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Relationship between Life Skills and General Self-Efficacy. Validation of HVD-A scale

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KEYWORDS	ABSTRACT
Life skills General Self-Efficacy Positive Psychology Adolescents Validation	World Health Organization's approach was one of the most comprehensive frameworks in categorizing the essential skills for youth, creating the 10 Daily Life Skills Education. There is a scarcity of instruments for Life Skills assessment. For this reason, Daily Life Skills Education Questionnaire for Adolescents (HVD-A) scale was created to assess 10 Daily Life Skills as a global construct under the positive psychology framework. The objective of this work was to analyze the relationships between Life Skills and General Self-Efficacy, finding additional evidence for the validity of the HVD-A scale across sex and age. A sample of 1,507 adolescents between 12 and 18 years old filled the HVD-A scale and the General Self-Efficacy scale. Exploratory and confirmatory factor analyzes were carried out to evaluate the original model fit in different samples. A unifactorial model showed adequate fit to the data. The Structural Equation Modelling analysis showed a significant association between Life Skills and General Self-Efficacy. In some items, the HVD-A scale may underestimate the scores in girls of middle-late adolescence. The usefulness and implications of the instrument for the scientific and applied field of psychology and education are debated.

Relación entre Habilidades para la Vida y Autoeficacia General. Validación de la escala HVD-A

PALABRAS CLAVE	RESUMEN
Habilidades para la vida Autoeficacia general Psicología positiva Adolescentes Validación	El enfoque de la Organización Mundial de la Salud fue uno de los marcos más completos en la categorización de las habilidades esenciales para los jóvenes, creando las 10 Habilidades para la Vida. Hay una escasez de instrumentos para evaluar las Habilidades para la Vida. Por ello se creó la Escala de Habilidades para la Vida Diaria para Adolescentes (HVD-A) como un constructo global bajo el marco de la psicología positiva y del desarrollo. El objetivo de este trabajo fue analizar las relaciones entre las Habilidades para la Vida y la Autoeficacia General, encontrando evidencia adicional para la validez de la escala HVD-A a través del sexo y la edad. Una muestra de 1,507 adolescentes entre 12 y 18 años cumplimentó la escala HVD-A y la escala de Autoeficacia General. Se llevaron a cabo análisis factoriales exploratorios y confirmatorios para evaluar el ajuste del modelo original en diferentes muestras. Un modelo unifactorial muestra un ajuste adecuado a los datos. El análisis del Modelo de Ecuaciones Estructurales mostró asociación significativa entre Habilidades para la Vida y Autoeficacia General. En algunos ítems la escala HVD-A puede subestimar las puntuaciones en chicas de adolescencia media-tardía. Se debate la utilidad e implicaciones del instrumento para el campo científico y aplicado de la psicología y la educación.

In 1993, the Division of Mental Health of the World Health Organization (WHO) launched the International Initiative for Life Skills Education in Schools (LS). The purpose of this action was to spread the teaching of a generic group of ten key psychosocial skills for psychosocial skills and healthy lifestyle promotion among youth. LS strengthens personal capacities and helps to face daily problems with confidence (Joseph, 2018). LS can be developed and strengthened through practice. Including this strategic line in youth participation for LS promotion can strengthen individual and collective capacity to change reality (Mangrulkar et al., 2001).

Life Skills under the positive psychology framework

Positive psychology research improves youth development understanding (López et al., 2018). The positive psychology framework perspective allows focusing research from the preventive field (Snyder et al., 2013), making an impact on health promotion. The promotion of experiences and contexts that provide LS should be encouraged from childhood (Lapalme et al., 2014). This framework fits with the LS construct, which guided HVD-A scale creation.

Mangrulkar et al. (2001) based their LS programs on complementary theories of childhood and youth: learning, problem behavior, social influence, cognitive problem solving, multiple intelligences, and resilience. Specifically in the Spanish context, Oliva et al. (2010) focused on health conditions that promote the development of skills, resources, or assets that improve social, academic, and professional life from an ecological perspective. This approach focuses on intervention possibilities to promote health and positive youth development.

