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Am I Exaggerating? An Affect Intensity Measure Adapted for the Brazilian Context

Sibele D. Aquino* , Daniela Zibenberg , & Jean Carlos Natividade

Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, RJ, Brasil

ABSTRACT – The intensity of affect refers to the strength with which individuals experience their emotions. This study aimed to adapt and seek evidence of validity for the version of the Short Affect Intensity Scale (SAIS) for the Brazilian context. After translation procedures, the translated version of the SAIS was applied, along with instruments to measure personality and subjective well-being in 1,180 Brazilians. The results revealed the adequacy of the three-factor structure for the instrument: Positive Intensity, Negative Intensity, and Serenity. Correlations with other variables were verified as theoretically expected. For example, positive correlations were found between Positive Intensity and Extraversion and Positive Affect; Negative Intensity and Neuroticism, and Negative Affect. The instrument proved to be adequate for the Brazilian context.

KEYWORDS: affective intensity, test validity, self-assessment scales

Eu Sou Mesmo Exagerado? Medida de Intensidade de Afetos Adaptada ao Contexto Brasileiro

RESUMO – A intensidade de afetos diz respeito à força com que indivíduos experienciam suas emoções. O objetivo deste estudo foi adaptar e buscar evidências de validade da Short Affect Intensity Scale (SAIS) para o contexto brasileiro. Após procedimentos de tradução, aplicou-se a versão traduzida da SAIS, juntamente com instrumentos para aferir personalidade e bem-estar subjetivo em 1.180 brasileiros. Os resultados revelaram a adequação da estrutura de três fatores para o instrumento: Intensidade Positiva, Intensidade Negativa, Serenidade. Também se verificaram correlações com outras variáveis conforme esperado teoricamente. Por exemplo, encontraram-se correlações positivas entre Intensidade Positiva e Extroversão e Afeto Positivo; Intensidade Negativa e Neuroticismo e Afeto Negativo. O instrumento mostrou-se adequado ao contexto brasileiro.

PALAVRAS-CHAVE: intensidade afetiva, validade do teste, escalas de autoavaliação

> When I am sad/ I don't cry I pour/ when I am happy/ I don't smile I glow/ when I am angry/ I don't yell I burn/ the good thing about/ feeling in extremes/ is when I love/ I give them wings/ but perhaps/ that isn't/ such a good thing/ cause they always/ tend to leave and/ you should see me/ when my heart is broken/ I don't grieve/ I shatter. (Kaur, 2017, p. 109).

Some individuals have consistently stronger and more intense emotional reactions, while others are less emotionally reactive and have small variations in the intensity with which they express their emotions (Larsen et al., 1986). In a group of people, if the nervous system excitability (for example, the regulation of appetite and adrenaline) is similar, and if they are all exposed to the same stimulus (for example, a horror movie), the affective response of each person can be distinct because of individual differences. Such differences in the intensity of individuals' reactions to the same stimulus can be measured by affect intensity. Emotionally intense people have a stronger way of feeling positive and also negative emotions in the face of stimuli and events, whether they be positive or negative (Larsen et al., 1986).

Larsen and Diener (1987) developed a self-report instrument to measure individual differences in affect

* E-mail: sibele.aquino@gmail.com
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intensity. Subsequently, Geuens and De Pelsmacker (2002) improved and reduced this instrument, which resulted in the Short Affect Intensity Scale (SAIS). This scale proposes to assess the strength and intensity with which individuals typically experience their emotions, not the frequency with which those feelings are experienced (Larsen et al., 1986). Despite being used worldwide (e.g., Blay et al., 2018; Salander, 2019), there is no record of a Brazilian version with adequate evidence of validity for SAIS. Therefore, the present study aimed to adapt and seek evidence of validity for the reduced version of the Short Affect Intensity Scale (SAIS; Geuens & De Pelsmacker, 2002) in the Brazilian context.

Affect Intensity and Temperament

Affect intensity takes into account individual differences that are stable over time, and these differences do not reflect a more or less stimulating lifestyle, but the strength of the affective reaction presented by some individuals when confronted with specific events (Larsen et al., 1986). Such intensity manifests itself in the subjective experience through bodily responses (e.g., a pounding heart), interpersonal relationships, and cognitive performance (e.g., the ability to control thoughts) (Larsen et al., 1986; Larsen & Diener, 1987).

Larsen and Diener (1987) consider affect intensity as a temperament characteristic involving the manifestation, mode, and style of emotional behavior. People who are more active, sociable, or physically excitable tend to be more emotionally reactive. Temperaments are behaviors and reactions that, despite being biologically determined, can be changed throughout life in the environment in which the individual is inserted (Strelau, 1996). Temperament can interfere with the processing and interpretation of stimuli, their duration, and regulation (Cyniak-Cieciura et al., 2018).

Temperament can be considered a key in the adaptation of the individual to the environment, regulating their emotional reactions (Litwic-Kaminska & Kotyśko, 2018). For instance, temperament has to do with the willingness to react quickly and the ability to react to stimuli with low stimulant value, to work well even under intense external stimuli, and to overreact to emotional stimuli (Strelau, 1996). Although personality and temperament are overlapping concepts, they are not synonymous.

Relationships Between Affect Intensity, Personality, Gender, Age, Well-being

Personality refers to the pattern of feeling, thinking, and behaving that characterizes and distinguishes a person from others (Barenbaum & Winter, 2010). One of the ways to understand personality can be found in the model of the big-five factors (Big Five): Agreeableness, Extraversion, Conscientiousness, Neuroticism, and Openness to experiences (John, 2021; Natividade & Hutz, 2015). Among the five major personality factors, Neuroticism and Extraversion stand out for their relationship with affect and life satisfaction (Lucas & Diener, 2021). Consequently, it may be expected that they will also be predictors of affect intensity (Letzring & Adamcik, 2015). Extraversion tends to be positively related to Positive Affect, and Neuroticism to Negative Affect (e.g., Carvalho et al., 2022; Letzring & Adamcik, 2015; Londero-Santos et al., 2021; Natividade et al., 2019; Verduyn & Brans, 2012). Furthermore, Extraversion is more strongly related to affect intensity, while Neuroticism is related to affect duration and frequency (Verduyn & Brans, 2012).

