anales de psicología, 2015, vol. 31, nº 1 (enero), 45-54
http://dx.doi.org/10.6018/analesps.31.1.171081

ISSN edición impresa: 0212-9728. ISSN edición web (http://revistas.um.es/analesps): 1695-2294

Positive Psychological Functioning. Evidence for a new construct and its measurement

Mª Dolores Merino* y Jesús Privado

Universidad Complutense de Madrid, Madrid (Spain)

Título: Funcionamiento psicológico positivo. Evidencia para un nuevo constructo y su medición.

Resumen: En 2007 el Instituto de la Felicidad desarrolla uno de los estudios más ambiciosos que se han realizado sobre bienestar en España. Se midieron variables muy diversas: sociodemográficas y psicológicas; estas últimas a través de instrumentos nuevos, y se aplicó a una muestra representativa de la población española compuesta por 3.000 participantes. El estudio 1 de esta investigación empleó dicha base de datos y tuvo como objetivo analizar cuál es la estructura que subyace a los recursos psicológicos clave (autonomía, resiliencia, autoestima, propósito en la vida, disfrute, optimismo, curiosidad, creatividad, humor, gestión del entorno y vitalidad). El estudio 2, se desarrolló con objeto de replicar el estudio 1 y de contrastar las propiedades psicométricas de las medidas novedosas empleadas en el estudio 1, utilizando para ello una muestra de 130 estudiantes universitarios.

Esta investigación prueba que los recursos psicológicos clave están interrelacionados y forman un constructo de segundo orden, al que hemos denominado Funcionamiento Psicológico Positivo (FPP). Además, proporciona una nueva medida, genuinamente española, para medirlo, a través de 11 subescalas de tres ítems cada una. Esta estructura permite tener una visión, tanto global como específica, del FPP, y, en consecuencia, del bienestar psicológico de la persona.

Palabras clave: Recursos Psicológicos; caravanas de recursos; bienestar psicológico; funcionamiento psicológico positivo.

Abstract: In 2007, the Institute of Happiness conducted one of the most ambitious studies ever done on this subject in Spain. Many different variables were measured: socio-demographics and psychological, (the latter through new instruments) and all were applied to a representative sample of 3000 participants of the Spanish population. Study 1 of this research used that database. The objective of this Study was to understand how key psychological resources are organized (Autonomy, Resilience, Self-Esteem, Purpose in life, Enjoyment, Optimism, Curiosity, Creativity, Humor, Environmental mastery and Vitality).

The purpose of Study 2 was to replicate the results of Study 1 and to test the psychometrical properties of the new scales used in Study 1, but using a sample of 130 college students.

This research proves that key psychological resources are interconnected, forming a second order construct we call Positive Psychological Functioning (PPF), and, it develops a new Spanish scale to assess it. This measure is formed with 11 subscales each containing three items. This scale structure allows a general and a specific assessment of PPF and, in consequence, of human psychological well-being.

Key words: Psychological Resources; resource caravans; psychological well-being; positive psychological functioning.

Introduction

The study of resources has become relevant due to their importance in coping with individuals' stress and well-being (Hobfoll, 2002). The resources can be classified in different categories: material resources such as money, physical resources such as health, social resources like having friends and psychological resources such as self-esteem (Diener & Fujita, 1995).

We define psychological resources as those personality characteristics (Hobfoll, 2002) that:

1. Are valuable in themselves because they are associated with favorable outcomes for the individual.
2. Allow better adaptation to the environment and to the change, promoting individual progress toward achieving personal goals and meeting needs.
3. Are malleable to the environment, can be learned, and are also stable.

Psychological resources are fundamental to psychological well-being, and to physical and mental health of individuals (Hobfoll, 2002). For example, optimism is not only associated with well-being but it has also been observed that optimistic people with serious health problems have a better quality of life and live longer than pessimistic people in similar conditions (Taylor, Kennedy, Reed, Bower & Gruenewald, 2000). Moreover, according to "The Broaden and Build Theory of Positive Emotions" a close relationship exists between positive emotions, resources and positive consequences. According to the same theory, positive emotions are evolutionarily fixed because they promote the creation of solid resources that enable desirable outcomes such as health, wealth and longevity (Cohn, Frederikson, Brown, Mikels & Conway, 2009; Frederikson, 1998, 2001; Frederikson & Cohn, 2008).