Life Skills and self-efficacy

The multifarious developmental changes throughout the adolescent stages affect individual beliefs regarding the perception of competence. This competence perception increases self-confidence in the ability to solve problems, make decisions, face social challenges in various contexts throughout their lives, and overcome barriers (Bandura, 2006). One of the most researched psychological constructs about competence perception is self-efficacy.

Self-efficacy is framed within positive psychology, due to the emphasis on the development of empowerment, that is, the notion that individuals can be "self-initiating" agents for change in their own lives and in others' lives. In this sense, self-efficacy addresses human potential and possibilities, not limitations, which makes it truly positive psychology (Maddux, 2002). Self-efficacy is a good predictor of diverse adolescent behaviors and defines self-evaluation of adaptation (Carrasco & Del Barrio, 2002) and achievement (Barca-Lozano et al., 2012).

General Self-Efficacy (GSE) is a psychological construct that indicates the individual perception of overall competence, as well as adaptive skills (Bandura, 2006). In this sense, GSE implies a personal judgment of one's own abilities to manage various life stressors (Bandura, 1987). Based on their own competence judg-

ments, the person organizes and executes actions, allowing them to achieve the planned performance (Bandura, 1987).

To assess it, the GSE Scale (Schwarzer & Baessler, 1996) has shown reliability and validity. No significant differences by sex have been found in Spanish adolescents (e. g., Balaguer et al., 2020, 2022; Espada et al., 2017; Orejudo et al., 2013) nor in other countries (e. g., Lönnfjord & Hagquist, 2018; Marcionetti & Rossier, 2019).

There is a scarcity of scientific literature about the relationships between self-efficacy and LS. Caprara et al. (2001) identified four types of self-efficacy in life skills: expressing positive emotions, managing negative emotions, creative solutions, and effective communication in social relations. They created an instrument under this focus which has been used in other studies (e. g., Pastorelli et al., 2001; Sagone et al., 2018, 2020). However, no studies have been carried out on GSE improvement through LS programs in Western cultures (e. g., McMullen & McMullen, 2018; Rezayat & Nayeri, 2013; Srikala & Kishore, 2010). Thus, it has been found that training youth in LS improves their self-efficacy to prevent and face different problems like diet control (Shudo et al., 2019), substance use (Moeini et al., 2020), or adolescent pregnancy (Machmud & Indrapriyatna, 2019). Self-efficacy and LS also promote healthy outcomes such as psychological well-being (Sagone et al., 2018) or resilience (Sagone et al., 2020).

Life Skills in applied field. Programs and instruments

LS-based programs have contributed to improve youth education and development around the world (Nasheeda et al., 2019; Srikala & Kishore, 2010). In recent years, some proposals for LS programs have been created under positive psychology and health promotion frameworks in the Spanish context (e. g., Carrillo-Sierra et al., 2018; Corrales et al., 2017; Gordón et al., 2017, 2019).

However, the literature shows a scarcity of instruments to assess LS under WHO (1993) framework. Regarding specific stages, there are LS questionnaires specifically for late childhood (e. g., Kobayashi et al., 2013, validated by Şimşek, 2019) and for university students (e. g., *Life-Skills Development Inventory-College Form*, Picklesimer, & Miller, 1998). Some questionnaires that assess variables related to positive psychology and positive youth development have been developed (e. g., Cassaretto-Bardales & Martínez-Uribe, 2017; Kennedy et al., 2014; Waigel & Lemos, 2020), as well as for sports application (Cronin & Allen, 2017) or for parenting strengthening (Petterson et al., 2016). Other instruments that assess LS present some of the variables proposed by the WHO (1993) approach, but they have few items (e. g., Kennedy et al., 2014) or a high number of items (e. g., Kobayashi et al., 2013).

This lack of LS measures is more evident in Spanish. Oliva et al. (2011) created a scale of youth social skills that includes communication skills, assertiveness, and conflict resolution under the Positive Youth Development framework. However, LS instruments in Spanish are needed. As for that, the Daily Life Skills Education for Adolescents scale (named in Spanish

Escala de Habilidades para la Vida Diaria para Adolescentes, HVD-A) was created to assess the impact of LS program *Reto-memos* (Serrano et al., 2013). Table 1 shows the relationships between the items of the HVD-A inventory and the LS.

