

## Hungarian Adaptation of Types of Positive Affect Scale: Differentiation Between Activating and Soothing Positive Affect

Tünde PÓKA<sup>1,2</sup>, Andrea BARTA<sup>1,2</sup>, Anna VERES<sup>2</sup>, László MÉRŐ<sup>3</sup>

**ABSTRACT. Aims and Methods** The current study aimed to investigate the factor structure, reliability, measurement invariance, and construct validity of the Hungarian version of the Types of Positive Affect Scale among a sample of university students ( $N = 1239$ ). Confirmatory factor analyses (CFA), multi-group confirmatory factor analyses, internal consistency analyses, and correlational analyses were conducted. **Results** For the proposed two-factor model, CFA showed good fit with the data (CMIN = 438,16; DF = 51; CMIN/DF = 8,59; GFI = .94; CFI = .93; SRMR = .04; RMSEA = .07, 95%CI = [.07; .08]), all items were significant predictors of measured factors. The measurement invariance across gender and country, good internal consistency, and construct validity of the scale were also confirmed. **Conclusion** Findings support the reliability and validity of the Hungarian version of the Types of Positive Affect Scale and enable us to use the subscale scores to differentiate between soothing and activating positive affect.

**Keywords** soothing positive affect, activating positive affect, scale, validation, Hungarian

---

<sup>1</sup> Evidence-Based Psychological Assessment and Interventions Doctoral School, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania

<sup>2</sup> Department of Applied Psychology, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania

<sup>3</sup> Department of Affective Psychology, ELTE, Institute of Psychology, Eötvös Lóránd University, Budapest, Hungary

\* Corresponding author: tunde.poka@ubbcluj.ro.



## **Hungarian Adaptation of Types of Positive Affect Scale: Differentiation Between Activating and Soothing Positive Affect**

Negative affect, containing emotional states like anger, anxiety, and disgust, serves as a key indicator of general distress in individuals (Watson & Pennebaker, 1989; Watson et al., 1988a). In contrast, positive affect, characterized by states such as excitement, joy, and happiness, is a key measure of one's subjective sense of well-being (Diener, 1984; Fredrickson, 2001; Fredrickson & Cohn, 2008; Seligman, 2011). Although Frijda (2009) has conceptualized affect as a component of emotional experiences (alongside autonomic arousal, action readiness, and appraisal), the presence of affect is not essential for the existence of emotion (Russell, 2003).

Affect, regardless of the specific type (e.g., sadness, anger, happiness, hope), is characterized by two fundamental dimensions: intensity, spanning from very low to very high activation, and valence, extending from very unpleasant to very pleasant. Negative affect (such as anxiety, fear, anger, and sadness) carries a negative valence, while positive affect (for example happiness, contentment, excitement, and feelings of safeness) has a positive valence, regardless of its activation level (Fredrickson & Cohn, 2008; Russell, 2003). Both negative and positive affect can be measured as traits (reflecting feelings over recent weeks, months, or in general) or as states (capturing current affect) (Watson & Clark, 1994; Watson & Pennebaker, 1989).

Based on Gilberts' theory (2009a, 2009, 2014) which is built on current neurophysiological data (Depue & Morrone-Strupinsky, 2005), there are three major emotion regulation systems: the system responsible for threat detection (i.e., threat-defense system), the system responsible for motivation (i.e., incentive and resource-seeking system), and the system responsible for reassurance (i.e., soothing, caring and contentment system). In view of this framework, there are two types of positive affect, showing both subjective and neurophysiological differences (Depue & Morrone-Strupinsky, 2005). One type of positive affect is related to the search for resources, motivation, and drive. On a subjective level, these are activating positive affects related to performance, acquiring important resources, and the dopaminergic system. Another type of positive affect is based on the soothing system, characterized by feelings of safeness, and contentment). Ideally, the soothing system is activated when there are no threats and when needs are met, but as previously mentioned, this does not occur automatically. The feeling of contentment and safety doesn't simply result from deactivating the motivational and danger-signaling systems, but from activating the soothing, reassurance system, associated with the opiate/oxytocin system (Depue & Morrone-Strupinsky, 2005). In her broaden-and-build theory of positive emotions,

Fredrickson (2001) argues that positive emotions broaden people's momentary thought and action repertoires, but Gilbert's (2009a, 2009b, 2014) theory sustains that activating positive affect actually narrows attention, and only soothing positive affect broadens it. Therefore, these two types of positive affect might have different effects on thought-action repertoires too.

The emotional states of negative and positive affect play a very important role in students' mental health, making it crucial to have reliable and valid scales for their assessment. Positive and negative affect are very relevant in the academic context, as they can predict academic success and academic stress (Saklofske et al., 2012), influence students' creativity (Charyton et al., 2009), impact the levels of test-specific worries, and test performance (Chin et al., 2017), cardiovascular recovery from academic stress (Papousek et al., 2009), and academic engagement (King et al., 2015).

