

The short form of the VIA Inventory of Strengths

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Abstract

Background: The VIA Institute on Character is offering the VIA-120 as the standard VIA Survey, replacing the original 240-item version. The present work involved the construction and the initial evaluation of the Spanish VIA-120 as a short version of the Spanish adaptation of the VIA-IS. **Method:** This short form was developed using data from 2,143 Spanish-speaking adults. The Spanish VIA-120 was developed by selecting the five items with the highest corrected item-total correlations from the 10 items per subscale of the Spanish VIA-IS. **Results:** Results lent support to the reliability and validity of this short form to measure the 24 character strengths included in The Values in Action (VIA) classification. The internal consistency coefficients of the subscales of the Spanish version of the VIA-120 were substantially equivalent to the long version. The VIA-120 showed high convergence with the Spanish VIA-IS in terms of descriptive statistics and associations with life satisfaction, positive affect, and negative affect. Factor structure congruence coefficients also indicated very high convergence between the VIA-IS and the short form. **Conclusions:** The Spanish VIA-120 proved to be a reliable, valid instrument for the assessment of character strengths.

Keywords: Character strengths, Spanish sample, VIA-IS, positive psychology, measurement.

Resumen

Versión corta del cuestionario VIA de Fortalezas Personales. Antecedentes: el Instituto VIA ha presentado el cuestionario de fortalezas VIA-120 como el cuestionario estándar, que reemplaza a la versión original de 240 ítems. Este trabajo consistió en la construcción y evaluación inicial de la versión española del VIA-120, una versión corta de la adaptación española del cuestionario de fortalezas VIA-IS. **Método:** esta versión corta fue desarrollada a partir de los datos de 2.143 adultos y se construyó mediante la selección de los cinco ítems con los mayores coeficientes de correlación elemento-total de cada subescala original. **Resultados:** los resultados respaldaron la fiabilidad y validez de la versión española del VIA-120 para medir las 24 fortalezas de la clasificación VIA. Los coeficientes de consistencia interna de las subescalas del VIA-120 fueron sustancialmente equivalentes a los de la versión larga. La versión reducida mostró una alta convergencia con el cuestionario original en relación a los estadísticos descriptivos y las correlaciones con satisfacción vital y afecto positivo y negativo. Los coeficientes de congruencia indicaron también una elevada convergencia entre las estructuras factoriales de ambas versiones. **Conclusiones:** la versión española del VIA-120 constituye un instrumento válido y fiable para la evaluación de las fortalezas personales.

Palabras clave: fortalezas personales, muestra española, VIA-IS, psicología positiva, medida.

Character strengths have been defined as morally valued positive traits, reflected in thoughts, feelings and behaviors (Park, Peterson, & Seligman, 2004). The *Values in Action* (VIA) classification (Peterson & Seligman, 2004) included 24 different character strengths that were assigned to one of six universal virtues: (a) wisdom and knowledge (including the strengths of creativity, curiosity, open-mindedness, love of learning, and perspective); (b) courage (including bravery, persistence, honesty, and zest); (c) humanity (including love, kindness, and social intelligence); (d) justice (including teamwork, fairness, and leadership); (e) temperance (including forgiveness, modesty, prudence, and self-regulation); and (f) transcendence (including appreciation of

beauty and excellence, gratitude, hope, humor, and spirituality). From this classification, Peterson and Seligman (2004) developed a 240-item self-report instrument that assessed the 24 strengths in adults: the VIA Inventory of Strengths (VIA-IS).

Previous studies with samples from different countries have found evidence of VIA-IS's reliability and validity (e.g., Linley et al., 2007; Littman-Ovadia & Lavy, 2012; Peterson, Park, & Seligman, 2006; Ruch et al., 2010). In Spain, Azañedo, Fernández-Abascal and Barraca (2014) reported that the Spanish version of the VIA-IS met psychometric standards for reliability; all 24 subscales showed satisfactory internal consistency (mean $\alpha = .81$) as well as acceptable corrected item-subscale correlations (mean corrected item-total correlations = .50). Regarding construct validity, the correlates of the Spanish version of VIA-IS with life satisfaction and affect corroborated the results of previous studies (e.g., Gradisek, 2012; Littman-Ovadia & Lavy, 2012; Park et al., 2004; Peterson, Ruch, Beermann, Park, & Seligman, 2007; Proyer, Ruch, & Buschor, 2013; Ruch et al., 2010; Shimai, Otake, Park, Peterson, & Seligman, 2006). Most of the evidence so far

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suggests that strengths of hope, zest, gratitude, and love are the character strengths most related to life satisfaction. With respect to relationships of character strengths with affective components of well-being, hope, curiosity, and zest are between the strengths most highly associated with positive affect; whereas the strengths of hope, zest, and self-regulation are mentioned among those most strongly associated with negative affect.