The present study

The objective of this research is to analyze the relationships between LS and GSE and validate the HVD-A scale for its use in the psychoeducational field, under positive psychology framework. Concretely, we aim to identify its factorial structure and identify sex and age differences through multigroup analysis. In this way, psychometric properties of the HVD-A scale in Spanish adolescents were estimated.

The hypotheses proposed were the following: 1) The psychometric properties of the HVD-A scale, created under the WHO (1993) approach, are adjusted to a sample of Spanish adolescents. 2) The GSE and LS constructs, measured through the instrument HVD-A, have statistically significant relationships. Previous research has explored the relationship between LS and specific self-efficacy, (e. g., McMullen & McMullen, 2018; Rezayat & Nayeri, 2013; Srikala & Kishore, 2010) and none of them have not been reported in Spanish samples. 3) There are sexual and developmental differences in LS, as previous research has found (e. g., Kennedy et al., 2014; Kobayashi et al., 2013).

Method

Participants

Participants were recruited in secondary education schools. Ten schools were selected at random, with a proportional representation of public/private and rural/urban schools: seven public (four urban, three rural) and three private-urban schools. Among them, seven schools agreed to participate: six public schools (four urban, two rural) and one private urban school. 1,507 students completed the survey, with balanced

distributions of sex (50.1% men) and age (12-13 years: 34.8%, 14-15 years: 34.6%, and 16-18 years: 30.6%). According to the school ownership, 766 students (50.1%) were from public-urban schools, 587 (39.0%) from public-rural schools, and 154 (10.2%) from private-urban schools.

The inclusion criteria of the sample focused on the secondary schools situated in the province of Zaragoza (Spain) that offered at least one of the study programs carried out for adolescents between 12 and 18 years old (Compulsory Secondary Education, Initial Professional Training, Middle Professional Training and Post-Compulsory pre-university Education).

Instruments

Daily Life Skills Education Questionnaire for Adolescents, HVD-A Scale (*Escala de Habilidades para la Vida Diaria para Adolescentes*) is based on the 10 LS proposed by WHO (1993), under the framework of positive psychology. It consists of 10 items with 7-point Likert scales –*from not at all* to *a lot*–, generating a total score in a single factor (see Table 1). The internal reliability of the scale was .89.

General Self-Efficacy Scale (Schwarzer y Baessler, 1996; Spanish adaptation by Sanjuán et al., 2000). It assesses the stable feeling of personal competence to effectively manage a wide variety of situations at any age. It consists of 10 items with 4-point Likert scales (*I never think like that*, *Sometimes I think like that*, *I often think like that* and *I always think about it*), generating a total score in a single self-efficacy factor at the general. The Spanish version obtained an adequate value of internal reliability (α = .87). In this study, it was .83.

Procedure

The objectives and characteristics of the study were explained to school principals and counselors. Before completing the questionnaires, families were informed by letter about the purpose and the procedure of the study. Participants with no parental consent were excluded. The anonymity of the par-

Table 1

Relation between HVD-A items and 10 LS (OMS, 1993)

Items HVD-A	10 Life Skills Education		Area
LS_1	I trust my ability to function in any situation	Coping with emotions	Emotional
LS_2	I am able to express my thoughts adequately	Effective communication/assertiveness	Social
LS_3	I am easy to make my own decisions	Decision making	Cognitive
LS_4	I regularly develop new ideas	Creative thinking	Cognitive
LS_5	I know how to identify my feelings and emotions	Self-awareness	Emotional
LS_6	I am able to understand and put myself in the place of others	Empathy	Social
LS_7	I have the abilities to initiate and maintain good relationships	Interpersonal relationship skills	Social
LS_8	I can constructively face the problems of life	Problem solving	Cognitive
LS_9	I objectively analyze the information I receive	Critical thinking	Cognitive
LS_10	I recognize what stresses me and I am able to control it	Coping with stress	Emotional

ticipants was ensured. Schools were informed of the possibility of excluding those students whose families did not agree with their participation. Each school received a report with their own results after data analysis. Ethical guidelines for educational research were followed (British Educational Research Association, 2011). There was not compensation awarded for participate. Ethical approval was obtained from an Academic Commission of the University of Zaragoza.