However, the distinct types of positive affect (i.e., activating- vs. soothing positive affect) have different relevance for mental health. Soothing positive affect, for example, demonstrates a stronger relationship with mental health indicators (e.g., depression, anxiety, self-criticism, and secure attachment) than activating positive affect (Gilbert, 2009a, 2009b; Gilbert et al., 2008). These different types of positive affect may be characterized even by qualitatively distinct autonomic activation profiles. Research shows that high-frequency heart rate variability (HF-HRV), an indicator of greater autonomic flexibility, is only associated with soothing positive affect, not with activating positive affect (Duarte & Pinto-Gouveia, 2017; Petrocchi et al., 2017). Among these two types of positive affect, soothing positive affect also has stronger relationship with mindfulness (Martins et al., 2018) and self-compassion (Kirschner et al., 2019; Steindl et al., 2021). It also proves to be a better predictor of anxiety and stress (McManus et al., 2019). Moreover, self-compassion interventions have a greater impact on soothing positive affect than on activating positive affect (Kirschner et al., 2019; Matos et al., 2017).

The Positive and Negative Affect Scale PANAS (Watson et al., 1988b) is the most commonly used instrument for measuring positive and negative affect. Comprising 20 items, it includes ten designed to measure positive affect and another ten to assess negative affect. However, the PANAS does not differentiate between different types of positive affect, it exclusively measures activating positive affect, which reflects only the extent to which a person feels energetic and alert. According to the authors, soothing positive affect, such as calmness and contentment, are essentially the absence of negative affect: „Briefly, Positive Affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy. In contrast,

Negative Affect (NA) is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness, with low NA being a state of calmness and serenity” (Watson et al., 1988b, pp. 1063).

In contrast, Gilbert (2009a, 2009b, 2014) and colleagues (Gilbert et al., 2008) argue that soothing positive affect requires the activation of the soothing system, which does not occur automatically when the threat system (responsible for generating negative affect) is deactivated. Therefore, Gilbert and his colleagues (2008) have developed an instrument for measuring these different types of positive affect known as the Types of Positive Affect Scale (Gilbert et al., 2008). Contrary to their initial expectations of two factors, they identified three: positive activating affect, positive relaxing affect, and positive soothing affect (such as feelings of safeness and contentment). The activating positive affect is measured with eight items (e.g., “Active”, “Dynamic”, “Excited”, etc.), the soothing positive affect is measured with four items (e.g., “Secure”, “Safe”, etc.), and the relaxed positive affect with six items (e.g., “Relaxed”, “Calm”). Answers can be given on a five-point scale ranging from 1 (*not typical for me*) to 5 (*very typical for me*). Subscale scores are calculated by summing the item responses. The internal consistency of the original subscales was found to be acceptable to good, with a Cronbach's  $\alpha$  of 0.83 for activating positive affect, 0.73 for soothing positive affect, and 0.83 for relaxing positive affect. The test-retest reliability over a three-week interval was good for both activating positive affect ( $r = .84$ ) and soothing positive affect ( $r = .77$ ), but relatively low for relaxed positive affect ( $r = .34$ ) (Gilbert et al., 2008).

To date, no confirmatory factor analysis testing the factor structure of this scale and no adaptation of the scale to the Hungarian population has been performed. Therefore, the primary objective of our study aims to develop the Hungarian version of the Types of Positive Affects Scale (Gilbert et al., 2008), which can differentiate between activating and soothing positive affect. Additionally, we intend to evaluate the scale's factor structure using confirmatory factor analysis (CFA) within a large student sample. Given the low test-retest reliability of the relaxing positive affect subscale, we have decided to translate, adapt, and test only the remaining two subscales. Furthermore, we aim to examine the invariance of the two-factor model according to gender (males vs. females) and students' country of origin (Hungary vs. Romania). We will also evaluate the internal consistency of these subscales and examine their construct validity. Lastly, this study aims to test the relationships between different types of positive affect, negative affect, and self-compassion.

According to our first hypotheses, we expect both types of positive affect to correlate negatively with negative affect. However, we predict that the

relationship between soothing positive affect and negative affect will be stronger than the relationship between activating positive affect and negative affect. Our second hypothesis assumes that both types of positive affect have a positive relationship with self-compassion. Nevertheless, we also expect that soothing positive affect will demonstrate a more pronounced connection with self-compassion in comparison to activating positive affect.

## METHOD

### Instruments

#### *Socio-Demographic and Personal Information*

Participants completed a socio-demographic form, which included items regarding age, gender, country, and student status (i.e., student year, type of study, and major type).