However, the length of the VIA-IS has been an obstacle to its use (Littman-Ovadia, 2015). Completing the 240 items of this instrument can take a considerable amount of time and administering a shortened version of this long form could be a time-saving device in the measurement on character strengths.

Furnham and Lester (2012) and Ruch, Martínez-Martí, Proyer, and Harzer (2014) created 24-item short questionnaires to measure the 24 character strengths of the VIA Classification. Each of the items of both instruments described one of the 24 strengths. The Character Strengths Rating Form (CSRF) was the German-language questionnaire developed by Ruch et al. (2014) and used a 9-point Likert scale (from 1 = *not like me at all* through 9 = *absolutely like me*). By contrast, the instrument created by Furnham and Lester (2012) involved participants rating each item on a normal bell-curve distribution with a mean of 100 and a standard deviation of 15 points. Ruch et al. (2014) tested the convergence of the VIA-IS and the CSRF and found that the correlation coefficients among the homologous scales ranged between .41 and .77 (mean = .56). In addition, the CSRF yielded good convergence with the VIA-IS in terms of associations with life satisfaction.

Littman-Ovadia (2015) developed a 120-item short version of the VIA-IS by choosing the five items with the largest corrected item-total correlations from the original 10 items per subscale. This brief version (VIA-120) was substantially equivalent to the original English long form in internal consistency reliability and validity. In the derivation sample used to develop the short form, Cronbach's α coefficients for the 24 subscales of this 120-item version ranged from .69 (leadership) to .90 (creativity), with a mean of .79. When this short form was administered on an independent sample, internal consistency coefficients ranged from .64 (leadership) to .90 (spirituality), with a mean of .78. In the derivation sample, the average correlation between the 24 subscales of the short version and the respective VIA-IS subscales was .93. Regarding validity data, they found that the VIA-120 yielded a high convergence with the VIA-IS in terms of associations with positive outcomes (e.g., satisfaction with life, flourishing, positive affect) and negative outcomes (depression and negative affect). The results also indicated good convergence between the factor structures of both forms.

The VIA Institute on Character is currently offering the VIA-120 as the standard VIA Survey, replacing the original 240-item version. On its website, the VIA Institute reports that the short form VIA-120 is substantially equivalent to the original long version as to internal consistency reliability and validity. They are providing this brief version to researchers when economy of instruments is an important criterion. In particular, a short form would be easier to fit into large studies that involved multiple measures.

The goal of the present work is to derive a reliable and valid brief questionnaire from the Spanish version of the VIA-IS (Azañedo et al., 2014): the Spanish version of the VIA-120. We describe item selection for this short form and test its psychometric properties.

Participants

The sample consisted of 2,143 Spanish-speaking adults (1,373 women, 770 men) from five Spanish universities (98% were from the *National University of Distance Education*). Their mean age was 34.29 years ($SD = 10.76$; range 18-90 years); 38.9% had a high-school education, 17.8% had a postsecondary education, 42.1% had a university degree and 1.2% had a Ph.D. degree. Most participants (50.9%) were single, 27.7% were married, 14.4% lived together as a couple without being married, 6.5% were divorced or separated, and 0.5% of the subjects were widowed and had no partner at the time that provided this information.

Instruments

- The *VIA Inventory of Strengths* (VIA-IS; Peterson & Park, 2009; Peterson & Seligman, 2004) is a 240-item self-report questionnaire where respondents report to what extent these statements apply to themselves. In the present study, participants completed the Spanish adaptation of the VIA-IS (Azañedo et al., 2014) which measures the 24 strengths of character. Items are rated on a five-point Likert scale ranging from 1 (*very much unlike me*) to 5 (*very much like me*). Score for each of the 24 strengths has a potential range of 10 through 50, with higher score indicating higher degree of endorsement of a specific strength. Subscale scores were averaged across items, yielding 24 scores for each participant (i.e., one's ratings of each of the 24 strengths).
- The *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item self-report questionnaire which measures the life satisfaction component of SWB. Specifically, the SWLS consists of five statements through which the respondent assesses his or her satisfaction with life in general. The SWLS has been demonstrated to possess adequate psychometric properties in several studies (see Pavot & Diener, 2008, for details). In the current study, we applied the Spanish version of the SWLS (Atienza, Pons, Balaguer, & García-Merita, 2000), which showed a good internal consistency ($\alpha = .84$). Each item is rated on a five-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Responses are summed to yield an overall score of life satisfaction. A higher score indicates more life satisfaction. In the present sample, the scale's reliability was satisfactory ($\alpha = .88$) and all corrected item-total correlations were $>.60$. One final score was calculated for each participant by averaging the ratings of the five items.
- The *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988) is a 20-item measure of the affective component of SWB. The PANAS consists of two subscales: Positive Affect (PA) and Negative Affect (NA). Each subscale comprises ten adjectives that describe positive affect (e.g., 'inspired', 'enthusiastic', 'interested' for the PA subscale) and negative affect (e.g., 'upset', 'afraid', 'irritable' for the NA subscale). Individuals rated each adjective on a five-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*) to indicate the extent to which the respondent has felt that way in the past few

