Original Papers

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Adaptation and Validation of the Steen Happiness Index into Polish

Authentic happiness is a construct comprising 3 factors: pleasure, engagement, and meaning (Seligman, Parks, & Steen, 2005). Three studies involving altogether 464 participants adapted and validated the authentic happiness measure Steen Happiness Index (SHI; Seligman, Steen, Park, & Peterson, 2005) into Polish. In Study 1 the Polish version of the scale was developed and its convergence with the original SHI was assessed using bilingual response method, r = .98, p < .001. In Study 2 cluster analysis confirmed the theoretical profiles of happiness, testing the proposed 3-factor structure of the scale, χ² (116) = 180.62, GFI = .95, CFI=.97, SRMR = .04, RMSEA = .04, RMSEA 90% CI [.25 - .45]. Test-retest reliability (Study 3) yielded satisfactory results, r_{tt} = .87, p < .01. This is the first study providing empirical support for the structural validity of the authentic happiness construct. It also shows the cross-cultural generality of the construct. We discuss some practical applications of the scale.

There are two major theoretical perspectives on happiness. One emphasizes hedonism and the other emphasizes eudaimonism (Ong, Horn, & Walsh, 2007; Ryan & Deci, 2001; Waterman, 1993). The hedonistic approach is associated with the hedonic psychology (Kahneman, Diener, & Schwartz, 1999). It is represented by the theory of subjective well-being (Diener, Suh, Lucas, & Smith, 1999), in which happiness is the presence of pleasure, the lack of negative affect and the overall satisfaction with life. A frequently used measure of subjective well-being is the combination of the Positive Affect and Negative Affect Schedule (Watson, Clark, & Tellegen,1988) and Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). The eudaimonic approach focuses on self-realization and meaning and has recently received support from the positive psychology movement (Seligman & Csikszentmihalyi, 2000). Hedonism and eudaimonism are often regarded as opposite camps (Ryan & Deci, 2001). Nonetheless, more consensual attempts have focused on integrating those two perspectives, proposing that hedonism and eudaimonism represent psychological mechanisms operating in concert (Kashdan, Biswas-Diener, & King, 2007).

Martin Seligman has developed a theory of authentic happiness that can be regarded as an attempt to find a balance between hedonism and eudaimonism. Seligman (2002) proposed three routes to happiness: pleasure, engagement, and meaning. The theory stipulates that these three factors form diverse profiles of happiness with a full life characterized by high levels of all three factors. The dominance of pleasure and positive emotions would characterize the profile of 'the pleasant life'. Moreover, engagement, associated mostly with self-actualization and optimal experience, is characteristic of 'the good life'. Lastly, an attachment to something larger than the self serves as a basis for 'the meaningful life'. The three factors are proposed to be separate but related. The variety of the happiness profiles has not been put to an empirical test so far.

Tracy Steen and colleagues have developed a scale, the Steen Happiness Index (SHI), measuring the authentic happiness construct (Seligman, Steen, Park, & Peterson, 2005). The scale contains 20 items and requires participants to read a series of statements and pick the one that best describes them during the past week. The series of statements cover Seligman's (2002) three proposed routes to happiness: pleasure, engagement and meaning in life.

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The primary purpose of the scale is to measure the efficacy of happiness interventions. Data from 916 surveys including 1.1 million people from 45 nations involving different measurement instruments found that people, on the average, rate themselves as reasonably happy, i.e. 6.75 on a 10-point scale (Myers & Diener, 1996). For this reason most well-being scales have negatively skewed scores distributions. The SHI however is less skewed toward higher scores as it contains only one negative and neutral item respectively, but three positive items ranging from mild to extreme positive among each group of statements. As a result the SHI is a better instrument for measuring changes from neutral states towards happiness. The scale found reliable in a repeated measures design (Seligman, Steen, Park, & Peterson, 2005).

