SPANISH VERSION OF THE SHORT DEPRESSION-HAPPINESS SCALE (SDHS): A RELIABILND VALIDITY STUDY IN A SAMPLE OF SPANISH ELDERLY PEOPLE

ADAPTACIÓN ESPAÑOLA DE LA ESCALA BREVE DE DEPRESIÓN-FELICIDAD: UN ESTUDIO DE VALIDACIÓN Y FIABILIDAD EN UNA MUESTRA DE PERSONAS MAYORES

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Abstract

The psychometric properties of the Short Depression-Happiness Scale (SDHS) were analyzed in a sample of 216 Spanish elderly people with an average age of 73.89 (SD = 6.49). An exploratory factor analysis and confirmatory factor analysis were developed in order to identify the factorial solution and the best model fit. Just on factor was identified. Regarding reliability and validity, internal consistency index was .757 and the correlation between the Short Depression-Happiness Scale (SDHS) and measures of others construct, General Health Questionnaire (GHQ) and Center for Epidemiological Studies Depression Scale (CESD) (CESD), were significance. The practical implications of the scale and the index values obtained are discussed.

Keywords: Happiness; Depression; Psychometric properties; Elderly.

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Resumen

Se analizaron las propiedades psicométricas de la Short Depression-Happiness Scale (SDHS) en una muestra de 216 mayores con una edad promedio de 73.89 (DT = 6.49). Se realizó un análisis factorial exploratorio y confirmatorio para identificar la estructura factorial y el mejor ajuste del modelo. La solución estaba compuesta de un único factor. Con respecto a la fiabilidad y validez, el índice de consistencia interna fue de .757 y la correlación entre la Escala Breve de depresión-felicidad y las medidas de otros constructos, entre otros, el Cuestionario de Salud General (GHQ) y el Centro de Escala de Depresión de Estudios Epidemiológicos (CESD) fueron significantes. Se discuten las implicaciones prácticas de la escala y los valores de los índices obtenidos.

Palabras clave: felicidad; depresión; propiedades psicométricas; mayores.

Introduction

Psychology has traditionally been dedicated to assessing and intervening in beliefs and behaviors with a negative connotation, in relation to diseases and problems, concentrated on healing and, after World War II, repairing damage using a disease model of human functioning (Seligman, 2002; Tellegen, 1982). But psychology is also the study of strength and virtue and only more recently positive psychology has reversed this approach by emphasizing human strengths and possibilities rather than weaknesses (Sheldon & King, 2001).

Thereby positive psychology has flourished from 2000 and in last decade it has caught the attention not only of the academic community but also of the general public as an attempt to demonstrate that positive psychology has a place in the efforts of people to lead better lives (Snyder & Lopez, 2002). Nonetheless for many constructs of interest to positive psychologists, assessment tools are still in development and consequently there are many more available instruments to evaluate psychological disorders and stressors effects than to assess psychological strengths and abilities (Lee, Steen, & Seligman, 2005).

Thus, happiness is a concept specially related to positive psychology. There are a lot of definitions of happiness from different viewpoints, for instance, according to Diener (1984), happiness could be defined as an individual fulfilment of life, cognitively and sensually. Likewise, Veenhoven (1991) defined happiness as the degree to which and individual judges the overall quality of its life and Argyle (1987) conceptualized happiness as a frequent positive emotion with high level of satisfaction and the absence of negative feelings (Sapmaz & Temizel, 2013).

In this sense, research on the topic of happiness has developed a wide set of psychometric instruments such as Oxford Happiness Questionnaire (Argyle, Martin, & Crossland, 1989), Subjective Happiness Scale (SHS, Lyubomirsky & Lepper, 1999), the Satisfaction with Life Scale (SWLS, Diener et al., 1985), Purpose in Life Test (Crumbaugh & Maholick, 1969), Orientations to Happiness-Revised Questionnaire (Peterson, Park, & Seligman, 2005) or Depression-Happiness Scales (DHS, Joseph et al, 2004). The last scale is unique because the researchers can measurement happiness and depression together as bipolar factors (Joseph & Lewis, 1998; McGreal & Joseph, 1993). Others tools can analyze the amount of happiness but it does not mean absence of Depression (Lyubomirsky, 2007; Sapmaz & Temizel, 2013).