days. Subscale scores were computed by summing PA items and NA items separately, with higher scores representing higher degree of the respective dimension. The PANAS has been demonstrated to possess adequate psychometric properties in several studies (Crawford & Henry, 2004; Leue & Beauducel, 2011; Terracciano, McCrae, & Costa, 2003). In the current sample, both subscales showed high internal consistency: Cronbach's α was .92 for the PA subscale and .89 for the NA subscale. Sandín et al. (1999) validated its Spanish version and found that the internal consistency (α) coefficients were .89 (PA) and .91 (NA) for men, and .87 (PA) and .89 (NA) for women.

Procedure

Participants completed a battery of questionnaires including measures of socio-demographic information (i.e., age, gender, and marital status), academic information (i.e., educational level), character strengths, life satisfaction, and positive and negative affect. Participants answered the questionnaires online at home or at any place they wished. They received an individual report of their responses to these measures via e-mail. Participants did not receive any form of compensation.

Data analyses

The software SPSS version 19.0 was used for data analyses. For the selection of items for the Spanish VIA-120, we calculated the corrected item-total correlations for the items of each subscale of the Spanish VIA-IS. Means, standard deviations, and the ranks of the means were calculated for both instruments. To test the convergence between the VIA-IS and the VIA-120, we analyzed the correlation between the rank orders of the strength subscales obtained in both forms.

To further test the convergence of the VIA-IS with the short form and to demonstrate that the strengths assessed by the VIA-IS were well represented in this brief version, we analyzed the correlations between the subscales of the VIA-IS and the respective subscales of the VIA-120. We analyzed reliability by computing internal consistency coefficients (Cronbach's α) of the original subscales (VIA-IS) and comparing them with those of the short form.

Initial data on validity was evaluated by examining the convergence of the Spanish VIA-120 with the Spanish VIA-IS for associations with measures of well-being. Specifically, we computed the correlations of each strength subscale with life satisfaction, positive affect, and negative affect. Given the large number of correlations, the p value for significance was set to .002 using the Bonferroni correction. Validity was also evaluated by comparing factor analysis results for the VIA-IS with those for the short version. We followed the guidelines proposed by Izquierdo, Olea, and Abad (2014) regarding how to apply and report an EFA. A principal axis factoring analysis (PAF) with Promax rotation was conducted for the 24 subscales of the VIA-IS. Factors generated by the PAF were extracted as valid if eigenvalues were greater than the randomly generated values from Parallel Analysis (Horn, 1965). This analysis was repeated with the 24 subscales of the VIA-120. To quantify replicability of the structure across forms, we computed Tucker's Phi congruence coefficients (Tucker, 1951).

Results

Selection of items for the short form

We followed the criteria proposed by the VIA Institute and Littman-Ovadia (2015) for the development of the original VIA-120. Thus, the Spanish VIA-120 was developed by selecting 120 items from the Spanish adaptation of the VIA-IS; specifically, we constructed this short version using the five items with the highest corrected item-total correlations from the original 10 items per subscale.

Table 1 provides the item numbers of the Spanish VIA-120 and the overlap between the original English version and the Spanish version. There were notable similarities between both forms. However, with the exception of the strengths of creativity, leadership, and love, none of the Spanish subscales matched the original English subscales exactly in content.

Descriptive statistics, correlations between the subscales of the long form and the short form, and internal consistency

Means, standard deviations, and the ranks of the means for the VIA-IS and the VIA-120 are given in Table 2. Subscale means, on a potential 1-5 scale, ranged from 2.62 (spirituality subscale in the VIA-120) through 4.40 (fairness subscale in the VIA-120). Standard deviations ranged from .49 (fairness subscale in the VIA-IS) through 1.15 (spirituality subscale in the VIA-120).