Introducing the SHI into Polish may significantly advance cross-cultural research of the authentic happiness construct. For example, it has been suggested that Poland is a country dominated by a culture of complaining (Dolinski, 1995). In a replication of a previous study (Johnson, 1937), Dolinski found that Poles displayed "the Johnson effect à rebours". Contrary to Johnson's finding Polish participants usually reported their mood to be worse than usual (Dolinski, 1995).

Developing assessment instruments that are reliable and valid with culturally diverse populations is crucial in light of the global social transformations. A growing body of evidence demonstrates that overlooking the effects of cultural diversity may have negative implications for clinical work (Flores & Obasi, 2007). For instance, the effectiveness of positive, or happiness-boosting, interventions depends on the culture of participants (Sin & Lyubomirsky, 2009). Furthermore, some positive interventions may be based around the strengths of specific cultures, such as kindness deeply rooted in Japanese culture (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006).

A large-scale survey recently suggested that the eudaimonic happiness orientation dominates among Poles (Czapinski & Panek, 2009). Adapting the SHI which comprises both hedonic and eudaimonic approach into Polish may facilitate research and improve clinical practice in Poland. Examples of practical applications include using the SHI as a component assessment for groups and individuals or using it as a measure of progress in clinical work.

The aim of the present studies was to adapt SHI into Polish and to advance the validation of the scale by investigating its factorial structure. We conducted three studies with samples involving altogether 464 participants. In the first study a Polish version of the scale was developed and its convergence with the original SHI was evaluated. In the second study the construct validity of the instrument was evaluated with respect to the number of factors and the shapes of profiles postulated by authentic happiness theory

(Seligman, Parks, & Steen, 2005). In the third study we tested the temporal stability of the scale.

Study 1: Adaptation of Steen Happiness Index into Polish

The aim of this study was to develop the Polish version of the SHI. First, a translation of the scale was undertaken. Second, we measured the convergence between the translation and the original.

Description of the adaptation procedure

The original scale was independently translated into Polish by two psychologists fluent in English. The two versions were discussed and combined into one. Subsequently an English philologist and a Polish philologist revised the translation. A back translation was prepared by an independent translator. The back-translation was compared to the original. As a result of this comparison the Polish version was accepted and labeled the 'SHI-PL'. The validity of the translation scale was checked using bilingual answers method.

Method

Participants

Both, the SHI and SHI-PL, were completed by 8 students majoring in English philology. Participants took part in a translation course, during which measurements were taken. This sample comprised 5 women and 3 men between the ages of 22 and 24 years ($M = 22.9$, $SD = 0.64$). Study participation was voluntary and anonymous.

Measures

Participants completed the original Steen Happiness Index (SHI) and the Polish adaptation (SHI-PL). Half of the participants completed the SHI as the first scale.

The Steen Happiness Index (Seligman, Steen, Park, & Peterson, 2005). The scale contains 20 items and requires participants to read a series of statements and pick the one that best describes them during past week. Responses choices range from a negative ("Most of the time I am bored") to an extreme positive ("Most of the time I am fascinated by what I am doing"). Each response is assigned a value ranging from 1 to 5, with 5 indicating the happiest response. The items cover the areas of pleasure ("My life is filled with pleasure"), engagement ("Time passes so quickly during all of my activities that I do not even notice it") and meaning ("I have a very clear idea about my purpose in life"). The total score is the sum of each individual item. The internal scale consistency in the present study was $\alpha = .91$.

The Steen Happiness Index-PL. The scale is the translation of the SHI as outlined above. The internal scale reliability was $α = .91$.

Analysis

The r-Person correlation of the total scores for both scales and Student's *t* test were computed with SPSS 17.00 (SPSS Inc., Chicago, IL).

Results and discussion

There was no difference between the overall score on the SHI ($M = 64.25$, $SD = 11.27$) and the SHI-PL ($M = 64.88$, $SD = 11.73$), $t (14) = 0.11$, $p = .92$. The convergence of both questionnaires was excellent, $r = .98$, $p < .001$. The obtained result shows that the adaptation was satisfactory.