Research shows that some psychological resources are related to others (Hobfoll, 2002). For example, people with higher self-esteem are also competent, confident, independent, well-managed, and optimistic (Tafarodi & Swann, 2001; Taylor & Brown, 1988). Optimism implies a sense of personal control, capacity to make sense of life experiences (Seligman, 1999), better coping ability and adaptive capacity (Chico, 2002) and resilience. Furthermore, resilient people are characterized by positive emotions, enthusiasm, energy, a sense of humor, curiosity and creativity (Fredrickson, Tugade, Waugh & Larkin, 2003). In turn, enjoyment is clearly related, and associated with curiosity and creativity (Kashdan et al., 2009). It seems then, that "resources attract resources", or in other words, the presence of a resource increases the probability that others will emerge. Therefore the psychological resources are not independent of each other.

*** Dirección para correspondencia [Correspondence address]:**
Mª Dolores Merino. Universidad Complutense de Madrid. School of Psychology. Department of Personality, Evaluation and Psychological Treatment II (Ps. Differences and Work), Campus de Somosaguas, 28223 - Pozuelo de Alarcón, Madrid (Spain).
E-mail: lolamerino@psi.ucm.es

One theory that has gained more attention in recent years regarding the dynamics of resources, is The Conservation of Resources Theory (COR Theory) of Hobfoll (1989, 2002, 2010) that includes resources from an integrated understanding of them as part of a more dynamic process, associated with subjective well-being. According to this theory, people strive to obtain, maintain and protect resources. When, due to adverse events, resources are threatened or when there is loss, a chain of losses occurs, producing poor adaptation to the environment with negative consequences, such as stress. The opposite occurs in the case of gains or resource creation. The fact that the gain or loss of resources will not occur in a particular or isolated manner, has brought Hobfoll to propose the concept of "resource caravans". Resource Caravans assume that resources do not act independently, but form an aggregate (Hobfoll, 1989, 2002, 2010), so that the possession of one resource favors another, or to the contrary as well. These close relationships between resources justify that, although being different constructs, high correlations between them are present, without necessarily implying a perfect overlap (Hobfoll, 2010). Yet, it does seem to suggest the possibility of a general factor that justifies such associations between resources.

Related to the question of the organization of resources, is the work of Ryff (Keynes, Shmotkin & Ryff, 2002 Ryff, 1989; Ryff & Singer, 2008; Schmutte & Ryff, 1997). In 1989, in an effort to understand mental health facets, Ryff proposed a multidimensional model of optimal functioning, which includes six variables, grouped in a second-order factor, which she identified as Psychological Well-Being. Variables were: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. All these variables are key resources (Hobfoll, 2002), five of which are psychological resources and the sixth is social resource. This model, well-supported from the theoretical point of view (Ryff, 1989; Ryff & Singer, 2008), is widely used thanks to the scales developed by this author. However, as indicated by Stones et al. (2011) some authors have expressed doubts about the latent structure and factorial validity of the model, as did the Spanish adaptation of the original model (Diaz et al., 2006). Recently, Rodríguez-Carvajal, Díaz-Méndez, Moreno-Jiménez, Blanco-Abarca & Van Dierendonck (2010) have proposed extending Ryff's model to include two new dimensions: internal resources and vitality. In any case, although the factor structure of the model is not always the same among authors (Abbott, Ploubidis, Huppert, Kuh & Croudace, 2010), the most widely accepted model is that of Ryff, which proposes two strata: the first with the six variables and the second with a single second order construct (Ryff & Singer, 2008; Tomás, Meléndez, Oliver, Navarro & Zaragoza, 2010).

The study objective

In summary, the contributions of Ryff and Hobfoll are concordant. Ryff's structure analysis concludes that resources are grouped into a single dimension and Hobfoll's dynamics say resources are linked to each other, which obviously makes sense of the fact that they are grouped in a superior dimension. We wonder how resources will be organized when the number of psychological resources involved is large and varied. Considering this, the research purpose is to answer the following questions: Are different psychological resources measuring a single dimension? Are different resources related to each other? Will different resources be part of a second order general dimension?