People who are more emotionally reactive undergo greater somatic and psychological distress; however, this does not seem to influence their levels of well-being (Larsen & Diener, 1987; Ripper et al., 2018). What explains subjective well-being is life satisfaction and the negative and positive affect that is experienced (Lucas & Diener, 2021). People with high levels of affect intensity go through strong emotions, have more mood swings, and tend to view life events as more important than others normally consider them (Larsen & Diener, 1987). In addition, they find it more difficult to control their own emotions and tend to engage in unhealthy behaviors to control them (Lynch, et al., 2004). The emotional reaction pattern may thus have a positive adaptive function for individuals with high levels of affect intensity who suffer from the physical and psychological effects of their emotions (Larsen & Diener, 1987).

In addition to relationships with personality factors, there are gender and age differences in affect intensity. For example, younger people are more emotionally intense than older people, specifically those over 29 years old (Bagozzi & Moore, 2011; Diener et al., 1985; Mathieu et al., 2014). Women also report greater affect intensity than men; they are more emotionally expressive than men (Geuens & De Pelsmacker, 2002; Larsen & Diener, 1987). These differences may be due to biological reasons or cultural expectations, given that the stereotype of women as more affective and sentimental and of men as emotionally stable (Natividade et al., 2014) can impact how people report their affect (Grossman & Wood, 1993). Even so, there are numerous complexities involved in the matter, and it is important to consider that, depending on the various biological, individual, and environmental factors, differences in affect may be more or less apparent (Batz & Tay, 2018).

Furthermore, individuals with greater affect intensity have more depressive symptoms and less emotional clarity (Vine & Marroquín, 2018). Thus, high scores on affect intensity are linked to the development of psychopathologies such as addiction, anxiety, stress, and substance abuse (Thorberg & Lyvers, 2006). Considering that some psychopathologies are related to the way of processing emotions, and their intensities (Ripper et al., 2018; Vine & Marroquín, 2018), a measure of affect intensity suitable for Brazil can be used in different

contexts, such as the clinical one, the organizational one, in the identification and training of skills related to the intensity of affect, clarity, and emotional regulation.

Measurement of Affect Intensity

Some instruments propose to measure affects, such as the Emotional Intensity Scale (EIS; Bachorowski & Braaten, 1994), the Affect Intensity Questionnaire (AIQ; Elliott et al., 1995), and the Positive Affect and Negative Affect Schedule (PANAS; Watson et al., 1988). PANAS is one of the most used scales and has a version adapted for Brazil (e.g., Zanon & Hutz, 2014); however, it accesses the frequency of the affects experienced and not their intensity. Therefore, as part of the affective experience, intensity is not evaluated by PANAS. The Affect Intensity Measure (AIM; Larsen & Diener, 1987) scale covers this gap and assesses the intensity of the experienced affect, distinguishing, for example, whether happiness is felt as calmness or excitement.

Initially, Larsen (1984) thought of affect intensity as a one-dimensional construct and developed the Affect Intensity Measure to measure it (AIM; Larsen & Diener, 1987). Although AIM has been widely used (Larsen, 2009), some findings challenge the initial notion that affect intensity is, in fact, a one-dimensional construct (for review, see Bachorowski & Braaten, 1994; Cooper & McConville, 1993; Martínez-Sánchez & Ortiz-Sória, 1997). For example, reduced and three-factor models obtain better fits and are more efficient (Bryant et al., 1996; Moore, 2004). Some factor analyses of the AIM itemset have already been published, demonstrating the adequacy of four factors (Guzmán & Vázquez, 2018; Martínez-Sánchez & Ortiz-Sória, 2000; Weinfurt et al., 1994; Williams, 1989), while others point to a three-factor structure (Blay et al., 2018; Bryant et al., 1996; Geuens & De Pelsmacker, 2002; Simonsson-Sarnecki et al., 2000).

All the multidimensional models were superior to the original one-dimensional model with 40 items. It is noteworthy that the instrument by Larsen and Diener (1987) contains items beyond the theoretical definition, as it measures aspects that are not exclusively about affect intensity. The construct definition distinguishes frequency and intensity in such a way that this intensity would apply to all emotions regardless of their specific hedonic value, with the individual differences becoming evident in both bodily responses and cognitive performances.

Considering these theoretical distinctions, studies have reformulated the AIM and reduced the number of items on the scale (Bryant et al., 1996; Simonsson-Sarnecki et al., 2000). The reformulated versions also indicated that the multifactorial model outperformed the one-dimensional model. More recently, Geuens and De Pelsmacker (2002) developed a simplified version of the AIM, the Short Affect Intensity Scale (SAIS), adapting it so that the items referred only to affect intensity (Prada et al., 2009).

The Short Affect Intensity Scale (SAIS; Geuens & De Pelsmacker, 2002) is composed of 20 items extracted from the 40 items of the original instrument by Larsen and Diener (1987). The measure assesses three factors concerning affect intensity: Positive Intensity, Negative Intensity, and Serenity. Positive Intensity refers to strong reactions of ecstasy and energy to moments of happiness. Negative Intensity refers to intense reactions of anxiety and nervousness to the times when negative emotions are experienced. Serenity refers to reactions of positive valence without euphoria, with degrees of restraint and calmness that generate contentment and relaxation.

In general, measures of affect intensity have reached a wide range of uses and possible fields of investigation, such as verifying the role of affect intensity in the ability to make decisions (Seo & Barrett, 2007) or in the preference for honest behavior (Blay et al., 2018). The SAIS has the advantage of being reduced; that is, it demands little time from the respondents and presents adequate validity and reliability indicators. An adaptation study for a Portuguese sample also found adequate psychometric properties for SAIS, including the three-factor structure (Prada et al., 2009). A Brazilian version of the scale would make for new research and advances regarding this construct.

This study aimed to adapt and seek evidence of the validity of the Short Affect Intensity Scale (SAIS; Geuens & De Pelsmacker, 2002) for the Brazilian context. For this purpose, procedures were performed to translate the instrument and search for validity evidence based on the content, internal structure, and relationships with other variables.