Statistical procedure

Data preprocessing. After cleaning the records for inconsistencies in their completion, adjustment assumptions to the normal distribution were evaluated by calculating skewness and kurtosis statistics, using the cutoff points proposed by Lloret-Segura et al. (2014) [-2,2]. Observing the normal behavior of the items, the internal reliability statistic for the HVD-A scale was evaluated. All analyzes were performed with SAS 9.4 software.

Exploratory factor analysis. For instrument validation, the sample was randomly divided into two groups with approximately 50% of the data. One of these samples was used for an Exploratory Factor Analysis (EFA), $n = 602$, and the remaining sample for the Confirmatory Factor Analysis (CFA), $n = 643$. For the EFA, the factor structure was evaluated using Kaiser's Measure of Sampling Adequacy and Bartlett's sphericity test with a p-value = .05. The number of factors was confirmed through parallel analysis. The assignment to the selected factors was made from load values greater than 0.4. Maximum likelihood methods were used to estimate the parameters. Measure properties for the selected model was estimated: items reliability, composite reliability, variance extraction, standardized loads, and respective t-test value.

Confirmatory factor analysis. The unifactorial structure was confirmed by SEM analysis, through maximum likelihood methods. The model fit was evaluated with the statistics and cut-off points proposed by Hu and Bentler (1999): 1)

comparative fit index (CFI) > .95 and standardized root mean square residual (SRMR) < .09; or 2) root mean square error of approximation (RMSEA) < .05 and SRMR < .06. The GSE scale (Schwarzer & Baessler, 1996; validated by Sanjuán et al., 2000) was used for external validation. Finally, invariance for four population groups was tested: girls and boys, over 14 years old (older) and equal to or under 14 years old (younger), as well as comparisons between groups' scores.

Results

When analyzing the descriptive statistics of mean and standard deviation, it can be observed that older girls obtained the lowest mean values, except on LS_3 (Decision making) and LS_7 (Interpersonal relationship skills). In general, the youngest boys and girls are the group with the highest mean values (see Table 2).

The measure of sample adequacy (KMO) was 0.92, and the Bartlett sphericity test was rejected with $p < .001$. The parallel analysis detected only one factor (eigenvalue observed = 5.02; simulated = 1.26). All the evaluated items obtained factorial loads greater than 0.4 units loading in this single factor, and adequate levels in the properties of the instrument (see Table 3).

The confirmatory analysis identified adequate fit levels of the unifactorial model (see Table 4). Regarding the *General Self-Efficacy scale*, used as an external validation instrument, it also showed optimal adjustment values: SRMR = .038, RMSEA = .064, and CFI = .94. The SEM analysis for the validation of HVD-A as a predictor of self-efficacy showed an optimal fit level for RMSEA, SRMR, and CFI (.051, .036, and .094, respectively), as shown in Table 4 and Figure 1.

Finally, from the invariance analysis for the four groups (young boys and girls, and older boys and girls), it was found that the models without restrictions neither in means nor in covariance structure were those that consistently showed optimal SRMR values and the best-fit values (SRMR = .045;

Table 2

Descriptive statistics of HVD-A items

Item	Younger boys			Older boys			Younger girls			Older girls		
	n	Mean	SD	n	Mean	SD	n	Mean	SD	n	Mean	SD
LS_1		5.44	1.35		5.52	1.31		5.05	1.27		4.93	1.35
LS_2		5.18	1.41		5.15	1.43		5.14	1.34		4.9	1.42
LS_3		5.57	1.28		5.53	1.32		5.24	1.32		5.35	1.33
LS_4		5.27	1.44		5.3	1.27		4.98	1.34		4.82	1.32
LS_5	331	5.44	1.45	273	5.4	1.28	350	5.39	1.36	274	5.14	1.46
LS_6		5.29	1.39		5.44	1.35		5.7	1.16		5.78	1.15
LS_7		5.66	1.31		5.46	1.38		5.63	1.28		5.39	1.34
LS_8		5.3	1.34		5.23	1.18		5.15	1.2		5.03	1.2
LS_9		5.1	1.3		5.1	1.32		5	1.27		4.89	1.12
LS_10		5	1.47		4.9	1.46		4.8	1.49		4.43	1.41

Note. Younger: younger adolescents (12-14 years old); Older: older adolescents (14-18 years old).