The psychological resources involved in this research have been: Autonomy, Resilience, Self-Esteem, Purpose in life, Enjoyment, Optimism, Curiosity, Creativity, Sense of humor, Environmental Mastery and Vitality. We chose these resources because: 1) They have been extensively studied (Bandura, 1977; Csikszentmihalyi, 2000; Frankl, 1979; Jahoda, 1958; Huta & Ryan 2010; Kashdam et al 2009; Martin, Puhlik-Doris, Larsen, Gray & Weir, 2003; Rosenberg, 1965; Ryan & Deci, 2001; Rutter, 1985; Ryff, 1989; Scheier & Carver, 1987; Young, 1985). 2) Because they are a varied repertoire. We have for example, cognitive resources such as curiosity, coping resources such as resilience, control resources such as environmental mastery. The definitions of these resources appear in column 1 of Table 1.

Table 1. Measured psychological resources, definitions on which they are based, items used in each case and Cronbach's Alpha.

CONSTRUCT	ÍTEMS	α
AUTONOMY: Perceived psychological self-government or self-determination (Ryff, 1989).	10. I take charge of my life. 8. The important decisions in my life have been made by me, for better or worse. 5. I have trust and confidence in myself.	.66
RESILIENCE: The ability to overcome adversity and even grow with experience (Rutter, 1985).	1. Given the difficulties I become strong. 2. I do not surrender easily to the difficulties of life. 25. Overcoming difficulties has made me stronger.	.71
SELF-ESTEEM: Global feeling of acceptance of self, of one's worth (Rosenberg, 1965).	18. I am proud to be who I am. 20. If I was born again I'd like to be the way I am. 1. I like my way of being.	.76
PURPOSE IN LIFE: Implies that striving for and achieving goals give purpose to life. (Ryff, 1989).	26. I'm on the way to achieving my goals. 24. I strive to get the things that matter to me. 11. I am completely devoted to achieving the goals of my life.	.71
ENJOYMENT: Ability to identify and exploit	33. In life there are many things that fill me with enthusiasm.	.72

positive daily experiences (Huta & Ryan, 2010).	16. I enjoy the little things life has to offer every day. 28. I do well with almost anything.	
OPTIMISM: Refers to the widespread and stable belief that positive things will happen (Scheier & Carver, 1987).	21. I think the future will bring me more good than bad. 15. I always notice the good side of thinks. 3. I consider myself an optimist.	.75
CURIOSITY: Ability to be interested in knowing new things (Kashdam et al., 2009).	30. I love to learn and to discover new things. 27. Many things in life arouse my curiosity and interest. 17. I am interested in everything that happens around me.	.72
CREATIVITY: Ability of the individual to find original and valuable solutions to problems, either new or daily (Young, 1985).	4. I can find new uses for things. 12. I can see things from completely different viewpoints. 9. I know how to relate disparate things and find something new.	.80
HUMOR : It involves seeing the funny side of life and be able to laugh and make others laugh easily (Seligman, 2003).	29. I try to find humor in any situation. 13. A sense of humor is very important in my life. 23. I can laugh in many situations.	.73
ENVIRONMENTAL MASTERY: The ability to monitor, manage and effectively model the activities and demands of everyday life, and to live in harmony with one's goals, needs and values (Ryff, 1989).	6. I balance my work, social and personal life. 22. In my daily life I do not get everything: family, work, friends. 31. I manage the obligations I have properly and without stress.	.71
VITALITY: Refers to feeling alive, alert, full of energy (Ryan & Deci, 2001).	7. I am full of vitality. 32. I'm a person full of energy. 19. I'm an enthusiastic person.	.79

The research has been divided into two studies. Study 1 was focused on answering the questions posed above, using a general sample of the Spanish population, and new scales to measure the psychological resources. The purpose of Study 2 was to test the convergent and discriminant validity of the new scales used in Study 1, and, to replicate Study 1's structure, but using a sample of college students.

Study 1. Analysis of the psychological resources' organization.

The purpose of this Study 1 was to test if the different dimensions describing psychological resources, are correlated and, in this case, which is the best way to describe its organization.

Method

Participants

The sample was comprised of 3.000 representatives of the Spanish population. The sampling error was 1.8% for a confidence level of 95%. The distribution by sex was: 49.1% women to 50.9 % men. The age distribution was: 18-25 (18.3%), 26-35 (24.9%), 36-45 (23.4%), 46-55 (18.0%), over 55 (15.4%). And social class distribution was: high (4.97%), high-middle (19.72%), middle-middle (50.57%), low-middle (23.32%), and low (1.42%).

Meaurements

Measured resources for this study were as shown in Table 1 (construct definition, items and the Cronbach's Alfa, for each one of the 11 scales). Annex 1 shows the Spanish version of the scale.