Strengths	Item Numbers of the Spanish VIA-120	Overlap
Appreciation of beauty	65, 89, 137, 161, 185	4
Bravery	7, 55, 127, 151, 223	4
Creativity	4, 52, 100, 124, 148	5
Curiosity	49, 73, 97, 145, 169	3
Fairness	85, 109, 181, 205, 229	4
Forgiveness	48, 72, 96, 120, 168	4
Gratitude	114, 162, 186, 210, 234	4
Honesty	9, 105, 129, 177, 225	4
Hope	19, 67, 163, 211, 235	4
Humor	46, 70, 118, 166, 238	4
Kindness	34, 58, 82, 178, 202	4
Leadership	38, 62, 110, 158, 182	5
Learning	26, 50, 146, 194, 218	4
Love	35, 83, 131, 155, 179	5
Modesty	21, 69, 93, 165, 189	4
Open-mindedness	27, 147, 171, 195, 219	3
Persistence	8, 32, 80, 176, 200	4
Perspective	102, 126, 150, 174, 222	4
Prudence	40, 64, 136, 184, 208	4
Self-regulation	39, 63, 135, 159, 183	3
Social intelligence	29, 53, 101, 149, 197	4
Spirituality	44, 68, 140, 188, 212	4
Teamwork	36, 132, 156, 204, 228	3
Zest	71, 119, 143, 215, 239	4

Note: Overlap = number of items from the original English subscale on the Spanish subscale

A descriptive examination of the rank order of the means of the strength subscales indicated high convergence between the long form and the short form. Specifically, the correlation between the rank orders of the strengths obtained in the VIA-IS and the VIA-120 was .94. All of the VIA-IS subscales yielded significant correlations with their corresponding short form subscales and indicated a high content overlap (see Table 2). All the VIA-IS subscales yielded significant correlations with their corresponding short form subscales and indicated a high content overlap (see Table 2). Correlations between the VIA-120 subscales and the Spanish VIA-IS subscales ranged from .89 (strengths of fairness and prudence) to .95 (forgiveness), with a mean of .92.

Coefficient alpha values of the 24 subscales of the Spanish VIA-IS ranged from .76 (honesty and love) to .89 (persistence), with a mean of .82. The average internal consistency coefficients were slightly lower in the short form than in the long form (see Table 2) due to the smaller number of items per subscale. Specifically, the mean α coefficient for the VIA-120 was .78.

Associations of strengths with measures of well-being

Correlations between of strength subscales of both forms with life satisfaction, positive affect, and negative affect are given in Table 2. The mean correlation of the VIA-IS subscales with life satisfaction was .31, while the mean correlation of the VIA-120 with this measure was .28. We found that all strengths had significant correlations with life satisfaction except the modesty subscale in the VIA-120. The five strengths most highly related to life satisfaction score were the same for the long and short strength measures: hope, zest, gratitude, love, and curiosity.

The VIA-120 showed similar patterns of associations with positive affect and negative affect to those of the VIA-IS. The mean correlation of the VIA-IS subscales with positive affect was .35, while the mean correlation of the VIA-120 with this measure was .30. The mean correlation of the VIA-IS subscales with negative affect was -.22, while the mean correlation of the VIA-120 with this measure was -.20. Overall, the subscales of the VIA-IS and the VIA-120 were comparable regarding their correlations with positive affect and negative affect. We found that all strength subscales except modesty were significantly and directly related to positive affect. For both versions, five strengths in particular were strongly linked to greater positive affect: zest, hope, curiosity, creativity, and gratitude (r 's > .40). Hope and zest yielded the highest (negative) correlations with negative affect (r 's > .30 for both versions).

In sum, the strengths of hope and zest, measured either by the VIA-IS or by the short form, were found as the strengths most highly related to life satisfaction, positive affect, and negative affect. This is consistent with previous reports (e.g., Azañedo et al., 2014; Littman-Ovadia, 2015; Park et al., 2004). In general, the patterns of the correlations of both forms with the aforementioned measures were very similar, which supports the convergent validity of the Spanish short form.

Factor structure

For both versions, five factors were above the randomly generated criterion eigenvalue from Parallel Analysis. The five-component solution accounted for 61.31% of the variance in the data for the VIA-IS, and 52.28% for the VIA-120 (see Table 3).