METHOD

Participants

A total of 1,180 Brazilians participated, with a mean age of 34.6 years (*SD* = 13.3), of whom 69% were women, 30.4% were men, and 0.6% were others. The sample included respondents from all Brazilian regions, with 54.7% living in the Southeast, 23.1% in the Northeast, 7.5% in the North, 7.1% in the South, and 6.5% in the Midwest. In addition, 1% of the participants were not in Brazil at the time of data collection. As for the maximum level of education, 0.5% of the participants had incomplete secondary education or less, 6% had complete secondary education, 28.8% had incomplete higher education, 14.3% had complete higher education, 8.6% had incomplete post-graduation, and 41.9% had complete post-graduation. As for ethnicity, 65.3% of the participants declared themselves white, 24.5% brown, 6.6%

black, 1.5% yellow, 0.4% indigenous, and 1.6% did not want to inform. In addition, 4.4% reported having low income, 23.9% lower-middle income, 43.7% middle-income, 2.1% upper-middle income, and 3.9% high income.

Instruments

Participants answered an online questionnaire containing sociodemographic questions such as gender, age, state of residence, ethnicity, and education. In addition to the instruments described below, the questionnaire contained items designed to control attention and was configured not to allow missing responses to the items on the scales.

Short Affect Intensity Scale – Brazil (SAIS-Brazil)

It is the Short Affect Intensity Scale (SAIS; Geuens & De Pelsmacker, 2002) adapted for Brazil in the present study. The scale assesses the intensity with which individuals react emotionally to everyday events and is composed of 20 items distributed among three factors: Positive Intensity, Negative Intensity, and Serenity. Participants indicate their responses on a scale of 1 = *never* to 6 = *always*, responding to items in affirmative format, for example: "When I am happy, I feel like I am bursting with joy", "When I do something wrong, I have strong feelings of shame and guilt", and "When I am happy, the feeling is more like contentment and inner calm than euphoria, enthusiasm, and excitement". Respondents who score higher are more intensely reactive, regardless of whether the elicited response has a positive or negative valence or whether the stimulus is mild, moderate, or strong. The original version of the instrument presented alpha coefficients between .60 and .85. In this study, the coefficients ranged from .74 to .89 in the factors.

Positive and Negative Affect Scale – PANAS (Zanon & Hutz, 2014; Brazilian version of Watson et al., 1988)

This instrument assesses the two affect factors of subjective well-being: Positive Affect and Negative Affect, with each factor composed of 10 adjectives representing moods and emotions. Respondents should indicate, on a five-point scale, where 1 = *Not at all* and 5 = *Extremely*, to what extent the adjectives represent how they have been feeling lately. The higher the scores on each factor, the higher the affect levels. In the study by Zanon and Hutz (2014), reliability indicators for the instrument's factors were not presented. In this study, the alpha and omega coefficients were .90 for Negative Affect; and .89 for Positive Affect.

Life Satisfaction Scale (Zanon et al., 2014; Brazilian version of Diener et al., 1985)

This one-factor instrument assesses global cognitive aspects of subjective well-being. The scale consists of five items in the form of statements to be answered on a seven-point agreement scale, with 1 = *strongly disagree* and 7 = *strongly agree*. In the study by Zanon et al. (2014), the reliability indicator for the instrument is not presented. In this study, the scale presented alpha and omega coefficients of .88 and .89, respectively.

Reduced Scale of Personality Descriptors – RED5 (Natividade & Hutz, 2015)

It is a measure to assess the big-five personality factors. It consists of 20 items in the form of adjectives or small expressions, and the respondent must inform to what extent he agrees that they adequately describe him, using a scale from 1 = *strongly disagree* to 7 = *strongly agree*. In the original study, the scale presented alpha coefficients that ranged from 0.59 to 0.84 between the factors; and test-retest correlation coefficients (six months apart) that ranged from 0.69 to 0.81 between factors. In the present study, the scale presented alpha and omega coefficients of .86 and .86 for the Extraversion factor; .81 and .81 for the Agreeableness factor; .68 and .69 for the Neuroticism factor; .71 and .72 for the Conscientiousness factor; and .55 and .58 for the Openness to experiences factor.

Procedures

Translation of the Instrument

The items of the Short Affect Intensity Scale (SAIS; Geuens & De Pelsmacker, 2002) were initially translated from English into Portuguese by four researchers proficient in English. A researcher independently compared the four translated versions and compiled them into one. This compiled version was forwarded to another researcher who did a reverse translation (Portuguese-English). Then another researcher proficient in English compared this translation with the items in the original version, checking the similarity between the versions. The items were presented to a group of people who were asked to judge their understanding of the items. After minor wording adjustments, the final version of the instrument to be applied to the target population was reached.

Data Collection

Participants were recruited by e-mail and social networks through an online questionnaire, available at an internet address, with an estimated response time of 18 minutes. Participants should be at least 18 years old, of Brazilian nationality, and willing to participate in the research. On the first page of the questionnaire, there was information on the filling time, the Free and Informed Consent Form, and data on anonymous and voluntary participation. This research was approved by the Ethics Committee Instituto de Neurologia Deolindo Couto, Federal University of Rio de Janeiro, under protocol number 4.061.691 and CAAE 31253420.2.0000.526; and followed all human research standards and protocols.

Data Analyses

Initially, data cleaning was performed by excluding participants who incorrectly answered attention control questions. To seek evidence of validity related to the structure of the instrument adapted for Brazil, confirmatory factor analyses were performed. Three models were tested: Model 1 – three factors explaining their items according to the original instrument (Geuens & De Pelsmacker, 2002); Model 2 – a single general factor explaining all SAIS-Brazil items; Model 3 – three factors explaining their items, with a second-order factor explaining them all. To solve the problem of identification of this model (i.e., just-identified model), the factor loading of Positive Intensity was specified as 1. The analyzes were implemented using the Diagonally Weighted Least Squares (DWLS) estimation method, in the lavaan package (Rosseel, 2012), version 0.6.9, in the R software version 4.1.1 (R Core Team, 2021). The fit indices verified were: $\chi 2$; $\chi 2$/gl; Comparative Fit Index (CFI); Tucker-Lewis Index (TLI); Standardized Root Mean Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA). To find evidence of validity based on relationships with other variables, Pearson's correlation analyses were performed between the Brief Affect Intensity Scale factors, the five personality factors, the three subjective well-being factors, and the age of the participants. Then, differences in affect intensity between men and women were tested through a Multivariate Analysis of Variance (MANOVA). Finally, a multiple linear regression analysis (forward method) was performed, which verified the predictive power of affect intensity on subjective well-being.