Table 3

Statistics, correlation matrix between HVD-A items and instrument properties

| Nº	Item	Mean	SD	1	2	3	4	5	6	7	8	9	VEE	R	SL	t
													.45	.89 a		
LS_1	I trust my ability to function in any situation.	5.19	1.33											.54	.74	35.79
LS_2	I am able to express my thoughts adequately	5.05	1.41	.57										.46	.68	28.27
LS_3	I am easy to make my own decisions	5.31	1.31	.54	.53									.55	.74	36.69
LS_4	I regularly develop new ideas	4.97	1.35	.53	.46	.58								.49	.70	30.94
LS_5	I know how to identify my feelings and emotions	5.28	1.39	.41	.46	.51	.45							.40	.64	24.54
LS_6	I am able to understand and put myself in the place of others	5.52	1.24	.29	.38	.33	.33	.38						.27	.52	16.95
LS_7	I have the abilities to initiate and maintain good relationships	5.47	1.33	.46	.43	.40	.37	.43	.40					.36	.60	21.59
LS_8	I can constructively face the problems of life.	5.1	1.2	.56	.48	.55	.51	.51	.41	.52				.60	.77	46.58
LS_9	I objectively analyze the information I receive.	4.97	1.25	.46	.46	.45	.46	.44	.38	.41	.58			.51	.71	39.63
LS_10	I recognize what stresses me and I am able to control it.	4.78	1.44	.41	.43	.36	.41	.41	.34	.36	.46	.48		.35	.59	21.16

Note. R = Reliability; VEE = Variance extraction estimates; SL = Standardized lad; t = t Value; a = Composite reliability.

Table 4

Goodness-of-fit indices for the models

Model	χ^2	d.f.	$\Delta \chi^2$	Δ d.f.	Prob. > χ^2	CFI	SRMR	RMSEA	(RMSEA CL90)
Baseline	2680.79	45							
One factor	174.26	36	2506.53	9	< .001	.95	.041	.078	(.067-.09)

Note. χ^2 = chi-square; d.f. = degrees of freedom; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation; RMSEA CL90 = RMSEA 90% Confidence Limits. Base model corresponds to one in which the factorial structure is not considered. Δ, corresponds to the difference between the proposed model against the base model.
* $p < .05$.

Figure 1

Model with factor loadings
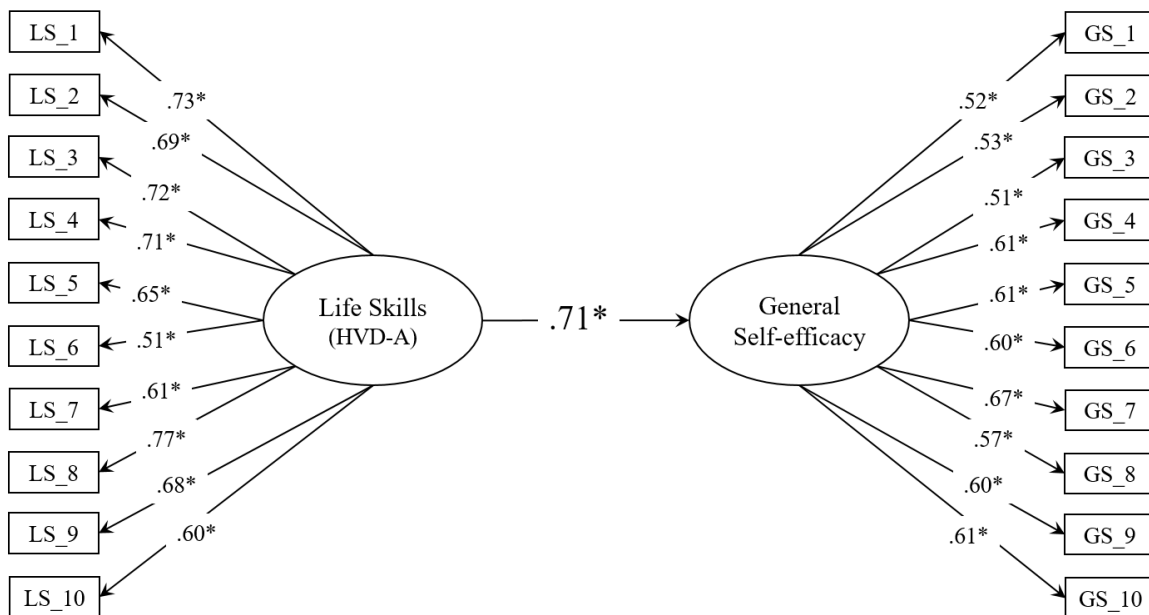
*$p < .05$.