In line with previous reports (e.g., Littman-Ovadia & Lavy, 2012; Ruch et al., 2010), our five factors were labeled as (1) *interpersonal strengths*, (2) *emotional strengths*, (3) *theological strengths*, (4) *strengths of restraint*, and (5) *intellectual strengths*. The first, second and third factors in the factor solution for the long form changed places in the factor solution for the short form. Based on the criterion proposed by Ruch et al. (2010), we found that four VIA-IS subscales and two VIA-120 subscales demonstrated double loadings (difference \leq .10 between subscales' loadings).

The mean of the congruence coefficients for the 24 strengths was .97 (see Table 3). The congruence coefficients between the factors of the VIA-IS and the VIA-120 were .99, .99, .97, .98, and .99, for interpersonal strengths, emotional strengths, theological strengths, strengths of restraint, and intellectual strengths, respectively. According to Lorenzo-Seva and ten Berge (2006), a value in the range between .85 and .94 corresponded to a fair similarity, while a value higher than .95 implied that the factors or components compared can be considered equal. Therefore, our results indicated a very high convergence or equality between the factor structure for the short form and the one for the VIA-IS.

Discussion

The present work involved the construction and the initial evaluation of a short version of the Spanish adaptation of the VIA-IS (Azañedo et al., 2014): the Spanish VIA-120. The results of our study lent support to the reliability and validity of this short form to measure the 24 character strengths included in the *Values in Action* (VIA) classification (Peterson & Seligman, 2004). Our findings were consistent with previous reports presented by the VIA Institute and Littman-Ovadia (2015) of the psychometric properties of the original English short form. Nevertheless, according to the methodological guidelines of Smith, McCarthy, and Anderson (2000) for the development of short forms, a further replication in an independent sample would be still necessary. It would be also important to administer both the long form and the short form, separately, to the same participants.

In the construction of the Spanish short form of VIA-120, we followed the same criteria proposed by the VIA Institute and Littman-Ovadia (2015) for the item selection: we chose the items with the largest corrected item-total correlations from the 10 items per subscale. Though there were notable overlap between the original English short version and the Spanish short form, not all the Spanish subscales were composed of the same items from the subscales of the original English VIA-120.

Findings from the present work indicated that the Spanish short version were substantially equivalent to the Spanish version of the VIA-IS in reliability and validity. The internal consistency coefficients of the subscales of the Spanish version of the VIA-120 were adequate though slightly lower in the short form than in the long form. The VIA-120 showed high convergence with the Spanish VIA-IS in terms of descriptive statistics. The correlations between the corresponding subscales of both forms indicated an adequate level of content overlap.

In terms of the convergent validity of the short form, our data were consistent with the pattern of correlations obtained by previous studies (e.g., Azañedo et al., 2014; Littman-Ovadia, 2015). In general, strengths —measured either by the VIA-IS or by the short form— were positively correlated with positive

Table 2

Means, standard deviations, ranks of the means for the VIA-IS and the VIA-120, correlations between the long form and the short form subscales, internal consistency of each subscale, and correlations of strength subscales with life satisfaction, positive affect, and negative affect