RESULTS

A confirmatory factor analysis was performed to verify the adequacy of the data to the instrument's three-factor structure. Two other models were also tested to check the plausibility of other structures for the instrument. The adjustment indices of the three models can be seen in Table 1. Model 1, in which the items are explained by the three factors of SAIS-Brazil, just like the original instrument (Geuens & De Pelsmacker, 2002), proved to be the most appropriate one (Gana & Broc, 2019).

Table 2 presents the factor loadings of the items and other psychometric properties of Model 1. This same table also presents the reliability indices for the instrument.

Multigroup confirmatory factor analysis was also performed to test the invariance of SAIS-Brazil between men and women. The indices for configurable invariance were $CFI = 0.976$; $RMSEA = 0.043$. The indices for metric invariance were $CFI = 0.976$; $\Delta CFI < 0.001$; $RMSEA = 0.042$ and $\Delta RMSEA = 0.001$. The indices for scalar invariance were $CFI = 0.970$; $\Delta CFI = 0.006$; $RMSEA = 0.046$ and $\Delta RMSEA = 0.004$. The analyzes showed the configural, metric, and scalar invariance for SAIS-Brazil between men and women, with *CFI* and *RMSEA* < 0.01 (Cheung & Rensvold, 2002).

In searching for evidence of validity based on relationships with other variables, correlation tests were performed between the factors of the Brief Affect Intensity Scale (Positive Intensity, Negative Intensity, Serenity), personality (Big Five), and subjective well-being (Life Satisfaction, Positive Affect, Negative Affect). The positive correlations found between the Positive Intensity factor and the personality factors Extraversion and Agreeableness stand out, as well as Positive Affect. For the Negative Intensity factor, the positive correlations found with Neuroticism and Negative Affect, and the negative correlations with Life Satisfaction, Positive Affect, and age stand out. As for the Serenity factor of SAIS-Brazil, the positive correlation with age and the negative correlation with Neuroticism stand out. All Pearson correlation coefficients can be seen in Table 3.

Then, a MANOVA analysis was performed to test the differences between men and women in Affect Intensity. The results revealed a significant difference between the two groups for the three-factor construct, Wilks' $\lambda = 0.93$; $F(3, 1175) = 14.23$; $p < .001$. The univariate tests, which were conducted afterward, showed that women ($M = 4.09$; $SD = 0.92$) had a higher mean in Negative Intensity than men ($M = 3.55$; $SD = 0.93$), $F(3, 1175) = 42.417$; $p < .001$; $\eta 2 = 0.07$.

Table 1
Indexes of Data Adjustment for the Tested Models for the Short Affect Intensity Scale - Brazil

Model	χ^2	df	χ^2/df	TLI	CFI	CI 90% RMSEA	RMSEA
Model 1	542.04*	167	3.24	0.97	0.98	0.040 – 0.048	0.044
Model 2	5508.08*	170	32.4	0.61	0.65	0.160 – 0.167	0.163
Model 3	688.88*	168	4.10	0.96	0.97	0.047 – 0.055	0.051

Note. Model 1 – Three factors explaining their respective items, according to the model from the original version of the Short Affect Intensity Scale. Model 2 – One factor explaining all the items of the SAIS-Brazil. Model 3 – Three factors explaining the respective items, according to the model from the original version of the Short Affect Intensity Scale, and a second-order factor explaining all of them. χ^2 = chi-square; *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; CI 90% RMSEA = Confidence interval of 90%. Estimator Diagonally Weighted Least Squares (DWLS). $N = 1{,}180$. * $p < .001$.

Table 2
Factor Loadings of the Items for the Three Factor of the Short Affect Intensity Scale – Brazil Model and Other Psychometric Properties

Items	Pos. Int.	Neg. Int.	Seren.
1. Quando eu me sinto feliz, eu sinto uma forma intensa de entusiasmo.	.76		
2. Meus estados de felicidade são tão fortes que eu me sinto como se estivesse nas nuvens.	.78		
3. Se eu completo uma tarefa que eu pensava que era impossível, eu fico em êxtase.	.63		
7. Quando eu estou me sentindo bem, é fácil, para mim, ir de um estado de bom humor para um de muita alegria.	.66		
8. Quando estou feliz, eu me sinto como se estivesse explodindo de alegria.	.83		
9. Quando estou feliz, eu me sinto muito cheio(a) de energia.	.69		
12. Quando as coisas estão indo bem, eu me sinto "no topo do mundo".	.59		
16. Quando eu estou feliz, eu transbordo energia.	.77		
4. Filmes tristes me tocam profundamente.		.39	
6. Quando eu falo na frente de um grupo pela primeira vez, minha voz fica trêmula e meu coração acelera.		.42	
11. Quando faço algo errado, eu tenho fortes sentimentos de vergonha e culpa.		.70	
14. Quando eu sinto ansiedade, isso geralmente é muito forte.		.63	
17. Quando eu sinto culpa, essa emoção é muito forte.		.80	
19. Quando eu estou nervoso(a), eu fico tremendo todo(a).		.49	
5. Quando eu estou feliz, isso é um sentimento de estar tranquilo(a) e satisfeito(a), em vez de agitado(a) e empolgado(a).			.82
10. Quando eu tenho sucesso em algo, minha reação é de calma e contentamento.			.75
13. Quando sei que fiz algo muito bem, eu me sinto relaxado(a) e satisfeito(a), em vez de empolgado(a) e eufórico(a).			.63
15. Quando eu sinto felicidade, é um tipo de contentamento tranquilo.			.75
18. Eu caracterizaria meus estados de felicidade como mais próximos da satisfação do que da alegria.			.52
20. Quando eu estou feliz, o sentimento é mais parecido com contentamento e calma interior do que com euforia, entusiasmo e empolgação.			.89
Cronbach α	.89	.74	.87
Composite Reliability	.91	.79	.89
Mc Donald Ω	.89	.74	.88
Guttman λ6	.89	.73	.86

Note. Pos. Int. = Positive Intensity. Neg. Int. = Negative Intensity. Seren. = Serenity. Estimator Diagonally Weighted Least Squares (DWLS). N = 1,180.