#### *Self-Compassion*

Self-compassion was measured with the Self-Compassion Scale – Short Form (SCS-SF; Raes et al., 2011), a 12-item version of the original Self-Compassion Scale (SCS; Neff, 2003). The SCS-SF measures the trait self-compassion with six normal-coded and six reverse-coded items (e.g., “I try to see my failings as part of the human condition”; „When I fail at something important to me, I tend to feel alone in my failure”). Responses are recorded on a five-point scale, ranging from 1 (*almost never*) to 5 (*almost always*). To calculate overall scores, we averaged responses after reverse-coding the appropriate items. Higher scores on this scale indicate greater levels of trait self-compassion. The scale shows good psychometric characteristics, with the internal consistency for self-compassion as a complex indicator demonstrated by  $\alpha = 0.87$  in the Dutch sample and  $\alpha = 0.86$  in the English sample. In our study, the scale also displayed good internal consistency ( $\alpha = .82$ ).

#### *Activating and Soothing Positive Affect*

Two subscales of the Types of Positive Affect Scale (Gilbert et al., 2008) were used to measure the activating and soothing positive affect. The scale normally consists of three subscales measuring three types of positive affect (activating-, relaxing-, and soothing positive affect). However, the test-retest reliability of the relaxing affect subscale over a three-week period was found to be very low ( $r = .34$ ) by the authors. Activating positive affect is measured with eight items (e.g., “Active”, “Dynamic”, “Excited”, etc.), and soothing positive affect

is measured with four items (e.g., “Secure”, “Safe”, etc.). Participants rate their answers on a five-point scale ranging from 1 (*not typical for me*) to 5 (*very typical for me*). The scores of the sub-scales were determined by summing up the responses to items. Gilbert et al. (2008) found good internal consistency for activating positive affect ( $\alpha = 0.83$ ) and an acceptable level for soothing positive affect ( $\alpha = 0.73$ ).

### *Negative Affect*

To measure negative affect, we used the abbreviated version of the Emotional Distress Profile (Profilul Distresului Emoțional - PDE; Opreș & Macavei, 2005), a scale developed and validated in Romania. It demonstrates good psychometric properties and excellent internal consistency as a complex indicator of emotional distress, especially negative affect ( $\alpha = .94$ ). The original scale consists of 26 items that describe different negative affect, such as „depressed”, „anxious”, or „sad”. In our study, we utilized 12 of these items, asking participants to rate on a five-point Likert scale the extent to which these emotions characterized their experiences over the past two weeks, with higher scores indicating higher negative affect. Following the translation process, these 12 items demonstrated high face validity, based on the ratings of two experts. In our sample, the abbreviated version of the scale also showed excellent internal consistency ( $\alpha = .91$ ).

### **Participants**

Hungarian-speaking students from Eötvös Lóránd University (Hungary) and Babeș-Bolyai University (Romania) were recruited to participate. Out of the 1239 individuals who completed the study, we identified 18 participants with multivariate outlier data based on Mahalanobis distance analyses. However, the sensitivity analyses showed similar results for all analyses with or without the exclusion of outliers, therefore we opted to report our results including all data.

Therefore, the final sample consisted of 1239 students ( $N = 1239$ ) with a mean age of 22.59 years ( $SD = 6.71$ ). Most of them self-identified as females ( $n = 978$ ; 78,9%). Of these participants, 470 were from Romania (37,9%), 749 were from Hungary (60,5%), and 20 were from other countries (1,6%). The majority lived in a city ( $n = 902$ ; 72,8%) and studied Psychology ( $n = 480$ ; 38,7%). The sample included first-year students ( $n = 514$ ; 41,5%), second-year students ( $n = 452$ ; 36,5%), third-year students ( $n = 233$ ; 18,8%), and 38 students with extended periods (3,1%). The majority of the participants were full-time students ( $n = 1051$ ; 84,8%) pursuing Bachelor-level degrees ( $n = 1066$ ; 86%).

## **Translation of the scale**

The translation process for the two subscales (soothing and activating positive affect) of the Types of Positive Affect Scale (Gilbert et al., 2008) was done according to existing guidelines (Sousa & Rojjanasrirat, 2011). Initially, the two subscales were translated from English to Hungarian by two certified translators. Another two certified translators then performed a reverse translation from Hungarian back to English. Following this, a committee consisting of the article authors and the translators evaluated the two sets of scales and items. Any discrepancies between the scales were resolved through discussion. The final scale was created by selecting 12 appropriate items, out of which four measure soothing positive affect and eight assess activating positive affect.

## **Procedures**

Following their voluntary agreement to take part in the research and submission of online consent, participants filled out a structured survey via Google Forms. The study received approval from the local Ethics Committee from Eötvös Lóránd University (nr. 2022/615).