Study 2: Construct validity of the SHI-PL

Study 2 was conducted to confirm the theoretical validity of the scale testing its factorial structure and the diversity among happiness profiles. Confirmatory analysis was employed as the analysis was theory-based rather than exploratory. Cluster analysis can be used for different goals including hypothesis testing (Aldenderfer & Blashfield, 1984). We used cluster analysis to examine whether hypothesized happiness profiles as predicted by authentic happiness theory (Seligman, Parks, & Steen, 2005) were present in the data set.

Method

Participants

The SHI-PL was completed by 456 social and humanistic science undergraduate students between the ages of 18 and 37 years ($M = 21.35$, $SD = 1.89$*)*. Informed consent was given by all recruited persons. The majority of participants were women (82%). Three participants did not specify their sex and three did not report their age. Missing data (< 1%) was filled with values computed using the field interpolation technique (SPSS 17.00). Study participation was anonymous and voluntary. The participants were asked to code their answer sheet for the purpose of a possible follow-up.

Analysis

Confirmatory factor analyses were conducted in AMOS 18 (Arbuckle, 2009) using maximum likelihood parameter estimation. To evaluate overall model fit, several fit indices were used: $χ^2$ divided by degrees of freedom ($χ^2/df$), the goodness-of-fit index (GFI), the comparative fit index (CFI),

the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). The $χ^2/df$ index between 1 and 2 and the GFI greater than .95 indicate a good fit (Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004). An RMSEA and SRMR between 0 and .05 indicates a good fit and one between .05 and .08 an acceptable fit. A CFI between .97 and 1.00 indicates a good fit and one between .95 and .97 an acceptable fit (Schermelleh-Engel, Moosbrugger, & Muller, 2003).

To test the diversity of happiness profiles participants were classified according to their pattern of three subscale scores on the SHI-PL (pleasure, engagement, and meaning) using k-means method of cluster analysis. This method was used to extract not only the most typical but also the more specific patterns. A solution with the largest number of clusters having no fewer than 30 participants in any cluster was selected. All three subscales underwent a z-score transformation.

Results

Factorial structure

Descriptive statistics and correlations between SHI-PL items are presented in Table 1.

Single-factor model

The SHI is based on a theory comprising 3 factors of happiness. The original scale was developed to measure a global index of happiness. The SHI-PL analyzed as a measure of overall happiness (20 items) displayed high reliability $α = .88$. However, item 2 ("I feel connected to everyone in the world") and 17 ("When I am working on a task, I pay so much attention to it that the outside world practically ceases to exist") reached unsatisfactory strength of correlation with the global score $r < .30$. After excluding these items the reliability of the 18-items scale remained at $α = .88$. The discriminant power of the remaining items ranged from .33 to .67 ($M = .50$). Items 2 and 17 were excluded from further analyses.

The single-factor solution was tested by means of confirmatory maximal likelihood factor analysis. All but 2 fit parameter (RMSEA, SRMS) indicated that the model should be revised, $χ^2 = 307.62$, $df = 135$, $χ/df = 2.27$; GFI = .92, CFI = .92, SRMR = 0.04, RMSEA = .05, RMSEA 90% CIs [.045, .061].

Three- factor model

To identify the 3-factor model the item content was analyzed by dividing the item pool into three groups which captured pleasure, engagement, and meaning (see scale descriptions of study 1 for examples).An attempt was made to reach a 3-factor solution with the correlations between the factors as low as possible. Therefore item 5

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Table 1
Descriptive statistics, correlations and test-retest reliability of SHI-PL items

