similar to the Portuguese adaptation [21, 22], and this was also confirmed in the study by Tynan et al. [47]. The measurement invariance analysis demonstrated that CompACT-18 can be considered equivalent across gender, consistent with the results obtained by Trindade et al [21]. The CompACT-18 correlated in expected ways with relevant criterion variables. A higher level of psychological inflexibility was associated with a higher level of distress and a lower level of satisfaction with life. In comparison to previous studies [15, 22], we observed weaker correlations between the "Openness to Experience" scale and other variables, suggesting a cultural specificity of the items in this scale.

Therefore, we proposed the 9-item version with the most satisfactory fit that resolved the problem with the "Openness to Experience" subscale. This version consists of items that were most effective in assessing aspects of psychological flexibility. The 9-item version of CompACT showed good internal consistency, equivalence across genders and construct validity. Regression analyses, similar to existing studies by Rogge et al. [18], showed that the CompACT (both 18-item and 9-item versions) offers unique predictive value above the AAQ-II in explaining general distress and satisfaction with life. Specifically, the "Valued Action" subscale was responsible for a high portion of the explained variance.

The limitations of the study primarily include the non-representative sample for the Polish population and the lack of longitudinal measurement, which would allow for inferences about the stability of the CompACT measurement over time.

Future research should focus on replicating the internal structure of CompACT-9 and conducting exploratory factor analysis of the items of the scales in this version of the tool (which we did not pursue due to having data from only one sample). Additionally, in-depth cross-cultural analysis is needed for the items of the "Openness to Experience" scale, which proved to function less satisfactorily in our culture.

Conclusion

Considering all the analyses, the Polish adaptation of the CompACT offers two reliable and valid tools (18-item and 9-item) for measuring psychological flexibility and its three components. Both Polish versions of CompACT can successfully be used in scientific research, including studies examining gender differences in PF levels, as well as in clinical practice.

The authors declare equal contribution to the work.

References

1. Hayes SC, Strosahl KD, Wilson KG. *Acceptance and commitment therapy: The process and practice of mindful change*, 2nd ed. New York, NY: Guilford Press; 2012.

2. Gloster AT, Walder N, Levin ME, Twohig MP, Karekla M. *The empirical status of acceptance and commitment therapy: A review of meta-analyses*. J. Context. Behav. Sci. 2020; 18: 181–192.

3. Hayes SC. *State of the ACT evidence. Association for Contextual Behavioral Science*. 2023. http://contextualscience.org/state_of_the_act_evidence (dostęp: 2.08.2023).

4. Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. *Acceptance and commitment therapy: Model, processes and outcomes*. Behav. Res. Ther. 2006; 44(1): 1–25.

5. Kashdan TB, Rottenberg J. *Psychological flexibility as a fundamental aspect of health*. Clin. Psychol. Rev. 2010; 30(7): 865–878.

6. Stockton D, Kellett S, Berrios R, Sirois F, Wilkinson N, Miles G. *Identifying the underlying mechanisms of change during Acceptance and Commitment Therapy (ACT): A systematic review of contemporary mediation studies*. Behav. Cogn. Psychother. 2019; 47(3): 332–362.

7. Tyndall I, Waldeck D, Pancani L, Whelan R, Roche B, Dawson DL. *The Acceptance and Action Questionnaire-II (AAQ-II) as a measure of experiential avoidance: Concerns over discriminant validity*. J. Context. Behav. Sci. 2019; 12: 278–284.

8. Hayes SC, Villatte M, Levin M, Hildebrandt M. *Open, aware, and active: Contextual approaches as an emerging trend in the behavioral and cognitive therapies*. Annu. Rev. Clin. Psychol. 2011; 7: 141–168.

9. Lucas JJ, Moore KA. *Psychological flexibility: Positive implications for mental health and life satisfaction*. Health Promot. Int. 2020; 35(2): 312–320.

10. Bond FW, Hayes SC, Baer RA, Carpenter KM, Guenole N, Orcutt HK et al. *Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance*. Behav. Ther. 2011; 42(4): 676–688.