## **Data Analyses and Assessment of Model Fit**

The SPSS 20 software was used for preliminary and correlational analyses. The model fit was examined using confirmatory factor analysis (CFA) in SPSS AMOS 20, with Maximum Likelihood (ML) estimation. Evaluation of the model fit relied on multiple indicators, including the chi-square statistic (CMIN) to the degrees of freedom (DF) ratio, the root mean square error of approximation (RMSEA) with a 90% confidence interval, the standardized root mean square residual (SRMR), the general fit index (GFI), and the comparative fit index (CFI). The measurement invariance of the scale was explored through multi-group confirmatory factor analyses.

For evaluating internal consistency, we utilized Cronbach's Alpha's ( $\alpha$ ) coefficient for the entire scale and the mean inter-item correlation (MIIC) for subscales. MIIC is particularly suitable for scales featuring less than 10 items (Mitchell & Jolley, 2012). Pearson's correlation analysis was used to assess the relationships among two types of positive affect (activating and soothing positive affect), negative affect, and self-compassion.

For the chi-square statistic to the degrees of freedom ratio, critical values ranging from 2 to 5 have been recommended as cutoffs (Hu & Bentler, 1999). Regarding RMSEA, values less than .08 are indicative of adequate fit, and values less than .05 signify good fit (Schermelleh-Engel et al., 2003). Moreover, for RMSEA, the associated 90% confidence interval upper limit needs to be no more than .10 (West et al., 2012).

CFI values should not drop lower than .90, but values above .95 are considered a good fit (Hu & Bentler, 1999). Furthermore, a GFI of .95 demonstrates a good fit, while values over .90 suggest an acceptable fit. SRMR values less than .08 are deemed an acceptable fit, while a value less than .05 is a good fit (Schermelleh-Engel et al., 2003).

The assessment of measurement invariance relied on Chen's (2007) criteria, which suggest that for invariance to be supported,  $\Delta$ CFI should be less than .01, and  $\Delta$ RMSEA should be less than .015. We chose not to base our judgement on the chi-square test because it is significantly influenced by sample size. It is worth mentioning that in large samples, this test could be statistically significant, even if the absolute differences in parameter estimates are very small.

Cronbach Alpha values were interpreted according to George and Mallery's (2003) recommendations, where  $\alpha > .9$  indicates excellent internal consistency,  $\alpha > .8$  suggests good consistency,  $\alpha > .7$  indicates acceptable consistency,  $\alpha > .6$  suggests questionable consistency,  $\alpha > .5$  indicates poor consistency, and  $\alpha$  values below .5 are considered unacceptable. MIIC values above .3 are deemed acceptable (Mitchell & Jolley, 2012).

Based on Simms (2008), items with loadings above .35 were included in the final scale. Correlation coefficients were interpreted according to Cohen (1988), with  $r = .10$  indicating small effects,  $r = .30$  indicating medium effects, and  $r = .50$  representing large effects.

## RESULTS

### Preliminary Analyses

Calculated means, standard deviations, skewness, and kurtosis statistics for scale items are presented in Table 1 ( $N = 1239$ ).

**Table 1.** Descriptive statistics of scale items ( $N = 1239$ )

Variable	<i>M</i>	<i>SD</i>	Skewness	<i>SE</i>	Kurtosis	<i>SE</i>
TPAS1	3.42	1.05	-.33	.07	-.51	.13
TPAS2	3.65	1.08	-.49	.07	-.51	.13
TPAS3	3.56	1.05	-.43	.07	-.44	.13
TPAS4	3.34	1.09	-.28	.07	-.60	.13
TPAS5	3.14	1.12	-.10	.07	-.78	.13
TPAS6	3.33	1.07	-.20	.07	-.59	.13
TPAS7	3.68	1.04	-.55	.07	-.29	.13
TPAS8	3.77	1.09	-.68	.07	-.22	.13
TPAS9	3.21	1.03	-.22	.07	-.47	.13
TPAS10	3.53	1.06	-.41	.07	-.49	.13
TPAS11	3.31	1.20	-.23	.07	-.90	.13
TPAS12	3.64	1.01	-.53	.07	-.18	.13



HUNGARIAN ADAPTATION OF TYPES OF POSITIVE AFFECT SCALE: DIFFERENTIATION  
BETWEEN ACTIVATING AND SOOTHING POSITIVE AFFECT

The sensitivity analyses showed similar results for all analyses with and without the exclusion of outliers (we identified 18 participants with multivariate outlier data), therefore we decided to report our results including all data. The data were normally distributed. First-order correlations between scale items are displayed in Table 2.