Previously to Joseph et al (2004), McGreal and Joseph (1993) developed the Depression Happiness Scale with an initial pool of 40 items in order to evaluate the general content of typical depression scale (20 items: e.g., I felt sad) and their reversed content (20 items; e.g., I felt happy) (see Joseph & Lewis, 1998). Inspection of the scree plot following principal components analysis suggested that one component could be extracted. The 25 highest loading items were then selected to compose the DHS. However, these scales were too much long and other author decides to reduce un a short edition.

Thus, SDHS constitutes a very useful and brief tool in order to assess both happiness and depression what can result very interesting in some populations. According to Joseph, Linley, Harwood, Lewis, and McCollam (2004) there are several reasons to consider shortened instruments in psychological evaluation; firstly, shortened scales are

essential to gather data in a limited amount of time; secondly, these instrument can be useful for practitioners who want to be able to asses changes but who want to keep the completion of self-report measures during the therapy session to a minimum; and finally, shortened instruments can also be useful when measurement of a number of variables is being attempted and hence considerable questionnaire space cannot be dedicated to any one variable.

Due to in Spanish context with specific populations the SDHS has not been validated, the main objective of this research is to analyze the factor structure of the Short Depression-Happiness Scale (SDHS) and analyze its reliability and validity in a sample of Spanish elderly people, an increasing population for decades. Furthermore, there was used two different questionnaires, Center for Epidemiological Studies Depression Scale (CESD) and General Health Questionnaire (GHQ), in order to assess the correlation between SDHS and the measures of related and opposite constructs included in those tests.

Method

Participants

The sample was made up of a total of 216 Spanish elderly people, of whom 38 % were male and 62 % were female. The average age was 73.89 years (SD = 6.49), with an age range of 65-92. Regarding educational attainment: 40.7 % had no education; 39.8 % completed basic education; 12.5 % secondary level studies completed and 6.9 % finished a university degree. According to the marital status, 51.4 % were married; 3.2 % singles; 38.9 % widowed and 6.5 % divorced. All of the participants took part voluntarily and their anonymity was guaranteed at all times.

Instruments

Short Depression-Happiness Scale (SDHS; Joseph, Linley, Harwood, Lewis, & McCollam, 2004). The SDHS is a one dimensioned six-item scale which attempts to measure depression and happiness at the same time, with higher scores indicating more happiness, and lower scores showing not only the absence of it, but also greater levels of depression. Three items are negative statements (e.g., "I felt cheerless"), and the other three positive statements (e.g., "I felt happy"), which evaluate the frequency of some mood states during the past week. Responses are along a four-point Likert scale, ranging from 0 (never) to 3 (often). Psychometric properties from the present sample are presented in the results section.

Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977). The CES-D is a 20-item measure assessing perceived mood and level of functioning with items phrased as self-statements (e.g., "I felt hopeful about the future"). Respondents rate how frequently each item applied to them over the course of the past week. Four factors are represented: depressed affect, positive affect, somatic problems and retarded activity, and interpersonal relationship problems. Ratings are based on a 4-point Likert scale ranging from 0 (rarely or none of the time [less than 1 day]) to 3 (most or all of the time [5-7 days]), with greater scores on the CESD showing higher levels of depression. The internal consistency reported in this validation paper was $\alpha = .88$ for the complete scale, and $\alpha = .83$; $\alpha = .67$; $\alpha = .72$; and $\alpha = .58$ for each subscale respectively.

General Health Questionnaire - 28 (GHQ-28; Goldberg et al., 1997). The GHQ- 28 items measure general psychological distress. Respondents are asked to indicate whether they had recently experienced a range of common symptoms of distress. The GHQ-28 contains four subscales of seven items each. The four subscales measure somatic symptoms (e.g., "Have you recently felt that you are ill?"), anxiety and insomnia (e.g., "Have you recently lost much sleep over worry?"), social dysfunction (e.g., "Have you recently been taking longer over the things you do?") and severe depression (e.g., "Have you recently felt that life isn´t worth living?"). Punctuations are rated on a 4-point response scale (e.g., not at all too much more than usual), with higher scores on the GHQ reflecting greater levels of psychological distress. The internal consistency reported in this validation paper was $\alpha = .92$ for the complete scale, and $\alpha = .83$; $\alpha = .87$; $\alpha = .78$; and $\alpha = .90$ for each subscale respectively.

Procedure

The sample was collected between January and April 2017. The inclusion criteria were to be 65 years or older, to be retired and not to have a diagnosis of dementia. Sampling was non-probabilistic of Spanish population of this age range. Participants were assessed individually in their own homes, in a quiet room and unaccompanied. All of them were able to read and to note the answers. Even the instruments were self-administered researchers were available in the same room.