11. Doorley JD, Goodman FR, Kelso KC, Kashdan TB. *Psychological flexibility: What we know, what we do not know, and what we think we know*. Soc. Personal. Psychol. Compass. 2020; 14(12): 1–11.

12. Ong CW, Lee EB, Levin ME, Twohig MP. *A review of AAQ variants and other context-specific measures of psychological flexibility*. J. Context. Behav. Sci. 2019; 12: 329–346.

13. Rochefort C, Baldwin AS, Chmielewski M. *Experiential avoidance: An examination of the construct validity of the AAQ-II and MEAQ*. Behav. Ther. 2018; 49(3): 435–449.

14. Wolgast M. *What does the Acceptance and Action Questionnaire (AAQ-II) really measure?* Behav. Ther. 2014; 45(6): 831–839.

15. Francis AW, Dawson DL, Golijani-Moghaddam N. *The development and validation of the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT)*. J. Context. Behav. Sci. 2016; 5(3): 134–145.

16. Flowers J, Eddy A, McCullough N, Christopher M, Kennedy CH. *Acceptance and commitment therapy processes differentially predict aspects of mental health*. Psychol. Rep. 2025; 128(3): 1502–1516.

17. Bayliss K. *Confirmatory Factor Analysis and further validation of the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT)*. University of Nottingham; 2018. https://eprints.nottingham.ac.uk/53620/ (retrieved: 3.06.2024).

18. Rogge RD, Daks JS, Dubler BA, Saint KJ. *It's all about the process: Examining the convergent validity, conceptual coverage, unique predictive validity, and clinical utility of ACT process measures*. J. Context. Behav. Sci. 2019; 14: 90–102.

19. Suganda G, Abidin FA. *The Comprehensive Assessment of Acceptance and Commitment Treatment Process (Compact): Adaptation of The Indonesian Version*. J. Educ. Health Community Psychol. 2022; 11(3): 531–349.

20. Călinici MS, Călinici T. *Comprehensive Assessment of Act Processes Compact. Romanian adaptation and Short Form Validation*. J. Evid.-Based Psychother. 2021; 21(2): 209–226.

21. Trindade IA, Vagos P, Moreira H, Fernandes DV, Tyndall I. *Further validation of the 18-item Portuguese CompACT scale using a multi-sample design: Confirmatory factor analysis and correlates of psychological flexibility*. J. Context. Behav. Sci. 2022; 25: 1–9.

22. Trindade IA, Ferreira NB, Mendes AL, Ferreira C, Dawson D, Golijani-Moghaddam N. *Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT): Measure refinement and study of measurement invariance across Portuguese and UK samples*. J. Context. Behav. Sci. 2021; 21: 30–36.

23. Golijani-Moghaddam N, Morris JL, Bayliss K, Dawson DL. *The CompACT-10: Development and validation of a Comprehensive Assessment of Acceptance and Commitment Therapy Processes short-form in representative UK samples*. J. Context. Behav. Sci. 2023; 29: 59–66.

24. Hsu T, Hoffman L, Thomas EBK. *Confirmatory measurement modeling and longitudinal invariance of the CompACT-15: A short-form assessment of psychological flexibility*. Psychol. Assess. 2023; 35(5): 430–442.

25. Levin ME, Haeger J, Cruz RA. *Tailoring Acceptance and Commitment Therapy skill coaching in the moment through smartphones: Results from a randomized controlled trial*. Mindfulness 2019; 10(4): 689–699.

26. Carvalho SA, Skvarc D, Barbosa R, Tavares T, Santos D, Trindade IA. *A pilot randomized controlled trial of online Acceptance and Commitment Therapy versus compassion-focused therapy for chronic illness*. Clin. Psychol. Psychother. 2022; 29(2): 524–541.

27. Barrett-Naylor R, Gresswell DM, Dawson DL. *The effectiveness and acceptability of a guided self-help Acceptance and Commitment Therapy (ACT) intervention for psychogenic nonepileptic seizures*. Epilepsy Behav. 2018; 88: 332–340.

28. Petersen JM, Krafft J, Twohig MP, Levin ME. *Evaluating the open and engaged components of Acceptance and Commitment Therapy in an online self-guided website: Results from a pilot trial*. Behav. Modif. 2021; 45(3): 480–501.