Strengths	Version	M	SD	R	r with VIA-IS	Reliability α	SWLS	PA	NA
Appreciation of beauty	VIA-IS	3.90	0.64	10		.82	.17*	.29*	-.08
	VIA-120	3.96	0.72	10	.93*	.80	.16*	.25*	-.10*
Bravery	VIA-IS	3.78	0.60	16		.80	.30*	.40*	-.25*
	VIA-120	3.72	0.72	17	.93*	.72	.31*	.38*	-.29*
Creativity	VIA-IS	3.70	0.70	18		.88	.24*	.45*	-.09*
	VIA-120	3.72	0.79	16	.94*	.88	.24*	.42*	-.12*
Curiosity	VIA-IS	4.00	0.57	8		.81	.44*	.54*	-.28*
	VIA-120	4.08	0.62	6	.93*	.75	.37*	.49*	-.23*
Fairness	VIA-IS	4.22	0.49	2		.78	.20*	.19*	-.19*
	VIA-120	4.40	0.52	1	.89*	.74	.17*	.13*	-.17*
Forgiveness	VIA-IS	3.73	0.71	17		.86	.28*	.25*	-.27*
	VIA-120	3.69	0.84	19	.95*	.82	.23*	.20*	-.27*
Gratitude	VIA-IS	4.04	0.56	5		.81	.49*	.41*	-.25*
	VIA-120	4.02	0.69	9	.92*	.79	.56*	.43*	-.28*
Honesty	VIA-IS	4.04	0.50	6		.76	.28*	.27*	-.24*
	VIA-120	4.14	0.57	4	.90*	.69	.22*	.23*	-.19*
Hope	VIA-IS	3.93	0.65	9		.84	.54*	.57*	-.40*
	VIA-120	3.86	0.79	12	.93*	.81	.56*	.56*	-.43*
Humor	VIA-IS	3.83	0.66	13		.87	.34*	.39*	-.23*
	VIA-120	3.82	0.79	13	.94*	.87	.24*	.30*	-.13*
Kindness	VIA-IS	4.29	0.50	1		.82	.27*	.28*	-.17*
	VIA-120	4.35	0.53	2	.92*	.76	.23*	.24*	-.12*
Leadership	VIA-IS	3.90	0.58	11		.83	.28*	.36*	-.17*
	VIA-120	3.76	0.71	15	.93*	.79	.24*	.30*	-.14*
Learning	VIA-IS	4.00	0.60	7		.82	.22*	.36*	-.17*
	VIA-120	4.03	0.74	8	.91*	.78	.13*	.26*	-.10*
Love	VIA-IS	4.07	0.57	3		.76	.41*	.32*	-.21*
	VIA-120	4.19	0.68	3	.90*	.73	.43*	.31*	-.24*
Modesty	VIA-IS	3.65	0.63	20		.80	.13*	.05	-.15*
	VIA-120	3.66	0.74	20	.93*	.75	.07	.01	-.10*
Open-mindedness	VIA-IS	4.04	0.52	4		.82	.25*	.33*	-.20*
	VIA-120	4.10	0.58	5	.93*	.73	.22*	.31*	-.16*
Persistence	VIA-IS	3.81	0.70	14		.89	.37*	.42*	-.29*
	VIA-120	3.72	0.84	18	.94*	.88	.35*	.36*	-.29*
Perspective	VIA-IS	3.66	0.56	19		.80	.34*	.43*	-.20*
	VIA-120	3.79	0.64	14	.92*	.75	.26*	.36*	-.13*
Prudence	VIA-IS	3.61	0.64	21		.78	.21*	.16*	-.22*
	VIA-120	3.54	0.81	22	.89*	.79	.13*	.11*	-.15*
Self-regulation	VIA-IS	3.47	0.67	23		.77	.33*	.36*	-.31*
	VIA-120	3.25	0.80	23	.91*	.70	.27*	.30*	-.25*
Social intelligence	VIA-IS	3.80	0.55	15		.78	.32*	.41*	-.21*
	VIA-120	3.86	0.69	11	.93*	.77	.30*	.38*	-.19*
Spirituality	VIA-IS	2.99	0.93	24		.88	.22*	.22*	-.10*
	VIA-120	2.62	1.15	24	.94*	.87	.16*	.13*	-.08*
Teamwork	VIA-IS	3.88	0.57	12		.79	.29*	.25*	-.23*
	VIA-120	4.05	0.62	7	.91*	.75	.24*	.20*	-.15*
Zest	VIA-IS	3.60	0.65	22		.82	.53*	.62*	-.33*
	VIA-120	3.54	0.80	21	.93*	.83	.55*	.63*	-.38*

Note: N = 2,143; R = rank of mean (1 indicates numerically highest mean and 24 indicates the numerically lowest mean of the scores); α = Cronbach's α ; r with VIA-IS = correlation between the VIA-IS subscales and the respective subscales of the short form; SWLS = Satisfaction with Life Scale; PA = Positive Affect; NA = Negative Affect

Table 3
Promax rotated 5-factor solution (Principal axis factoring) for the Spanish long form and the Spanish short form, and Tucker's Phi congruence coefficients.