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	M	SD	r_{tt}
1																				2.85	0.76	.64**
2	.11*																			2.89	0.74	.87**
3	.18**	.28**																		2.74	0.70	.71**
4	.26**	.14**	.30**																	3.50	0.86	.72**
5	.23**	.28**	.50**	.37**																2.63	0.82	.61**
6	.15**	.10*	.20**	.30**	.25**															3.32	1.07	.42**
7	.28**	.30**	.39**	.37**	.46**	.33**														3.45	0.94	.57**
8	.24**	.07	.19**	.36**	.25**	.20**	.27**													3.23	0.82	.70**
9	.16**	.12**	.26**	.21**	.36**	.16**	.27**	.21**												3.22	0.98	.66**
10	.20**	.17**	.34**	.26**	.40**	.25**	.47**	.20**	.33**											3.57	1.11	.75**
11	.18**	.16**	.29**	.27**	.34**	.18**	.31**	.20**	.29**	.37**										3.66	0.95	.74**
12	.27**	.17**	.30**	.38**	.39**	.28**	.54**	.28**	.24**	.34**	.30**									3.04	0.95	.71**
13	.30**	.23**	.42**	.32**	.46**	.30**	.53**	.24**	.33**	.51**	.32**	.41**								3.06	0.90	.73**
14	.15**	.02	.12*	.22**	.19**	.20**	.24**	.20**	.14**	.14**	.13**	.29**	.20**							2.67	0.89	.33*
15	.22**	.17**	.40**	.22**	.53**	.18**	.40**	.19**	.29**	.46**	.31**	.35**	.40**	.22**						2.96	0.86	.71**
16	.21**	.21**	.33**	.26**	.38**	.30**	.38**	.26**	.28**	.44**	.36**	.35**	.42**	.19**	.36**					3.63	1.02	.81**
17	.09	.02	.13**	.25**	.22**	.27**	.14**	.19**	.12**	.13**	.07	.14**	.18**	.12**	.20**	.14**				2.82	0.87	.72**
18	.17**	.03	.19**	.34**	.26**	.18**	.20**	.19**	.21**	.17**	.27**	.29**	.23**	.19**	.18**	.28**	.19**			3.21	0.91	.65**
19	.21**	.18**	.34**	.28**	.41**	.25**	.54**	.18**	.24**	.42**	.23**	.45**	.45**	.21**	.33**	.38**	.11*	.22**		2.71	0.91	.80**
20	.08	.17**	.28**	.16**	.28**	.14**	.33**	.22**	.24**	.23**	.22**	.28**	.24**	.17**	.32**	.25**	.16**	.15**	.32**	2.82	0.74	.77**

Note: $N = 456$ (as in study 2), except for r_{tt}. $N = 40$ (as in study 3)

* $p < .05$; ** $p < .01$.

Table 2
Descriptive statistics and correlations of the SHI-PL subscales.

Subscale	(1)	(2)	*M* [a]	*SD*
1. Pleasure			11.97 (2.99)	2.67
2. Engagement	.60**		21.84 (3.12)	3.74
3. Meaning	.68**	.56**	19.87 (3.31)	3.80

[a] The parentheses include the average score on a 5-point scale, where 1 is negative, 2 neutral and points 3 - 5 range from somewhat positive to extreme positive.
** *p* < .01

Table 3
Final cluster centers for happiness profiles.

Cluster label	n	Cluster center			Post hoc differences[a]
		P	E	M	
1. Pleasant life	68	1.91	1.43	1.32	P > E, M
2. Full life	58	0.87	1.03	0.91	P, E, M
3. Meaningful life	67	0.20	0.08	0.91	M > P, E
4. Disengaged life	69	0.05	-0.91	0.04	P, M > E
5. Good life	83	0.22	0.57	-0.17	E > P > M
6. Routine life	81	-0.81	-0.25	-0.89	E > P, M
7. Empty life	30	-1.49	-1.45	-1.38	P, E, M

Note: P – pleasure, E – engagement, M – meaning.
[a] “>” indicates significant differences *p* < .01. Coma indicates non-significant differences (Tukey HSD test).

was excluded from the pool as its content referred both to meaning and positive emotions (“I could not be any more pleased with myself”). Descriptive statistics for the 3 subscales are shown in Table 2.