To measure these resources, ad hoc scales were developed, and we proceeded as follows:

1) **Preparation of items:** A group of researchers from the Institute of Happiness developed 250 items about behaviors, cognitions or feelings that were expressions of constructs potentially related to happiness.
2) **Assignment to construct:** Three experts from the University Complutense of Madrid, read the items and blindly assigned them to the constructs that, in their opinion, they measured. These individual results were submitted for discussion and group consensus. The previous results underwent Confirmatory Factor Analysis and Cronbach's Alpha (Vázquez, Hervás, Rahona & Gómez, 2009).
3) **Selection of psychological resources and reduction of items:** From the complete set of (17) constructs identified in this process (Vázquez, Hervás, Rahona & Gómez, 2009), we selected those which were psychological resources, that is to say, the eleven mentioned previously. For parsimony reasons, we have reduced the number of items in each scale to three, choosing for each construct the three items that present the highest factor loading, without significant loss of internal consistency.

Procedure

The data was collected at participants' private homes. The interviewers explained the purpose of the study and gave the participant a questionnaire containing the different measures used. The participants responded without any intervention by the interviewers.

Data Analyses

In order to show the internal structure of the 11 measurements, several models were tested through Confirmatory Factor Analyses: Model 1, which assumes that the 11 scales are independent of each other; Model 2, which considers all items of the 11 scales, form a first-order factor; Model 3, which posits the existence of 11 first-order interrelated factors; and Model 4, which presents a hierarchical model consisting of 11 first-order factors and a general second-order factor. All statistical analyses were performed with AMOS 7.0 (Arbuckle, 2006).

The goodness of fit statistics used to evaluate the adequacy of the models were: absolute, incremental and parsimony. The model's absolute fit value to empirical data was indicated by the statistic χ^2. If it is statistically significant, it can reject the null hypothesis, so the theoretical matrix and empirical data are equal. However, the null hypothesis is commonly rejected in large samples, so the ratio χ^2/df (Bentler & Bonett, 1980) is often used, indicating a good fit with values less than 3.

Incremental fit measures compare the empirical model with the null model. Normed Fit Index (*NFI*) of Bentler & Bonett (1980) and Comparative Fit Index (*CFI*) of Bentler (1990) are the most used, and values above .90 indicate good fit and the empirical model is significantly different from the null model.

Parsimony fit measures evaluate the model fit versus the number estimated. They take into account the complexity of the theoretical model in the assessment of overall model fit. The more representative coefficient is Parsimony Normed Fit Index (*PNFI*) of James, Mulaik & Brett (1982), values above .50 indicate good fit.

Results

As reflected in Table 1, the level of internal consistency of all resources scales used ranged from .70 to .80, except for Autonomy which was .66, so they can be considered appropriate values.

Table 2. Fit indices of models of internal validity.

Model	χ^2	χ^2/df	*RMSEA*	*NFI*	*CFI*	*PNFI*
1	χ^2 (495) = 21,942.74, $p < .001$	44.329	.120	.497	.502	.438
2	χ^2 (590) = 5,674.34, $p < .001$	11.463	.071	.808	.821	.713
3	χ^2 (440) = 3,355.29, $p < .001$	7.626	.047	.923	.932	.724
4	χ^2 (484) = 3,994.77, $p < .001$	8.254	.049	.908	.918	.784

As seen in Table 2, Model 3 and 4 have a proper fit to the data. Looking at the correlation matrix of the 11 factors that form Model 3 (see Table 3) we see that most of them are higher than .30, justifying the presence of a second-order factor to summarize the common variance of these 11 first-order factors (Hair, Black, Babin, Anderson & Tatham, 2006). Therefore, the most appropriate model would consist of a hierarchical second-order factor, and 11 first-order factors (Model 4).

Table 3. Correlations between scales and internal consistency of Study 1.

	1	2	3	4	5	6	7	8	9	10	11
1. Vitality											
2. Creativity	.26										
3. Self-Esteem	.24	.24									
4. Humor	.43	.36	.22								
5. Enjoyment	.68	.47	.34	.57							
6. Resilience	.46	.35	.23	.18	.37						
7. Optimism	.57	.27	.22	.46	.46	.45					
8. Purpose in live	.42	.24	.49	.29	.64	.47	.32				
9. Autonomy	.42	.36	.64	.36	.48	.35	.39	.62			
10. Curiosity	.41	.58	.17	.31	.62	.45	.37	.36	.29		
11. Environmental mastery	.29	.11	.33	.19	.46	.46	.45	.53	.49	.27	
Internal consistency (α)	.79	.80	.76	.73	.72	.71	.75	.71	.66	.72	.71

* Correlations > .24 are statistically significant, $p < .05$.