Table 3
Pearson Correlation Coefficients Among the Short Affect Intensity Scale - Brazil Factors, Personality, and Subjective Well-Being

	1	2	3	4	5	6	7	8	9	10	11
1. SAIS - Positive Intensity[a]	-										
2. SAIS - Negative Intensity[a]	.21**	-									
3. SAIS - Serenity[a]	- .15**	- .06	-								
4. Extraversion (Big5)[a]	.28**	- .24**	- .13**	-							
5. Agreeableness (Big5)[a]	.28**	- .08**	- .03	.43**	-						
6. Neuroticism (Big5)[a]	.04	.48**	- .28**	- .06*	- .21**	-					
7. Conscientiousness (Big5)[a]	.10**	- .13**	.15**	.15**	.20**	- .21**	-				
8. Openness (Big5)[a]	.17**	- .10**	- .05	.29**	.18**	- .05	.03	-			
9. Life Satisfaction[b]	.14**	- .21**	.14**	.25**	.25**	- .28**	.25**	.05	-		
10. Positive Affect[a]	.29**	- .25**	.08*	.29**	.26**	- .33**	.22**	.13**	.43**	-	
11. Negative Affect[a]	.05	.43**	- .14**	- .12**	- .15**	.49**	- .17**	- .03	- .36**	- .41**	-
12. Age[a]	- .06*	- .26**	.25**	.13**	.03	- .28**	.17**	- .01	.18**	.11**	- .18**

Note. [a] n = 1,180, [b] n = 668
*p < .05
**p < .01

Finally, a multiple linear regression analysis (forward method) was performed to test to what extent affect intensity predicts well-being in addition to the Big Five personality factors. The results showed a significant impact of the dimensions of affect intensity on the three factors of subjective well-being. Table 4 presents the coefficients for all predictors.

Table 4
Big-Five Personality Factors and Affect Intensity as Predictors of Subjective Well-being

	Life Satisfaction[a]			**Positive Affect[b]**			**Negative Affect[b]**		
	β	***t***	***p***	**β**	***t***	***p***	**β**	***t***	***p***
Constant		3.77	<.001		8.54	<.001		6.55	<.001
Extraversion (Big5)	0.19	4.71	<.001	0.13	4.34	<.001	-0.03	-1.30	.195
Agreeableness (Big5)	0.07	1.67	.095	0.05	1.75	.080	0.18	-0.04	.758
Neuroticism (Big5)	-0.20	-5.04	<.001	-0.21	-6.62	<.001	0.36	12.77	<.001
Conscientiousness (Big5)	0.15	4.05	<.001	0.09	3.28	.001	-0.06	-2.43	.015
Openness (Big5)	0.31	-0.04	.899	0.76	0.01	.904	0.34	0.03	.917
Positive Intensity	0.10	2.60	.009	0.29	10.22	<.001	0.99	-0.001	.828
Negative Intensity	0.06	-0.07	.634	-0.17	-5.28	<.001	0.24	8.35	<.001
Serenity	0.10	2.71	.007	0.06	2.38	.018	0.39	-0.03	.889
R^2		0.18			0.52			0.30	
Adjusted R^2		0.18			0.27			0.30	
F		*(6, 661) 24.71****			*(7, 1172) 61.08****			*(4, 1175) 124.18****	

Note. [a] $n = 668$. [b] $n = 1{,}180$.
***$p < .001$.

DISCUSSION

The Short Affect Intensity Scale – Brazil (SAIS-Brazil) is an instrument designed to measure the intensity with which a person experiences emotion. The scale focuses on the consistency of affective reactions that individuals tend to have in the face of everyday emotional stimuli. This study showed adequate psychometric properties of the instrument adapted for Brazil, with satisfactory evidence of validity and reliability.

The findings are in agreement with the original version of the instrument (Geuens & De Pelsmacker, 2002) and with another adapted version, the Portuguese version (Prada et al., 2009). The procedures adopted in this study for the translation of the instrument point to evidence of validity based on the content of the items. It was ensured that the items had meaning and sense similar to those of the original instrument. Regarding evidence of validity based on the instrument's internal structure, the results showed the adequacy of the structure of three factors that, in this Brazilian version, were named Positive Intensity, Negative Intensity, and Serenity.

According to Larsen and Diener (1987), affect intensity is a stable characteristic of temperament, which strongly varies according to individuals' activity and sociability levels. Therefore, investigating the associations of affective response intensity with different individual traits and tendencies is also relevant to finding evidence of validity based on relationships with other variables.

As noted earlier, the Positive Intensity factor correlated positively with all personality factors, except Neuroticism (Geuens & De Pelsmacker, 2002; Williams, 1989). Among the correlations found with the other personality factors, the results with Extraversion and Agreeableness stand out. First, it is reasonable to assume that the more some people feel like they are "bursting with joy" when they are happy (a trait of Positive Intensity), the greater their ability to express their feelings if their Extraversion factor is also high. People who are more extroverted express their emotions more intensely (e.g., Williams, 1989; Wu et al., 2018).

The Negative Intensity factor correlated with all personality factors, but the correlation was positive only with Neuroticism. That is, the greater the emotional instability, the tendency to anxiety, and depression (Natividade & Hutz, 2015), the greater the levels of negative affect intensity. The negative correlation with the other four personality factors indicates that, as the levels in the personality factors get higher, the Negative Intensity in affective reactions tends to manifest itself with less intensity. Since subjective well-being studies are more consistent and complete when they also address personality factors (Lucas & Diener, 2010), the present work brings relevant conclusions about the role of personality in experiencing positive and negative affect.

The Serenity factor differs from the others because it is characterized by restraint. Thus, the original study by Geuens and De Pelsmacker (2002) was corroborated because negative correlations between Serenity and Extraversion and Neuroticism were found. These results can be understood based on the notion that such traits would be the ones that most regularly express opinions, desires, and feelings (Kreuzer & Gollwitzer, 2021; Williams, 1989; Wu et al., 2018) – and this is what may explain the fact that high means in these personality factors were associated with low means in Serenity. On the other hand, the Big Five Conscientiousness factor was the only one that showed a positive correlation with Serenity. Therefore, more goal-oriented people, organized and planned (Natividade & Hutz, 2015), also tend to experience happiness as a feeling of being calm and satisfied rather than agitated or euphoric. Alternatively, one can say that those individuals who are likely to be more restrained in affective reactions to life events also tend to have behavioral patterns that follow planning and organization, avoiding impulsive reactivity to most everyday circumstances.