29. Wild D, Grove A, Martin M, Eremenco S, McElroy S, Verjee-Lorenz A et al. *Principles of good practice for the translation and cultural adaptation process for Patient-Reported Outcomes (PRO) measures: Report of the ISPOR task force for translation and cultural adaptation*. Value Health 2005; 8(2): 94–104.

30. Diener E, Emmons RA, Larsen RJ, Griffin S. *The Satisfaction With Life Scale*. J. Pers. Assess. 1985; 49(1): 71–75.

31. Jankowski KS. *Is the shift in chronotype associated with an alteration in well-being?* Biol. Rhythm Res. 2015; 46(2): 237–248.

32. Lovibond PF, Lovibond SH. *The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories*. Behav. Res. Ther. 1995; 33(3): 335–343.

33. Makara-Studzińska M, Tyburski E, Załuski M, Adamczyk K, Mesterhazy J, Mesterhazy A. *Confirmatory factor analysis of three versions of the Depression Anxiety Stress Scale (DASS-42, DASS-21, and DASS-12) in Polish adults*. Front. Psychiatry 2021; 12: 770532.

34. Kleszcz B, Dudek JE, Białaszek P, Bond FW. *The psychometric properties of the Polish version of the Acceptance and Action Questionnaire-II (AAQ-II)*. Stud. Psychol. 2018; 56(1): 1–19.

35. Baran L, Hyla M, Kleszcz B. *Elastyczność psychologiczna*. Katowice: Publishing House of University of Silesia; 2019. https://rebus.us.edu.pl/handle/20.500.12128/12945 (retrieved: 3.06.2024).

36. Gillanders DT, Bolderston H, Bond FW, Dempster M, Flaxman PE, Campbell L et al. *The development and initial validation of the Cognitive Fusion Questionnaire*. Behav. Ther. 2014; 45(1): 83–101.

37. Walach H, Buchheld N, Buttenmüller V, Kleinknecht N, Schmidt S. *Measuring mindfulness – The Freiburg Mindfulness Inventory (FMI)*. Personal. Individ. Differ. 2006; 40(8): 1543–1555.

38. Yu L, McCracken LM, Norton S. *The Self Experiences Questionnaire (SEQ): Preliminary analyses for a measure of self in people with chronic pain*. J. Context. Behav. Sci. 2016; 5(3): 127–133.

39. McCracken LM, Chilcot J, Norton S. *Further development in the assessment of psychological flexibility: A shortened Committed Action Questionnaire (CAQ-8)*. Eur. J. Pain Lond. Engl. 2015; 19(5): 677–685.

40. Smout M, Davies M, Burns N, Christie A. *Development of the Valuing Questionnaire (VQ)*. J. Context. Behav. Sci. 2014; 3(3): 164–172.

41. Maydeu-Olivares A. *Maximum likelihood estimation of structural equation models for continuous data: Standard errors and goodness of fit*. Struct. Equ. Modeling 2017; 24(3): 383–394.

42. Hu L, Bentler PM. *Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives*. Struct. Equ. Modeling 1999; 6(1): 1–55.

43. Chen FF. *Sensitivity of goodness of fit indexes to lack of measurement invariance*. Struct. Equ. Modeling 2007; 14(3): 464–504.

44. R Core Team. *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. 2018. https://www.R-project.org/.

45. Rosseel Y. *lavaan: An R Package for Structural Equation Modeling*. J. Stat. Softw. 2012; 48(2): 1–36.

46. Meade AW, Johnson EC, Braddy PW. *Power and sensitivity of alternative fit indices in tests of measurement invariance*. J. Appl. Psychol. 2008; 93(3): 568–392.

47. Tynan M, Afari N, Dochat C, Gasperi M, Roesch S, Herbert MS. *Confirmatory factor analysis of the Comprehensive Assessment of Acceptance and Commitment Therapy (CompACT) in active-duty military personnel*. J. Context. Behav. Sci. 2022; 25: 115–121.

48. Satorra A, Bentler PM. *A scaled difference chi-square test statistic for moment structure analysis*. Psychometrika 2001; 66(4): 507–514.

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