**Table 2.** Correlations between scale items ( $N = 1239$ )

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
TPAS1											
TPAS2	.22**										
TPAS3	.34**	.52**									
TPAS4	.24**	.59**	.72**								
TPAS5	.18**	.45**	.45**	.50**							
TPAS6	.24**	.53**	.56**	.60**	.59**						
TPAS7	.43**	.16**	.30**	.24**	.20**	.27**					
TPAS8	.36**	.22**	.41**	.34**	.26**	.30**	.48**				
TPAS9	.38**	.30**	.43**	.38**	.29**	.34**	.38**	.38**			
TPAS10	.22**	.32**	.38**	.36**	.36**	.35**	.18**	.32**	.34**		
TPAS11	.18**	.33**	.42**	.42**	.31**	.43**	.16**	.25**	.26**	.46**	
TPAS12	.29**	.42**	.54**	.53**	.52**	.52**	.32**	.42**	.41**	.51**	.40**

Notes: \*\* Correlation is significant at the .01 level (2-tailed)

### Confirmatory Factor Analyses

Analyzing the two-factor model, the results of CFA showed borderline fit (CMIN = 225,74; DF = 53; CMIN/DF = 11,80; GFI = .92; CFI = .90; SRMR = .054; RMSEA = .09, 90%CI = [.08; .10]).

**Table 3** The factor loading on the activating and soothing positive affect ( $N = 1239$ )

Factor Loaded	Item	Standardized regression weight for the initial model	Standardized regression weight for the final model
Activating PA	TPAS2a	.66**	.66**
Activating PA	TPAS3a	.79**	.74**
Activating PA	TPAS4a	.81**	.77**
Activating PA	TPAS5a	.65**	.68**
Activating PA	TPAS6a	.75**	.77**
Activating PA	TPAS10a	.53**	.53**
Activating PA	TPAS11a	.54**	.53**
Activating PA	TPAS12a	.71**	.72**
Soothing PA	TPAS1s	.58**	.58**
Soothing PA	TPAS7s	.64**	.65**
Soothing PA	TPAS8s	.66**	.66**
Soothing PA	TPAS9s	.64**	.64**

Notes: \*\* The factor loading is significant at the .01 level; PA – Positive Affect

Table 3 shows the loadings of items on both the activating and soothing positive affect factors with each loading found to be statistically significant. Importantly, all loadings exceeded the threshold of 0.35, which means there was no need to exclude any item from the analyses.

Following the procedure suggested by modification indices regarding the covariances between errors of the items (including covariances between errors of items TPAS3a and TPAS4a; and between TPAS10a and TPAS11a), we increased the fit of the model to an adequate level (CMIN = 438,16; DF = 51; CMIN/DF = 8,59; GFI = .94; CFI = .93; SRMR = .04; RMSEA = .07, 90%CI = [.07; .08]). Figure 1 and Table 3 present the standardized factor loadings, as well as the covariances between the two factors (activating positive affect and soothing positive affect) and between the errors.

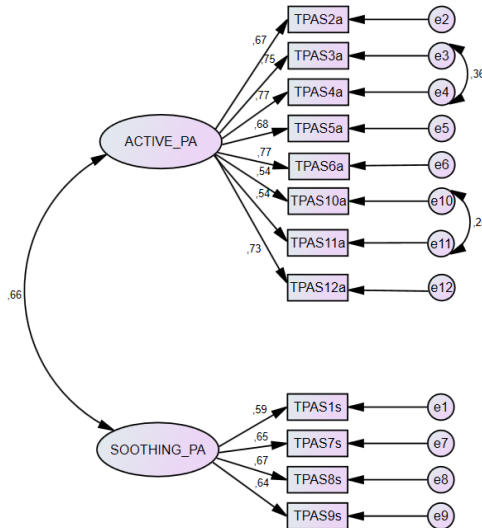


Fig. 1. The Final Model

### Analyses of Internal Consistencies

Based on Cronbach's alpha indexes, we found good internal consistency for activating positive affect subscale ( $\alpha = .87$ ) and acceptable internal consistency for soothing positive affect subscale ( $\alpha = .73$ ). Additionally, the mean inter-item correlations (MIIC) reinforced these findings, indicating that both subscales showed good internal consistency (refer to Table 4 for details).

HUNGARIAN ADAPTATION OF TYPES OF POSITIVE AFFECT SCALE: DIFFERENTIATION  
BETWEEN ACTIVATING AND SOOTHING POSITIVE AFFECT

**Table 4.** Descriptive Statistics for Measured Factors ( $N = 1239$ )

	<i>M</i>	<i>SD</i>	<b>Cronbach <math>\alpha</math></b>	<b>MIIC</b>
<b>Activating PA</b>	27.54	6.38	.87	.47
<b>Soothing PA</b>	14.10	3.15	.73	.40

**Assessing the Measurement Invariance of the Scale**

We also tested the measurement invariance of the scale across gender (female and male) and country (Hungary and Romania). We assessed the configural invariance and found good model fits across all scenarios. Subsequently, when assessing metric and structural invariances, changes in fit and error indexes (CFI and RMSEA) further confirmed the scale's measurement invariance ( $\Delta CFI < 0.01$ ,  $\Delta RMSEA < 0.015$ ). Results are presented in Table 5.