Table 5

Invariance analysis for the four groups

Model	Group	Contribution to χ^2 (%)	SRMR	GFI	NFI
Invariant	Total	100	.078	.96	.79
	Younger boys	21	.073	.97	.83
	Older boys	25	.076	.96	.79
	Younger girls	25	.066	.96	.81
	Older girls	29	.098	.95	.72
Variant in means and covariance structure	Total	100	.048	.97	.84
	Younger boys	20	.043	.98	.87
	Older boys	24	.050	.96	.84
	Younger girls	26	.045	.97	.85
	Older girls	29	.057	.96	.78
Variant in mean structure	Total	100	.068	.96	.82
	Younger boys	21	.063	.97	.85
	Older boys	24	.065	.96	.82
	Younger girls	25	.060	.97	.84
	Older girls	29	.084	.95	.75

Note. Younger = younger adolescents (12-14 years old); Older = older adolescents (14-18 years old).

Table 6

Comparison of the covariance structure

Predictor	Item	Model (estimate, standard error)			
		Younger boys	Older boys	Younger girls	Older girls
Life Skills	LS_1	.771 (.026)	.786 (.027)	.680 (.032)	.668 (.038)
	LS_2	.730 (.029)	.713 (.033)	.663 (.033)	.618 (.042)
	LS_3	.755 (.027)	.697 (.035)	.726 (.029)	.701 (.036)
	LS_4	.712 (.031)	.728 (.032)	.691 (.031)	.674 (.038)
	LS_5	.672 (.034)	.679 (.036)	.647 (.034)	.602 (.043)
	LS_6	.617 (.038)	.584 (.043)	.446 (.046)	.479 (.051)
	LS_7	.645 (.036)	.668 (.037)	.649 (.034)	.473 (.052)
	LS_8	.761 (.027)	.761 (.029)	.803 (.023)	.769 (.030)
	LS_9	.638 (.036)	.684 (.036)	.722 (.029)	.675 (.038)
	LS_10	.623 (.037)	.595 (.043)	.602 (.037)	.538 (.048)
General Self-Efficacy	GS_1	.427 (.052)	.594 (.044)	.555 (.042)	.511 (.050)
	GS_2	.533 (.046)	.514 (.050)	.558 (.042)	.481 (.052)
	GS_3	.496 (.048)	.589 (.045)	.458 (.047)	.513 (.050)
	GS_4	.563 (.044)	.615 (.043)	.613 (.039)	.597 (.045)
	GS_5	.601 (.042)	.686 (.038)	.547 (.042)	.585 (.046)
	GS_6	.508 (.048)	.586 (.045)	.574 (.041)	.702 (.037)
	GS_7	.658 (.038)	.713 (.035)	.651 (.036)	.648 (.041)
	GS_8	.514 (.047)	.570 (.046)	.594 (.040)	.600 (.045)
	GS_9	.555 (.045)	.609 (.043)	.592 (.040)	.631 (.042)
	GS_10	.536 (.046)	.589 (.045)	.627 (.038)	.613 (.044)
Life Skills	General Self-Efficacy	.714 (.038)	.695 (.040)	.711 (.035)	.719 (.040)

Note. Younger = younger adolescents (12-14 years old); Older = older adolescents (14-18 years old).