The dimensions of subjective well-being also served as convergent indicators for SAIS-Brazil. It is reasonable to assume that people with higher Positive Intensity and Serenity also have higher levels of satisfaction and experiences of more positive affect, feeling emotions like joy and pride more often than not. People with higher levels of Negative Intensity also tend to have lower levels of Life Satisfaction and Positive Affect. The strong positive correlation of Negative Intensity with Negative Affect indicates that the frequency with which one experiences disturbing emotions is also associated with the intensity with which one reacts to negative stimuli. Therefore, individuals who experience more distress, anguish, and restlessness also tend to be the ones who have strong feelings of shame and guilt when they do something wrong, for instance.

In addition to psychological variables, age was one of the sociodemographic variables tested with the instrument. The results corroborate previous studies (e.g., Bagozzi & Moore, 2011; Diener et al., 1985; Mathieu et al., 2014), indicating that younger individuals react more intensely to everyday events, and this is stronger when the intensity of the reactions is negative. On the other hand, the contentment and inner calm characteristic of the Serenity factor were higher in older people, while expressions of intensity such as euphoria, enthusiasm, and excitement appeared more in younger people.

The discriminating ability of SAIS-Brazil was confirmed by the differences in means found between men and women. When comparing the group of women with the group of men, the detected difference suggests that both experience reactions such as tranquility, contentment, and inner calm in a similar way. Also, both men and women tend to be people with overflowing energy when they are happy. However, when doing something wrong, women experience more intense feelings of shame and guilt, getting more anxious or even trembling in the face of an uncomfortable situation.

In addition to its importance as a variable of individual difference, affect intensity is essential to expand the understanding of subjective well-being. In the well-being equation, the frequency and intensity of experiences of positive and negative affect are indicators of the emotional dimension of happiness (Diener et al., 1985; Sin & Lyubomirsky, 2009). Nonetheless, the most used instrument to assess the affective aspect of well-being is PANAS, which assesses to what extent an individual recognizes the feelings and emotions he has experienced in a given period. Using only adjectives, PANAS does not measure the intensity and expressiveness of the positive and negative affect, and therefore SAIS-Brazil can serve as a relevant complement to assess this aspect of well-being.

Emotions and feelings provide behavioral responses that vary in several ways, including the intensity of reactions to events. This suggests that the commonly used measures may not be sufficient to deeply and comprehensively assess the affective dimension of subjective well-being (Diener, 2009). Understanding different affect intensities can clarify, for example, the recognition and expression of feelings and emotions subject to our cognition's scrutiny. The instrument adapted in this study makes use of common expressions such as "I am feeling in the clouds" and "I am shaking all over", a language that can bring Brazilians closer to the way they usually express their affects without necessarily assigning the appropriate name of every feeling, emotion or sensation. Although this characteristic could cause some inconsistency in the content of the measure, the correlations found between SAIS-Brazil factors and dimensions of subjective well-being (Positive Affect, Negative Affect, Life Satisfaction) reinforce the idea that the emotional dimension of subjective well-being considers both the frequency of feelings and emotions and the magnitude of their expressions.

Subjective well-being needs more sophisticated approaches to measuring and understanding it. As affect includes physiological, behavioral, and cognitive components, self-report measures that assess only the cognitive component of affect may not provide a complete picture of the individuals' emotional life (Diener, 2009). Moreover, that was a fundamental limitation of this study. In addition, the social desirability bias may have influenced the responses, considering that some items may arouse the individuals' need to protect themselves against sincerely revealing certain behavioral tendencies. Nor should one ignore the characterization of the highly educated sample, which was formed mainly by socioeconomic strata that do not represent the Brazilian population. While the study had many participants and covered respondents from all Brazilian States, the proposed conclusions should be interpreted parsimoniously, even if the study is consistent in its objective of analyzing psychometric parameters.

Affect can be differently experienced and expressed in less educated samples from more disadvantaged socioeconomic classes since basic survival difficulties are more urgent in these populations. New measures that consider the context could substantially contribute to the body of research in this area because the context impacts how the affect is perceived, experienced, and expressed (Carvalho et al., 2021; Greenaway et al., 2018). Furthermore, future studies with different methodological developments on the multifaceted dimension of well-being and affect will be able to compare these variables with other constructs, allowing different formulations for the field.

Affect intensity is an individual difference defined by the typical strength of an individual's responsiveness to everyday circumstances. The evidence presented in this study suggests that the intensity of reaction and expressiveness of an individual's affect is associated with important psychological and sociodemographic variables. The self-reporting of emotional experience intensity can be helpful in various contexts, from organizational to clinical ones. It is assumed that by identifying the tendency of individuals, it will be possible both to develop and improve emotion regulation skills and contribute to a better understanding of the role of personality on subjective well-being.

REFERENCES

Bachorowski, J. A., & Braaten, E. B. (1994). Emotional intensity: Measurement and theoretical implications. *Personality and Individual Differences, 17(2),* 191–199. https://doi.org/10.1016/0191-8869(94)90025-6

Bagozzi, R. P., & Moore, D. J. (2011). On the dimensionality and construct validity of the affect intensity measure. *Testing, Psychometrics, Methodology in Applied Psychology, 18*(1), 3-18. https://doi.org/10.4473/TPM.18.1.1

Barenbaum, N. B., & Winter, D. G. (2010). History of modern personality theory and research. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 114-158). Guilford Press.