The 3-factor model fit the data well, χ^2 = 180.62, df = 116, χ/df = 1.56; GFI = .95, CFI = .97, SRMR = .04, RMSEA = .04, RMSEA 90% CIs [.025, .045]. The reliability of the pleasure, engagement and meaning subscales were respectively, α = .77, α = .70, α = .74. The discriminant power of each item within its scale was not lower than .30. The correlations between the three subscales were moderate as shown in Table 2. These findings are consistent with the prediction that the SHI-PL consists of three separate but related subscales for pleasure, engagement, and meaning. Furthermore, the distribution was symmetrical with skewness value of -0.04 and -0.03 for pleasure and engagement respectively. The meaning subscale has small skew of -0.23.

Cluster solutions

This theory-driven approach led to 7 clusters. The mean subscale scores for each profile, the number of participants and post hoc differences are displayed in Table 3. Visual presentation of the profiles is given in Figure 1. The labels for the clusters are derived directly or interpolated from the theory of authentic happiness (Seligman, Parks, & Steen, 2005). As hypothesized, the clusters reflected profiles of happiness varying in shape and elevation.
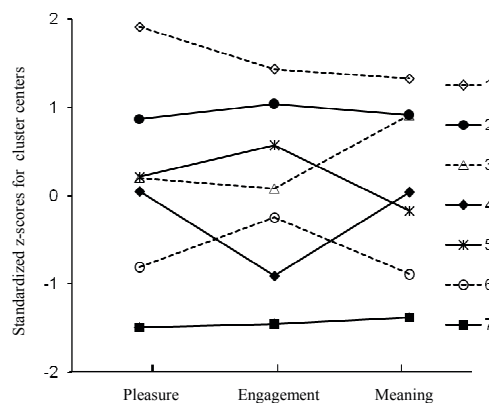

Figure 1. SHI-PL z-scores on pleasure, engagement and sense of meaning by cluster membership.
Note: 1. Pleasant life, 2. Full life, 3. Meaningful life, 4. Disengaged life, 5. Good life, 6. Routine life, 7. Empty life

Study 3: Evaluation of the test/retest reliability

Temporal stability is an important questionnaire characteristic in order to measure intervention effectiveness and was investigated in the last study. It could be expected that the individual level of happiness remains stable in periods when no intervention takes place. We hypothesized that the correlation between two measurements close in time would be high and positive.

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Method

Participants

Forty participants of Study 2 were asked to complete the SHI-PL for the second time. Half were administered the questionnaire after one week and the second half after two weeks. The age of the participants was between 19 and 24 years ($M = 21.03$, $SD = 1.52$) and 75% of the sample were female.

Results

Correlations between measurements at two points in time were calculated for each SHI-PL item, for the total scores and for the subscales. The stability in time was adequate for the total score ($r_{tt} = .84$, $p < .001$), pleasure ($r_{tt} = .77$, $p < .001$), engagement ($r_{tt} = .74$, $p < .001$), and meaning ($r_{tt} = .85$, $p < .001$). Table 1 displays the test-retest correlation coefficients for all items which ranged from .33 to .87, all $ps < .05$.

General discussion

The present study aimed at adapting and validating the SHI (Seligman, Steen, Park, & Peterson, 2005) into Polish (i.e. SHI-PL). Three studies were conducted to evaluate the convergence, reliability, construct validity and temporal stability of the SHI-PL. Bilingual response method demonstrated that the SHI-PL was convergent with the original. The three factor structure stipulated by authentic happiness theory was supported in the current study. The 3-factor solution was identified as fitting the data better than the single-factor solution using confirmatory factor analysis. The three subscales (pleasure, engagement, and meaning) showed satisfactory reliability and were moderately correlated with each other. Cluster analysis demonstrated diversity among happiness profiles in line with the theory of authentic happiness (Seligman, 2002). As the final step, test-retest reliability was assessed and yielded satisfactory results.