**Table 5.** Model fit across samples

	<b>CMIN</b>	<b>DF</b>	<b>CMIN/DF</b>	<b>CFI</b>	<b>GFI</b>	<b>RMSEA [90% CI]</b>	<b>SRMR</b>
All sample ( $N = 1239$ )	438.16	51	8.59	.93	.94	.07 [.07; .08]	.04
Configural Invariance Across Country (Hungarian sample $N = 749$ ; Romanian sample $N = 470$ )	525.26	102	5.15	.92	.93	.05 [.05; .06]	.05
Metric Invariance Across Country (Hungarian sample $N = 749$ ; Romanian sample $N = 470$ )	529.96	112	4.73	.92	.92	.05 [.05; .06]	.04
Structural Invariance Across Country (Hungarian sample $N = 749$ ; Romanian sample $N = 470$ )	538.96	115	4.68	.92	.92	.05 [.05; .06]	.06
Configural Invariance Across Gender (Female Sample $N = 978$ ; Male sample $N = 255$ )	505.40	102	4.95	.93	.93	.05 [.05; .06]	.04
Metric Invariance Across Gender (Female Sample $N = 978$ ; Male sample $N = 255$ )	516.03	112	4.60	.93	.93	.04 [.04; .05]	.05
Structural Invariance Across Gender (Female Sample $N = 978$ ; Male sample $N = 255$ )	521.29	115	4.53	.93	.93	.04 [.04; .05]	.06

**Construct Validity**

To test our hypotheses, we conducted a Pearson correlation analysis. The results are presented in Table 6.

**Table 6.** Correlations Between the Main Measured Variables ( $N = 1239$ )

	<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>
<b>1. Activating positive affect</b>				
<b>2. Soothing positive affect</b>	.52**			
<b>3. Negative affect</b>	-.37**	-.44**		
<b>4. Self-compassion</b>	.33**	.43**	-.55**	

Notes: \*\* Correlation is significant at the .01 level (2-tailed)

According to our hypothesis, both soothing and activating positive affect showed negative correlations with emotional distress ( $r = -.44, p < .01$ , and  $r = -.37, p < .01$ , respectively). Additionally, as predicted, the relationship between soothing positive affect and negative affect was stronger than the relationship between activating positive affect and negative affect ( $r$  compare:  $z = 2.08, p = .03$ ). Our second hypothesis was also confirmed, indicating that both soothing and activating positive affect demonstrated positive relationships with self-compassion ( $r = .43, p < .01$  and  $r = .33, p < .01$ , respectively). Moreover, here as well, we found that soothing positive affect plays a bigger role compared to activating positive affect ( $r$  compare:  $z = 2.91, p < .01$ ). Results of the correlation analysis are also presented in Table 6.

## DISCUSSION

The purpose of this study was to evaluate the factorial structure, measurement invariance, internal consistency, and construct validity of the Types of Positive Affect Scale (TPAS; Gilbert et al., 2008) within a Hungarian student sample. To date, there are no adaptations of the TPAS for this population. Our primary objective was to develop a Hungarian scale that can differentiate between activating (related to seeking and doing) and soothing (associated with contentment and social safeness) positive affect. Given Gilbert and colleagues' (2008) previously reported low test-retest reliability for the third subscale of the original scale (relaxing positive affect), we decided to adapt only the two subscales of interest.

The proposed model, which included two covariances between errors of the items, demonstrated an adequate fit with the data. Furthermore, the measurement invariance of the scale was confirmed across genders (females and males) and countries (Hungary and Romania). We found acceptable levels of internal consistency for these two subscales, as indicated by both Cronbach's alpha and mean inter-item correlation indexes.

Both hypotheses were confirmed, showing that both types of positive affect present negative relationships with negative affect and positive relationships with self-compassion. Findings also revealed that, as expected, soothing positive affect exhibited stronger relationships with these variables compared to activating positive affect. This suggests that soothing positive affect plays a more important role in mental health than activating positive affect. Moreover, these results align with Gilberts' theory (2009a, 2009b, 2014) and with previous findings (Gilbert et al., 2008; Kirschner et al., 2019; Martins et al., 2018; Steindl et al., 2021), supporting the idea that the Hungarian version of the Types of Positive Affect

Scale serves as a reliable and valid tool for distinguishing and measuring soothing and activating positive affect separately.

Further empirical research is needed to assess the stability of the scale's factorial structure. This includes studies executed on different populations, involving not just students, but also community and clinical populations, along with participants from varying cultural backgrounds. Moreover, it is also important to investigate the invariance of the models across age groups, as well as to measure test-retest reliability.