Due to SDHS original language is English, a translation into Spanish was carried out following Harkness & Schoua-Glusberg (1998) procedure. The first of three people translated the original scale into Spanish. The second person took this Spanish translation and translated it back into English with-out knowledge of the original English version. The third person compared the two preliminary English translations and determined, statement by statement, if they were equivalent in meaning. For statements where there were discrepancies, a panel was formed with the first, second and third persons. All modifications to the statements were agreed and amended to the Spanish version, generating the final version of the questionnaire.

Data analysis

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were carried out using SPSS 22.0 and AMOS 18.0 respectively. With respect to the EFA, a Varimax rotation method was carried, KMO index and the Barlett test of sphericity (Kaiser, 1974), accepting those factors with an eigenvalue higher than 1 (Harman, 1976),

Screen plot and the results of the Horn parallel analysis (Horn, 1965; R Development Core Team, 2008). Internal consistency of the scale was evaluated through Cronbach Alpha, items of homogeneity, correlations with the Pearson product-moment correlation coefficient between the SDHS and the validation scales and subscales were also developed (CESD and GHQ).

After finding the factorial solution, confirmatory factor analysis (CFA) was carried away, accompanied by the goodness of fit indices. As recommended in the literature (Bentler, 1990), several measures were used to confirm the adequacy of the theoretical model: Chi Square and its associated probability level (Jöreskog & Sörbom, 1979; Saris & Stronkhorst, 1984), Goodness of Fit Index (GFI) and Adjusted Goodness Fit Index (AGFI), the Comparative Fit Index (CFI) and Normed Fit Index (NFI), the Tucker Lewis Index (TLI) and the Incremental Fit Index (IFI) with values greater than .90 indicate a good fit in all indices (Bentler, 1990; Bollen, 1989; Hu & Bentler 1999). Finally, the square root of the mean square residues (RMSR) and the error of the root mean square approximation (RMSEA) were included, where the smaller its value, the better the fit, the reference value being .05 (Steiger & Lind, 1980).

Results

Descriptive, Reliability and Exploratory Factor Analysis

Table 1 presents the descriptive analysis, Cronbach's alpha if the item is deleted and factorial weights of each item. In this sense, Cronbach's alpha of the SDHS scale

Table 1

Descriptive statistics, reliability and exploratory factorial solution of the SDHS

	M	SD	A	K	α if Item deleted	FW
(1) I felt dissatisfied with my life*	1.96	1.008	-.520	-.906	.736	.664
(2) I felt happy	2.41	.676	-.905	.409	.706	.745
(3) I felt cheerless*	1.55	.828	.159	-.578	.722	.639
(4) I felt pleased with the way I am	2.47	.654	-.956	.255	.747	.740
(5) I felt that life was enjoyable	2.39	.674	-.942	.854	.710	.710
(6) I felt that life was meaningless*	2.35	.854	-1.050	.046	.707	.572

Note. N = 216; (*) Marked items are reverse scored. Skewness standard error = .166; kurtosis standard error = .330; FW = Factorial Weigh.

Table 2

Goodness of fit indices for SDHS

X^2	p	df	GFI	AGFI	CFI	NFI	TLI	IFI	SRMR	RMSEA
290.407	<.001	15	.987	.955	.990	.970	.976	.991	.017	.046

Note. Df: freedom degree, GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index, CFI: Comparative Fit Index, NFI: Normed Fit Index, IFI: Bollen's Incremental Fit Index, TLI: Tucker-Lewis Index, SRMR: standardised root mean square residual, RMSEA: Rood Mean Square Error of Approximation.

was $\alpha = .757$ and the percentage of total variance explained was 46.42 %.

In relation with Exploratory Factor Analysis, it has confirmed the existence of a single factor, with factor loadings ranging from .572 (item 6) to .745 (item 2). The Bartlett's test of sphericity was $p < .001$ with a value of chi-square 285.58 (df = 15) and the sample index value of Kaiser-Meyer-Olkin (KMO) was 0.79. Likewise, the parallel analysis showed a one-dimensional solution according to the set of items.