The results of the present study are the first empirical support for the internal structure of the construct of authentic happiness. Results show that the three routes to happiness identified by Seligman are not specific to American culture. Authentic happiness may be generalized to a post-communist Central European country such as Poland. It could be speculated that as a result of an overall increase in material wealth over the last 20 years the Polish society has turned much more attention to positive aspects of life. More Poles can devote their time to savoring pleasures and engaging in personally meaningful activities (Czapinski & Panek, 2009). The Polish version of the SHI can facilitate research on psychological interventions tailored to the specificity of the Polish culture (Dolinski, 1996).

The present study supports the integrative tendencies among the hedonism and eudaimonism camps (Kashdan, Biswas-Diener, & King, 2007). However, those two perspectives on happiness might not be two sides of the same coin, e.g. a good life (as defined by engagement) can lack the hedonic tone or pleasant life can lack meaning.

The confirmation of the 3-factor structure has practical implications. Adopting the SHI as a tool of psychological assessment could be considered for psychotherapy, counseling or positive psychology coaching (Biswas-Diener & Dean, 2007; Keyes & Lopez, 2005). Identifying deficits and strengths in specific domains of happiness may lead to more efficacious interventions. For instance, developing the competence for regulation of positive emotions (Tugade & Fredrickson, 2007) might suffice if positive emotions (as indicated by lower scores on the pleasure subscale) were the only deteriorated. Relatively lower scores on the meaning scale might indicate the need for psychological help in means of logotherapy (Frankl, 1959). On the other hand a relatively high score on one scale could be interpreted as a strength of a person. A client could capitalize on such strengths in the process of improving the remaining two aspects of full life. For instance, a person focused on the meaning of life could decide to engage in voluntary work and thereby derive experiences of engagement and positive emotions from this form of activity.

Some modifications were made during the development of the SHI-PL. Two items that correlated poorly with the total score were excluded from the analysis: item 2 ("I feel connected to everyone in the world") and item 17 ("When I am working on a task, I pay so much attention to it that the outside world practically ceases to exist"). Our *ad hoc* hypothesis is that the phrase "everyone in the world" might have different psychological meaning in multicultural America, where the original scale was developed, compared to culturally homogenous Poland. As for item 17, the wording of the Polish version might have put a stronger emphasis on the professional aspect of work. Therefore the item could be misinterpreted in the population of students who do not work professionally. Additionally, one ambiguous item falling into two subscales was removed in the process of building distinct subscales (pleasure, engagement, and meaning). The three items were excluded from analysis but remained in the scale as fillers. The complete removal of the items from the SHI-PL could be considered if a briefer version of the scale was to be developed in the future.

When interpreting the findings of the current studies some limitations should be kept in mind. There were more women in the sample and all participants were students. Further studies might control for sex and include samples more diverse in respect to age, education and socioeconomic status. Study 2 aimed at construct validity of the SHI-PL. Further studies are needed to explore convergent and

discriminant validity of the scale. Moreover, as indicated by previous research, happiness has both the trait and the state component (Lyubomirsky, Sheldon, & Schkade, 2005). Latent state-latent trait theory (Steyer, Schmitt, & Eid, 1999) could be used as a framework for testing the extent to which the SHI-PL scores reflect changes in the state as opposed to a genetically determined happiness set-point (Lyubomirsky et al., 2005). Evaluating this psychometric property is necessary for the scale to be introduced as a valid measure of change.

In sum, the current set of studies demonstrates the systematic adoption of the SHI into Polish, creating the SHI-PL. The SHI-PL demonstrated good test-retest reliability and confirmed the theoretical profiles of happiness as proposed by authentic happiness theory. Further use of the SHI-PL will facilitate the empirical examination of happiness within the Polish population supporting the development of meaningful cross-cultural research.

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