Based on the present findings, it can be concluded that the Hungarian version of the Types of Positive Affect Scale (Appendix 1) is a valid and reliable tool for distinguishing between soothing and activating positive affect. Consequently, the use of this instrument is recommended for further studies instead of the PANAS (Watson et al., 1988b), especially in self-compassion research.

Based on our current results and previous findings (Duarte & Pinto-Gouveia, 2017; Gilbert et al., 2008; Kirschner et al., 2019; Martins et al., 2018; McManus et al., 2019; Petrocchi et al., 2017; Steindl et al., 2021) soothing positive affect appears to be more relevant for mental health. Consequently, cultivating self-compassion, and thereby fostering a compassionate mind, prove more beneficial for improving soothing positive affect than for enhancing activating positive affect (Kirschner et al., 2019; Matos et al., 2017). Therefore, investigations into the effectiveness of self-compassion interventions should incorporate not only measuring activating positive affect but also assessing soothing positive affect.

## Statements and Declarations

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethics** This study was conducted in accordance with the Code of Ethics of the American Psychological Association and was approved by the local Ethics Committee from Eötvös Lóránd University (nr. 2022/615).

**Funding** No funding was received to assist with the preparation of this manuscript.

**Contributions** All authors contributed substantially to the study and *approved* the submitted version.

**New paper statement** This paper has not been published elsewhere and is not under consideration for any other publication.

**Acknowledgments** We would like to express our appreciation to all participants who participated in this study.

## REFERENCES

- Charyton, C., Hutchison, S., Snow, L., Rahman, M.A., & Elliott, J.O. (2009). Creativity as an attribute of positive psychology: The impact of positive and negative affect on creative personality. *Journal of Creativity in Mental Health, 4*(1), 57-66. <https://doi.org/10.1080/15401380802708791>.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*(3), 464-504. <https://doi.org/10.1080/10705510701301834>
- Chin, E. C. H., Williams, M. W., Taylor, J. E., & Harvey, S. T. (2017). The influence of negative affect on test anxiety and academic performance: An examination of the tripartite model of emotions. *Learning and Individual Differences, 54*, 1-8. <https://doi.org/10.1016/j.lindif.2017.01.002>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates, Publishers.
- Depue, R. A., & Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding. *Behavioral and Brain Science, 28*(3), 313-395. <https://doi.org/10.1017/s0140525x05000063>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542-575.
- Duarte, J., & Pinto-Gouveia, J. (2017). Positive affect and parasympathetic activity: Evidence for a quadratic relationship between feeling safe and content and heart rate variability. *Psychiatry Research, 257*, 284-289. <https://doi.org/10.1016/j.psychres.2017.07.077>
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Fredrickson, B. L., & Cohn, M. A. (2008). Positive emotions. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 777-796). The Guilford Press.
- Frijda, N. H. (2009). Emotion experience and its varieties. *Emotion Review, 1*(3), 264-271. <https://doi.org/10.1177/1754073909103595>
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)*. Boston: Allyn & Bacon.
- Gilbert, P. (2009a). Introducing compassion-focused therapy. *Advances in psychiatric treatment, 15*(3), 199-208. <https://doi.org/10.1192/apt.bp.107.005264>
- Gilbert, P. (2009b). The nature and basis for Compassion Focused Therapy. *Hellenic Journal of Psychology, 6*(3), 273-291.
- Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology, 53*(1), 6-41. <https://doi.org/10.1111/bjc.12043>
- Gilbert, P., McEwan, K., Mitra, R., Franks, L., Richter, A., & Rockliff, H. (2008). Feeling safe and content: A specific affect regulation system? Relationship to depression, anxiety, stress, and self-criticism. *The Journal of Positive Psychology, 3*(3), 182-191. <https://doi.org/10.1080/17439760801999461>