Table 7

Contrasts of the mean values of the unconstrained model

Model	Test	Contrast				Effect	χ^2	*p*-value
		Younger boys	Older boys	Younger girls	Older girls			
		7.64	6.35	7.39	7.33			
	Younger boys vs. Older girls	1			-1	0.31	0.05	.82
	Younger boys vs. Younger girls	1		-1		0.25	0.04	.84
Without restrictions	Younger boys vs. Older boys	1	-1			1.29	1	.32
	Older boys vs. Older girls		1		-1	-0.98	0.62	.43
	Older boys vs. Younger girls		1	-1		-1.04	0.83	.36
	Younger girls vs. Older girls			1	-1	0.06	0	.96
		6.43	6.44	5.86	2.39			
	Younger boys vs. Older girls	1			-1	4.04	172.75	<.001
	Younger boys vs. Younger girls	1		-1		0.58	10.45	<.001
Mean without restrictions	Younger boys vs. Older boys	1	-1			-0.01	0	.95
	Older boys vs. Older girls		1		-1	4.05	167.99	<.001
	Older boys vs. Younger girls		1	-1		0.59	9.94	<.001
	Younger girls vs. Older girls			1	-1	3.46	154.98	<.001

Note. Younger = younger adolescents (12-14 years old); Older = older adolescents (14-18 years old).

RMSEA = .065; and CFI = .90). This result is in line with Hu and Bentler (1999), as they propose that this statistic is sensitive to identify problems in the covariance structure, as can be seen in Table 5.

When evaluating the covariance structure, it can be seen how the regression coefficients for items LS_1 to LS_7 inclusive are, in general, higher for men, especially for 12-14-year-old boys. In particular, items LS_6 and LS_7 show a low predictive level of LS in women (especially in 15-18-year-old girls), questions associated with social skills, that is, women's social performance is not necessarily related to their LS. In contrast, item LS_8, related to coping strategies, obtained consistently high values in the four groups, especially for the two groups of girls. Finally, item LS_10, related to stress management, contrary to item LS_8, was the one with the lowest prediction, being especially low in the group of 15-18-year-old girls (see Table 6).

Considering the contrasts of the mean values of the total score, taking the model without restrictions on means and covariances, it does not show differences in the scores of the four groups. Compared to the contrasts under a model without restrictions, under the model without restrictions on covariances it is observed how this restriction makes the scores obtained in LS in boys significantly higher than in girls. With greater impact, in general, compared to 15-18-year-old girls, as shown in Table 7.

Discussion

The aim of this research was to analyze the relationships between LS and GSE. Specifically, on the one hand, to validate the HVD-A scale, under the positive psychology framework. On the other hand, to analyze the associations between the LS and GSE constructs.

Following the first hypothesis, it is confirmed that the psychometric properties of the HVD-A scale, created under the WHO (1993) approach of 10 LS, are adequate in Spanish adolescents. Thus the one-factor model was adopted. HVD-A scale is valid at the internal structure level as reported in the original one-dimensional version. It is also worth mentioning that, unlike the scales that assess LS under the WHO approach (Kennedy et al., 2014, and Kobayashi et al., 2013) it has two positive aspects: 1) it considers the 10 items proposed by the WHO, and 2) its size (only 10 items) facilitates its implementation in field work.

Regarding the second hypothesis, it is confirmed that the GSE and LS constructs have statistically significant relationships. A close relationship between GSE and LS has been found, as deduced from the SEM model. It shows that the adolescent individual competence perception is closely related to their cognitive, emotional, and social competence perception. These results were as expected based on the previous scientific background (Pastorelli et al., 2001; Sagone et al., 2018, 2020). This result also confirms the external validity of the HDV-A instrument.

For the third hypothesis, results reveal developmental and sex differences. In fact, the girls' scores, especially in mid-late adolescence, could be underestimated in the management of stress and in interpersonal relationships. Furthermore, in the models compared by sex and age groups, they showed optimal values in standardized residuals, which were not subjected to restrictions –neither in means nor in covariance structure–. However, the latter showed better-fit indices in general.