Batz, C., & Tay, L. (2018). Gender differences in subjective well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being.* DEF Publishers. https://www.nobascholar.com/chapters/30/download.pdf

Blay, A., Douthit, J., & Fulmer, B. (2018). Why don't people lie? Negative affect intensity and preferences for honesty in budgetary reporting. *Management Accounting Research*, *42*, 56-65. https://doi.org/10.1016/j.mar.2018.05.001

Bryant, F. B., Yarnold, P. R., & Grimm, L. G. (1996). Toward a measurement model of the affect intensity measure: A three-factor structure. *Journal of Research in Personality*, *30*(2), 223-247. https://doi.org/10.1006/jrpe.1996.001

Carvalho, N. M., Bastos, R. V. S., & Natividade, J. C. (2022). Evidence of validity and accuracy of an implicit measure to assess the depressive trait. *Trends in Psychology*. https://doi.org/10.1007/s43076-022-00145-y

Carvalho, T. F., Aquino, S. D., & Natividade, J. C. (2021). Flourishing in the Brazilian context: Evidence of the validity of the PERMA-profiler scale. *Current Psychology.* https://doi.org/10.1007/s12144-021-01587-w

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233-255. https://doi.org/10.1207/S15328007SEM0902_5

Cooper, C., & McConville, C. (1993). Affect intensity: Factor or artifact? *Personality and Individual Differences, 14,* 135-143. https://doi.org/10.1016/0191-8869(93)90183-4

Cyniak-Cieciura, M., Zawadzki, B., & Strelau, J. (2018). The development of the revised version of the Formal Characteristic of Behaviour-Temperament Inventory FCB-TI(R). *Personality and Individual Differences, 127,* 117–126. https://doi.org/10.1016/j.paid.2018.01.036

Diener, E. (2009). Assessing subjective well-being: Progress and opportunities. In Diener E. (Ed.), Assessing Well-Being: Vol. 39. Social Indicators Research Series. Springer. https://doi.org/10.1007/978-90-481-2354-4_3

Diener, E., Sandvik, E., & Larsen, R. J. (1985). Age and sex effects for emotional intensity. *Developmental Psychology, 21*(3), 542–546. https://doi.org/10.1037/0012-1649.21.3.542

Elliott, T. R., Sherwin, E., Harkins, S. W., & Marmarosh, C. (1995). Self-appraised problem-solving ability, affective states, and psychological distress. *Journal of Counseling Psychology, 42*(1), 105–115. https://doi.org/10.1037/0022-0167.42.1.105

Gana, K., & Broc, G. (2019). *Structural equation modeling with lavaan.* Wiley-ISTE.

Geuens, M., & De Pelsmacker, P. (2002). Developing a short affect intensity scale. *Psychological Reports, 91*(2), 657–670. https://doi.org/10.2466/pr0.2002.91.2.657

Greenaway, K. H., Kalokerinos, E. K., & Williams, L. A. (2018). Context is everything (in emotion research). *Social and Personality Psychology Compass*, *12*(6), e12393. https://doi.org/10.1111/spc3.12393

Grossman, M., & Wood, W. (1993). Sex differences in intensity of emotional experience: A social role interpretation. *Journal of Personality and Social Psychology, 65*(5), 1010. https://doi.org/10.1037//0022-3514.65.5.1010

Guzmán G. J., & Vázquez, M. A. (2018). Adaptación preliminar del cuestionario de intensidad afectiva de Randy Larsen: Estudio de consistencia interna y composición factorial [Preliminary adaptation of the affect intensity questionnaire from Randy Larsen study of internal consistency and factor composition: Study of internal consistency and factor composition]. *Revista Iberoamericana de Psicología, 11*(2), 43-50. https://reviberopsicologia.ibero.edu.co/article/view/rip.11205/pdf

John, O. P. (2021). History, measurement, and conceptual elaboration of the Big-Five trait taxonomy: The paradigm matures. In O. P. John, & R. W. Robins (Eds.), *Handbook of personality: Theory and research* (pp. 35-82). The Guilford Press.

Kaur, R. (2017). Outros jeitos de usar a boca [Milk and Honey]. *Planeta.*

Kreuzer, M., & Gollwitzer, M. (2021). Neuroticism and satisfaction in romantic relationships: A systematic investigation of intra- and interpersonal processes with a longitudinal approach. *European Journal of Personality*. https://doi.org/10.1177/08902070211001258

Larsen, R. J. (1984). *Theory and measurement of affect intensity as an individual difference characteristic.* Dissertation Abstracts International.

Larsen, R. J. (2009). Affect intensity. In M. R. Leary, & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 241–254). The Guilford Press.

Larsen, R. J., & Diener, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of Research*

in Personality, 21(1),1–39. https://doi.org/10.1016/0092-6566(87)90023-7

Larsen, R. J., Diener, E., & Emmons, R. A. (1986). Affect intensity and reactions to daily life events. *Journal of Personality and Social Psychology, 51*(4), 803–814. https://doi.org/10.1037/0022-3514.51.4.803

Letzring, T. D., & Adamcik, L. A. (2015). Personality traits and affective states: Relationships with and without affect induction. *Personality and Individual Differences, 75*(2015), 114–120. https://doi.org/10.1016/j.paid.2014.11.011

Litwic-Kaminska, K., & Kotyśko, M. (2018). Temperament and chronotype among academic athletes – perspective of the regulative theory of temperament. *Current Issues in Personality Psychology, 6*(1), 79–90. https://doi.org/10.5114/cipp.2017.68892

Londero-Santos, A., Natividade, J. C., & Féres-Carneiro, T. (2021). Do romantic relationships promote happiness? Relationships' characteristics as predictors of Subjective Well-Being. *Interpersona: An International Journal on Personal Relationships*, *15*(1), 3-19. https://doi.org/10.5964/ijpr.4195

Lucas, R. E., & Diener, E. (2010). Personality and subjective well-being. In O. P. John, R. W. Robins, & L. A. Pervin (Eds), *Handbook of personality* (3rd ed., pp. 795-814). The Guilford Press.

Lucas, R. E., & Diener, E. (2021). Personality and subjective well-being. In O. P. John, & R. W. Robins (Eds.), *Handbook of personality: Theory and research* (pp. 724–742). The Guilford Press.