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55.  
<https://doi.org/10.1080/10705519909540118>
- King, R. B., McInerney, D. M., Ganotice, F. A., Jr., & Villarosa, J. B. (2015). Positive affect catalyzes academic engagement: Cross-sectional, longitudinal, and experimental evidence. *Learning and Individual Differences*, 39, 64–72.  
<https://doi.org/10.1016/j.lindif.2015.03.005>
- Kirschner, H., Kuyken, W., Wright, K., Roberts, H., Brejcha, C., & Karl, A. (2019). Soothing your heart and feeling connected: A new experimental paradigm to study the benefits of self-compassion. *Clinical Psychological Science*, 7(3), 545–565.  
<https://doi.org/10.1177/2167702618812438>
- Martins, M.J., Marques, C., Carvalho, C.B., Macedo, A., Pereira, A.T., & Castilho, P. (2018). Engaging with the affiliative system through mindfulness: The impact of the different types of positive affect in psychosis. *Journal of Clinical Psychology*, 75(3), 562–573. <https://doi.org/10.1002/jclp.22727>
- Matos, M., Duarte, C., Duarte, J., Pinto-Gouveia, J., Petrocchi, N., Basran, J., & Gilbert, P. (2017). Psychological and physiological effects of compassionate mind training: A pilot randomized controlled study. *Mindfulness*, 8 (6), 1699–1712.  
<https://doi.org/10.1007/s12671-017-0745-7>
- McManus, M. D., Siegel, J. T., & Nakamura, J. (2019). The predictive power of low-arousal positive affect. *Motivation and Emotion*, 43(1), 130–144.  
<https://doi.org/10.1007/s11031-018-9719-x>
- Mitchell, M. L., & Jolley, J. M. (2012). *Research design explained*. Cengage Learning
- Neff, K. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2(3), 223–250.  
<https://psycnet.apa.org/doi/10.1080/15298860309027>
- Opriş, D., & Macavei, B. (2005). The distinction between functional and dysfunctional negative emotions: An empirical analysis. *Journal of Cognitive and Behavioral Psychotherapies*, 5(2), 181–195.
- Papousek, I., Nauschnegg, K., Paechter, M., Lackner, H. K., Goswami, N., & Schuler, G. (2010). Trait and state positive affect and cardiovascular recovery from experimental academic stress. *Biological Psychology*, 83(2), 108–115.  
<https://doi.org/10.1016/j.biopsycho.2009.11.008>
- Petrocchi, N., Piccirillo, G., Di Fiorucci, C., Moscucci, F., Di Iorio, C., Mastropietri, F., Parrotta, I., Pascucci, M., Magrì, D., & Ottaviani, C. (2017). Transcranial direct current stimulation enhances soothing positive affect and vagal tone. *Neuropsychologia*, 96, 256–261.  
<https://doi.org/10.1016/j.neuropsychologia.2017.01.028>
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clin Psychol Psychother*, 18(3), 250–255. <https://doi.org/10.1002/cpp.702>
- Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110(1), 145–172.

- <https://doi.org/10.1037/0033-295X.110.1.145>
- Saklofske, D. H., Austin, E. J., Mastoras, S. M., Beaton, L., & Osborne, S. E. (2012). Relationships of personality, affect, emotional intelligence and coping with student stress and academic success: Different patterns of association for stress and success. *Learning and Individual Differences, 22*(2), 251–257.  
<https://doi.org/10.1016/j.lindif.2011.02.010>
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research, 8*(2), 23–74.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Simms, L. J. (2008). Classical and modern methods of psychological scale construction. *Social and Personality Psychology Compass 2*(1), 414–443.  
<https://doi.org/10.1111/j.1751-9004.2007.00044.x>
- Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation, and validation of instruments or scales for use in cross-cultural health care research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice, 17*(2), 268–274.  
<http://dx.doi.org/10.1111/j.1365-2753.2010.01434.x>
- Steindl, S. R., Matos, M., & Creed, A. K. (2021). Early shame and safeness memories, and later depressive symptoms and safe affect: The mediating role of self-compassion. *Current Psychology, 40*(2), 761–771.  
<https://doi.org/10.1007/s12144-018-9990-8>
- Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule - Expanded Form*. <https://doi.org/10.17077/48vt-m4t2>
- Watson, D., Clark, L. A., & Carey, G. (1988a). Positive and negative affectivity and their relation to anxiety and depressive disorders. *Journal of Abnormal Psychology, 97*(3), 346–353.  
<https://doi.org/10.1037/0021-843X.97.3.346>
- Watson, D., Clark, L.A., & Tellegen, A. (1988b). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063–1070.  
<https://doi.org/10.1037/0022-3514.54.6.1063>
- Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review, 96*(2), 234–254.  
<https://doi.org/10.1037/0033-295X.96.2.234>
- West, S. G., Taylor, A. G., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 209–231). Guilford.



## APPENDICES

### Appendix 1 Hungarian Version of the Types of Positive Affect Scale – Differentiating Between Soothing and Activating Positive Affect

**Instruction** Az alábbiakban különböző pozitív érzelmeket leíró szavakat találsz. Kérlek jelöld az alábbi skála segítségével, hogy ezek az érzelmeik általában mennyire jellemzőek a Sajat tapasztalataidra nézve!

<i>Nem jellemző rám</i>		<i>Eléggé jellemző rám</i>		<i>Nagyon jellemző rám</i>
1	2	3	4	5
1 Védett				
2 Aktív				
3 Életteli				
4 Energikus				
5 Buzgó				
6 Dinamikus				
7 Biztonságos				
8 Melegséggel teli				
9 Elégedett				
10 Izgatott				
11 Kalandos				
12 Lelkes				

Soothing Positive Affect: 1, 7, 8, 9

Activating Positive Affect: 2, 3, 4, 5, 6, 10, 11, 12