Strengths	VIA-240					VIA-120					Phi
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Fairness	.74	.09	-.17	.13	.12	.71	.02	-.04	-.01	.12	.95
Kindness	.72	.11	.11	-.05	.00	.68	.19	.10	-.10	-.03	.99
Teamwork	.71	.09	.13	.05	-.13	.65	.17	.13	.05	-.16	.99
Modesty	.62	-.28	-.05	.39	-.03	.54	-.26	-.05	.33	.02	.99
Forgiveness	.61	-.11	.10	.09	.15	.53	-.18	.23	.03	.12	.96
Love	.46	.08	.37	-.14	-.04	.22	.09	.42	-.02	-.07	.89
Perspective	-.05	.77	-.04	.16	.04	-.01	.75	-.22	.16	.10	.97
Creativity	-.15	.72	-.01	-.14	.28	-.17	.65	.01	-.10	.27	.99
Social intelligence	.13	.68	.14	.00	-.09	.03	.76	.06	-.03	-.07	.99
Bravery	-.03	.60	.20	.07	-.04	-.14	.56	.17	.16	.00	.96
Open-mindedness	.04	.59	-.27	.40	.17	.11	.44	-.25	.34	.26	.97
Humor	.27	.51	.25	-.25	-.11	.14	.65	.17	-.27	-.17	.98
Leadership	.44	.48	.01	.01	-.05	.33	.49	-.01	.08	-.10	.99
Zest	-.05	.20	.70	.08	.07	-.10	.23	.73	.08	.00	.99
Hope	-.03	.21	.62	.16	.04	-.02	.11	.70	.04	.09	.96
Gratitude	.39	-.17	.54	-.01	.25	.21	-.16	.70	-.01	.14	.96
Spirituality	.11	-.11	.43	.11	.12	.07	-.14	.39	.15	.01	.99
Prudence	.28	-.06	-.07	.70	.04	.21	-.07	-.14	.65	.05	.99
Self-regulation	-.05	-.01	.34	.64	-.01	-.07	-.03	.24	.73	-.04	.98
Persistence	-.14	.05	.54	.61	-.10	-.13	.06	.39	.63	-.11	.98
Honesty	.31	.28	.06	.40	-.10	.26	.17	.08	.37	-.01	.95
Learning	-.06	.07	.05	.12	.64	-.03	-.04	.00	.05	.63	.99
Beauty	.22	-.02	.12	-.11	.61	.21	.01	.16	-.11	.50	.99
Curiosity	-.06	.23	.30	-.02	.54	.01	.15	.30	-.05	.57	.99
Explained variance (%)	43.31	6.50	5.07	3.39	3.04	5.21	34.09	5.84	3.95	3.18	

Note: **Bold** indicates highest factor loadings of the subscale

outcomes (i.e., life satisfaction and positive affect) and negatively associated with the negative outcome of negative affect. Moreover, we found that the significant positive correlations of strengths with the aforementioned positive outcomes were generally stronger than the significant correlations of strengths with the measured negative outcome. These results were obtained by the long form as well as by the short form and supported the empirical evidence concerning the specific contributions of the character strengths to well-being (e.g., Littman-Ovadia & Lavy, 2012; Peterson & Seligman, 2004; Ruch et al., 2010).

The factor solution for the VIA-120 successfully reproduced the five-factor structure of the Spanish long form. Overall, the pattern of factor loadings on the five factors for the long form and the one for the short form were very similar; the coefficients of congruence between the factor structures were very high. These findings supported for the construct validity of the Spanish short version.

However, this work has limitations that should be acknowledged because they point the way to future research. First, the participants of our sample were university students. A further work with a more heterogeneous sample, drawn from different contexts, is therefore suggested for better generalizability. Moreover, the measures used in this study were based solely on self-report questions, where

response bias could be of special concern (Navarro-González, Lorenzo-Seva, & Vigil-Colet, 2016). The VIA-120 comprises only positive items, so it could be exposed to the possibility of acquiescence bias. However, the combination of positive and negative items could lead to alterations in the internal consistency of the subscales (Solís, 2015). Regarding social desirability bias, Peterson and Park (2011) state that the assessment of positive traits, such as character strengths, allows respondents to say something good about themselves, and may therefore reduce concern about this response bias.

Despite these limitations, the short form presented in this work can be considered valuable, timesaving alternative to the Spanish long form. As shown by our results, the Spanish VIA-IS could be shortened to 120 items in the VIA-120 and still preserved its psychometric properties. We recommend the use of this short version in studies that involve multiple measures, when many questionnaires are to be completed or time pressure precludes the use of full-length scales.