There are no relevant intergroup differences in the models. However, in the covariance structure, it has been found that boys –especially the 12-14-year-old ones– have obtained higher values in the regression coefficients of items LS_1 (Coping with emotions) to LS_7 (Interpersonal relationship skills) of the HVD-A scale. These results would be the opposite of other studies in other contexts (e. g., Kennedy et al., 2014; Kobayashi et al., 2013). Kobayashi et al. (2013), although their sample was in a different context and age –that is, in late childhood in Turkey– found in their validation that girls' scores on most scales were consistently higher than boys' scores, and individual variations between girls' scores were relatively low. Kennedy et al. (2014) found that Indian boys scored lower than the girls did in overall LS score, but only in the 11-13 year age group, not in the 8-10 age group, nor in the 14-16 year age group. This disparity of results across contexts makes it more difficult to propose different educational interventions depending on gender.

Regarding the applicability, in some items, the HVD-A scale may underestimate the scores in girls of middle-late adolescence. Especially, those related to stress management and social relationships. It is important to recognize that this instrument deal with a self-report instrument and it is possible that the cognitive competence development and self-abilities assessment generates this effect. Another explanation could be that an instrument with more than one factor would be more appropriate for women in mid-late adolescence.

Results of this study show that the HVD-A scale can be useful both for the scientific and the applied psychoeducational field. In fact, LS influence the youth's needs in terms of their health and development, so the inclusion and evaluation of this comprehensive approach allow students to face the demands of prevention programs (Mangrulkar et al., 2001) and health promotion. Even more so in developing countries where, as we have mentioned, there is a scarcity of LS programs. Furthermore, programs are often created for short-term results only (Nasheeda et al., 2018).

In this sense, LS programs enhance self-efficacy in youth, preparing them to be competent in a changing, competitive, and global world (McMullen & McMullen, 2018; Srikala & Kishore, 2010). For LS learning in the educational field, sessions can be held that include role-playing, the debate of dilemmas for the development of self-knowledge, empathy, self-regulation, of behavior, as well as involvement in non-regulated social activities (Mangrulkar et al., 2001). Efficacy increases if they are developed from the individual perspective and their life events since, in this way, the young person does not consider these activities as totally far or abstract issues but integrated into their age and their personal identity. Precisely, deficit detection through this instrument would be very useful amidst the educational activities planning.

Limitations

Regarding the limitations of this research, first, data was collected under the adolescents' perceptions. This implies a bias that could increase the size of the relationship between the variables analyzed. Second, the HVD-A scale contains a single item to evaluate each LS, which reduces the soundness of the results. However, the tool was preferably proposed to evaluate LS as a general construct, in research that seeks to analyze the relationship with various positive psychology constructs –both individual and contextual–, thus reducing the fatigue bias of the participants.

Further research

Despite the existence of different programs to promote LS in the Spanish-speaking context (e. g., Carrillo-Sierra et al., 2018; Corrales et al., 2017), tools that evaluate such LS are needed. At a scientific level, it is both necessary to collect evidence of LS relationships with other positive psychology constructs that involve LS promotion and adaptive competencies (e. g., Lopez et al., 2018). Besides, in future studies, it would be relevant to contrast the adolescents' abilities through their parents' and teachers' assessments. Likewise, future research using the HVD-A scale is needed to verify its functioning in adolescents from other Spanish-speaking countries, both in program evaluation and in the positive and developmental psychology field.

Conclusion

LS tells how to do things well to be competent in different contexts, but validated instruments to assess LS are needed. Our results reveal that HVD-A is a valid and reliable scale that provides evidence of adolescents' LS. This research is unique in the Spanish context. An instrument to evaluate LS is relevant to collect reliable data about youths' perceptions of their cognitive, emotional, and social competencies. For this reason, the HVD-A scale has wide applicability both for the scientific and for the applied field of psycho-pedagogical, psychological, or educational contexts. Being a short instrument, it is easily applicable in all types of education (formal, non-formal, and informal) and, converted into an app, it could obtain reliable and immediate evaluation records.

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Conflict of interest

The authors have no conflict of interest to declare.

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