Lynch, T. R., Cheavens, J. S., Morse, J. Q., & Rosenthal, M. Z. (2004). A model predicting suicidal ideation and hopelessness in depressed older adults: The impact of emotion inhibition and affect intensity. *Aging & Mental Health, 8*(6), 486–497. https://doi.org/10.1080/13607860412331303775

Martínez-Sánchez, F., & Ortiz-Sória, B. (1997). Estructura factorial de la Escala de Intensidad Afectiva de Larsen [Factor structure of Larsen's affect intensity scale]. *Revista Electrónica de Motivación y Emocion*, *1*(0). https://dialnet.unirioja.es/servlet/articulo?codigo=1025466

Martínez-Sánchez, F., & Ortiz-Sória, B. (2000). Estructura factorial de la Escala de Intensidad Afectiva [Factor structure of the Affect Intensity Scale]. *Revista Española de Motivación y Emoción, 1,* 45-54. https://rb.gy/navhjp

Mathieu, F., Etain, B., Daban, C., Raymond, R., Raust, A., Cochet, B., Gard, S., M'Bailara, K., Desage, A., Kahn, J. P., Wajsbrot-Elgrabli, O., Cohen, R. F., Azorin, J. M., Leboyer, M., Bellivier, F., Scott, J., & Henry, C. (2014). Affect intensity measure in bipolar disorders: A multidimensional approach. *Journal of Affective Disorders, 157*(2014), 8–13. https://doi.org/10.1016/j.jad.2013.12.039

Moore, D. J. (2004). Affect intensity, gender and the expression of emotion in response to advertising appeals. *ACR North American Advances*, *31*, 29-30. https://www.acrwebsite.org/volumes/8831/volumes/v31/NA-31

Natividade, J. C., Carvalho, N. M., Londero-Santos, A., Carvalho, T. F., Fagundes, L. S., & Santos, L. S. (2019). Gratidão no contexto brasileiro: mensuração e relações com personalidade e bem-estar [Gratitude in the Brazilian context: measurement and relations with personality and well-being]. *Avaliação Psicológica, 18*(4), 400-410. https://doi.org/10.15689/ap.2019.1804.18712.08

Natividade, J. C., & Hutz, C. S. (2015). Escala reduzida de descritores dos cinco grandes fatores de personalidade: prós e contras [Reduced scale of the big five personality factors descriptors]. *Psico (PUCRS), 46*(1), 79-89. https://doi.org/10.15448/1980-8623.2015.1.16901

Natividade, J. C., Laskoski, L. M., Barros, M. C., & Hutz, C. S. (2014). As diferenças sexuais podem fundamentar estereótipos de gênero? Deixem jovens de baixa escolaridade responderem [Can sexual differences fundament gender stereotypes? Let low education level young people answer]. *Psicologia e Saber Social, 3*(1), 22-40. https://doi.org/10.12957/psi.saber.soc.2014.12201

Prada, M., Rodrigues, D., & Palma, T. (2009). 8 ou 80! Adaptação e validação da Escala Breve de Intensidade Afetiva [Adaptation and validation of the Brief Affect Intensity Scale]. *Laboratório de Psicologia, 7*(1), 85-99. https://doi.org/10.14417/lp.688

R Core Team. (2021). *R: A language and environment for statistical computing.* R Foundation for Statistical Computing. https://www.R-project.org/

Ripper, C. A., Boyes, M. E., Clarke, P. J. F., & Hasking, P. A. (2018). Emotional reactivity, intensity, and perseveration: Independent dimensions of trait affect and associations with depression, anxiety, and stress symptoms. *Personality and Individual Differences*, 121, 93–99. https://doi.org/10.1016/j.paid.2017.09.032

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2), 1-36. https://doi: 10.18637/jss.v048.i02

Salander, Z. (2019). Influence of emotion processing and affect intensity on the engagement of inhibitory control in young adults with attention-deficit/hyperactivity disorder [Unpublished master's thesis]. University of Massachusetts Amherst.

Seo, M. G., & Barrett, L. F. (2007). Being emotional during decision making – good or bad? An empirical investigation. *Academy of Management Journal, 50*(4), 923–940. https://doi.org/10.5465/amj.2007.26279217

Simonsson-Sarnecki, M., Lundh, L. G., & Törestad, B. (2000). Factor structure and validity of the affect intensity measure in a Swedish sample. *Personality and Individual Differences, 29*(2), 337-350. https://doi.org/10.1016/S0191-8869(99)00197-X

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*(5), 467-487. https://doi.org/10.1002/jclp.20593

Strelau, J. (1996). The regulative theory of temperament: Current status. *Personality and Individual Differences, 20*(2), 131–142. https://doi.org/10.1016/0191-8869(95)00159-x

Thorberg, F. A., & Lyvers, M. (2006). Negative Mood Regulation (NMR) expectancies, mood, and affect intensity among clients in substance disorder treatment facilities. *Addictive Behaviors, 31*(5), 811–820. https://doi.org/10.1016/j.addbeh.2005.06.008

Verduyn, P., & Brans, K. (2012). The relationship between extraversion, neuroticism and aspects of trait affect. *Personality and Individual Differences,* 52(6), 664–669. https://doi.org/10.1016/j.paid.2011.12.017

Vine, V., & Marroquín, B. (2018). Affect intensity moderates the association of emotional clarity with emotion regulation and depressive symptoms in unselected and treatment-seeking samples. *Cognitive Therapy Research, 42*(1), 1–15. https://doi.org/10.1007/s10608-017-9870-9

Watson, D., Clark, L. A., & Tellegen, A. (1988). 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

Weinfurt, K. P., Bryant, F. B., & Yarnold, P. R. (1994). The factor structure of the Affect Intensity Measure: In search of a measurement model. *Journal of Research in Personality*, *28*(3), 314-331. https://doi.org/10.1006/jrpe.1994.1023

Williams, D. G. (1989). Neuroticism and extraversion in different factors of the affect intensity measure. *Personality and Individual Differences, 10,* 1095-1100. https://doi.org/10.1016/0191-8869(89)90261-4

Wu, Y., Lu, J., Chen, N., & Xiang, B. (2018). The influence of extraversion on emotional expression: A moderated mediation model. *Social Behavior and Personality: An International Journal, 46*(4), 641–652. https://doi.org/10.2224/sbp.7049

Zanon, C., Bardagi, M. P., Layous, K., & Hutz, C. S. (2014). Validation of the Satisfaction with Life Scale to Brazilians: Evidences of measurement noninvariance across Brazil and US. *Social Indicators Research, 119*(1), 443-453. https://doi.org/10.1007/s11205-013-0478-5

Zanon, C., & Hutz, C. S. (2014). Escala de Afetos Positivos e Negativos (PANAS) [Positive and Negative Affect Scale]. In C. Hutz (Ed.), *Avaliação em Psicologia Positiva* (pp. 63-67). Artmed.