Confirmatory Factor Analysis

A CFA was conducted to confirm the factor structure of the previous exploratory analysis as shown in Figure 1. The goodness of fit indices global scale is summarized in Table 2, showing an optimal fit of the model. The factorial weights were between in a range .48-.68

Convergent Validity

Evidence for the convergent validity of the SDHS scales was gathered through analysis of the correlations between the subscales and other, theoretically related,

constructs. As represented in Table 3, the SDHS was significantly correlated with GHQ total ($r = -.633$, $p < .01$), GHQ Som ($r = -.329$, $p < .01$), GHQ Anx ($r = -.486$, $p < .01$),GHQ Soc ($r = -.494$, $p < .01$),GHQ Dep ($r = -.707$, $p < .01$), Moreover, for the CESD the correlations were significantly for: CESD Tot ($r = -.653$, $p < .01$), CESD Dep ($r = -.615$, $p < .01$), CESD Pos ($r = -.504$, $p < .01$),CESD Som ($r = -.521$, $p < .01$), CESD Int ($r = -.326$, $p < .01$).

Discusión

The aim of this study was to validate the Short Depression-Happiness Scale in a sample of Spanish elderly people. The results of this Spanish language version of the SDHS demonstrate adequate psychometric properties in relation to internal structure, reliability and criterion-related validity.

Examining the results in detail, a one-dimensional solution turned out to be the one with the best model fit. The solution found in this study is consistent with the original scale (Joseph et al., 2004), and also with validations de-

Table 3

Correlation matrix of validation scales SDHS, GHQ and CESD

		GHQ-Tot	GHQ-Som	GHQ-Anx	GHQ-Soc	GHQ-Dep
1.	SDHS	-.633**	-.329**	-.486**	-.494**	-.707**
		CESD-Tot	CESD-Dep	CESD-Pos	CESD-Som	CESD-Int
2.	SDHS	-,653**	-,615**	,504**	-,521**	-,326**

Note. ** $p < .01$ (two tailed); GHQ-Tot= GHQ total scores GHQ-Som = GHQ somatic symptoms subscale; GHQ-Anx = GHQ anxiety and insomnia subscale; GHQ-Soc = GHQ social dysfunction subscale; GHQ-Dep = GHQ depression subscale; CESD-Tot = CESD total punctuation; CESD-Dep = CESD depressed affect subscale; CESD-Pos = CESD positive affect subscale; CESD-Som = CESD somatic problems and retarded activity subscale; CESD-Int, = CESD interpersonal relationship problems subscale.

veloped in other contexts (Sapmaz & Temizel, 2013). Although percentage of total variance explained in this paper by the main dimension through exploratory factor analysis was 46.42 % (a bit lower than the original paper one: 50.69 %); all goodness of fit indices showed adequate numbers.

The internal consistency score of the SDHS scale was $\alpha = .757$, similar to the punctuations obtained in the other two validation papers mentioned above; with homogeneity index for all six items above .70. Correlations between SDHS, and both GHQ-28 and CESD total scores, were high and significant, with SDHS showing the strongest correlations with those subscales related to mood and affect (GHQ depression subscale, CESD depressed affect subscale, and CESD positive affect subscale). These results are also consistent with previous convergence analysis of the long version of the SDHS and the CESD scale (r -.85; $p < .001$; Joseph, Lewis, & Olsen, 1996).

This paper has the following limitations: firstly, the sample was selected through non-probability sampling, which can introduce distortions in the results when you consider that the final sample may have a high component of self; and secondly, the translation of the original instrument into Spanish was developed through simultaneous translation of several investigators and subsequent analysis of convergence between them. However, the item of the original instrument as well as the vocabulary used is simple and easy to understand; it could reduce the possible biases in the Spanish version according to this procedure; and finally, the percentage of total variance explained was low according to the original. In this sense, it would be very interesting to add more items in order to check if this percentage could be higher.

In summary, the Short Depression Happiness Scale has demonstrated acceptable psychometric properties in a sample of Spanish elderly according to the reliability, validity and criteria validity. The psychometric characteristics of this instrument should be analyzed in other samples because this scale allows to measure at the same time happiness and depression as two constructs in a bipolar dimension. This fact could help to evaluate and support other instruments which try to measure both concepts.

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Appendix

Table A1

Short Depression Happiness Scale SDHS (Spanish version)- Items

	Nunca	Rara vez	A veces	A menudo
1. Me sentí insatisfecho con mi vida				
2. Me sentí feliz				
3. Me sentí triste				
4. Me sentí satisfecho con la manera que soy				
5. Sentí que la vida era agradable				
6. Sentí que la vida no tenía sentido				