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References

- Atienza, F. L., Pons, D., Balaguer, I., & García-Merita, M. L. (2000). Propiedades psicométricas de la Escala de Satisfacción con la Vida en adolescentes [Psychometric properties of the Satisfaction with Life Scale in adolescents]. *Psicothema*, *12*, 314-319.
- Azañedo, C. M., Fernández-Abascal, E. G., & Barraca, J. (2014). Character strengths in Spain: Validation of the Values in Action Inventory of Strengths (VIA-IS) in a Spanish sample. *Clínica y Salud*, *25*(2), 123-130.
- Crawford, J. R., & Henry, J. D. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *43*, 245-265.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71-75.
- Furnham, A., & Lester, D. (2012). The development of a short measure of character strength. *European Journal of Psychological Assessment*, *28*, 95-101.
- Gradisek, P. (2012). Character strengths and life satisfaction of Slovenian in-service and pre-service teachers. *CEPS Journal*, *2*(3), 167-180.
- Horn, J. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, *30*, 179-185.
- Izquierdo, I., Olea, J., & Abad, F. J. (2014). Exploratory factor analysis in validation studies: Uses and recommendations. *Psicothema*, *26*(3), 395-400.
- Leue, A., & Beauducel, A. (2011). The PANAS structure revisited: On the validity of a bifactor model in community and forensic samples. *Psychological Assessment*, *23*, 215-225.
- Linley, P. A., Maltby, J., Wood, A. M., Joseph, S., Harrington, S., Peterson, C., Park, N., & Seligman, M. E. P. (2007). Character strengths in the United Kingdom: The VIA Inventory of Strengths. *Personality and Individual Differences*, *43*, 341-351.
- Littman-Ovadia, H. (2015). Short form of the VIA Survey: Construction of scales and preliminary tests of reliability and validity. *International Journal of Humanities Social Sciences and Education*, *2*(4), 229-237.
- Littman-Ovadia, H., & Lavy, S. (2012). Character strengths in Israel: Hebrew adaptation of the VIA Inventory of Strengths. *European Journal of Psychological Assessment*, *28*, 41-50.
- Lorenzo-Seva, U., & ten Berge, J. M. F. (2006). Tucker's congruence coefficient as a meaningful index of factor similarity. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, *2*(2), 57-64.
- Navarro-González, D., Lorenzo-Seva, U., & Vigil-Colet, A. (2016). How response bias affects the factorial structure of personality self-reports. *Psicothema*, *28*, 465-470.
- Park, N., Peterson, C., & Seligman, M. E. P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, *2*, 603-619.
- Pavot, W., & Diener, E. (2008). The Satisfaction with Life Scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, *3*, 137-152.
- Peterson, C., & Park, N. (2009). Classifying and measuring strengths of character. In S. J. López & C. R. Snyder (Eds.), *Oxford handbook of positive psychology*, 2nd edition (pp. 25-33). New York: Oxford University Press.
- Peterson, C., Park, N., & Seligman, M. E. P. (2006). Greater strengths of character and recovery from illness. *The Journal of Positive Psychology*, *1*, 17-26.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology*, *2*, 149-156.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press/Washington, DC: American Psychological Association.
- Proyer, R. T., Ruch, W., & Buschor, C. (2013). Testing strengths-based interventions: A preliminary study on the effectiveness of a program targeting curiosity, gratitude, hope, humor, and zest for enhancing life satisfaction. *Journal of Happiness Studies*, *14*(1), 275-292.
- Ruch, W., Martínez-Martí, M. L., Proyer, R. T., & Harzer, C. (2014). The Character Strengths Rating Form (CSRF): Development and initial assessment of a 24-item rating scale to assess character strengths. *Personality and Individual Differences*, *68*, 53-58.
- Ruch, W., Proyer, R. T., Harzer, C., Park, N., Peterson, C., & Seligman, M. E. P. (2010). Values in Action Inventory of Strengths (VIA-IS): Adaptation and validation of the German version and the development of a peer-rating form. *Journal of Individual Differences*, *31*, 138-149.
- Sandín, B., Chorot, P., Lostao, L., Joiner, T. E., Santed, M. A., & Valiente, R. M. (1999). Escalas PANAS de Afecto Positivo y Afecto Negativo: Validación Factorial y Convergencia Transcultural [The PANAS Scales of Positive and Negative Affect: Factor Analytic Validation and Cross-cultural Convergence]. *Psicothema*, *11*, 37-51.
- Shimai, S., Otake, K., Park, N., Peterson, C., & Seligman, M. E. P. (2006). Convergence of character strengths in American and Japanese young adults. *Journal of Happiness Studies*, *7*, 311-322.
- Smith, G. T., McCarthy, D. M., & Anderson, K. G. (2000). On the sins of short-form development. *Psychological Assessment*, *12*(1), 102-111.
- Solís, M. (2015). The dilemma of combining positive and negative items in scales. *Psicothema*, *27*, 192-199.
- Terracciano, A., McCrae, R. R., & Costa, P. T. (2003). Factorial and construct validity of the Italian Positive and Negative Affect Schedule (PANAS). *European Journal of Psychological Assessment*, *19*, 131-141.
- Tucker, L. R. (1951). *A method for synthesis of factor analysis studies* (Personnel Research Section Report No. 984). Washington, DC: Department of the Army.
- 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*, 1063-1070.