Figure 1 shows Model 4 with second-order factor loadings on the first-order factors above .74, and, first-order factors loadings on the items, most above .60. All factor loadings are statistically significant ($p < .001$). These data clearly reflect the contribution of items to the 11 first-order factors and, of these, to a higher-order general factor, that could be called *Positive Psychological Functioning* (PPF).

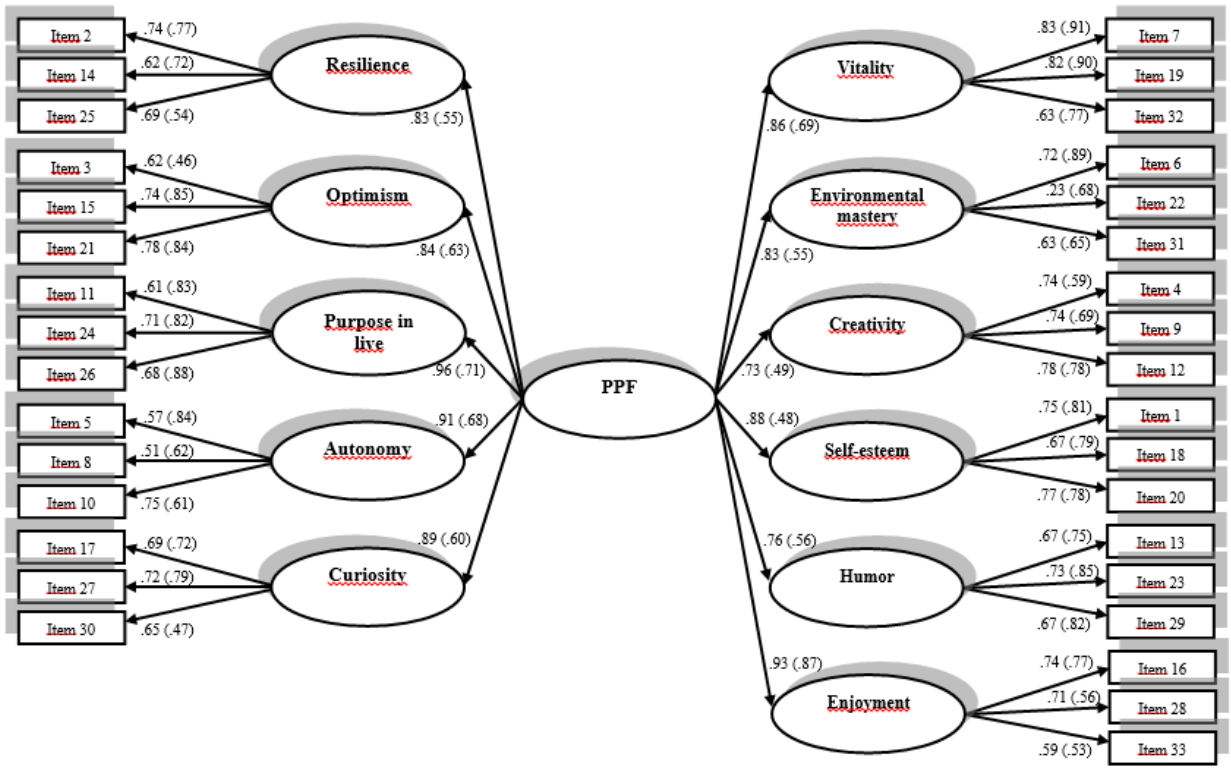

Figure 1. Confirmatory Factor Analysis of second-order factor, PPF, formed by 11 first-order factors. In brackets are the results for Study 2.

Discussion

The results show that Model 1 resource independence does not fit the data. All empirical evidence points to the reverse, interrelated psychological resources (Hobfoll, 2002). Indeed, it has been postulated that the high degree of correlation present is because they are overlapped, or the same (Hobfoll, 2010). This is what we tried to prove in Model 2. In other words, we tried to discern whether the 33 items measured a single dimension rather than the eleven psychological resources proposed. The results showed a poor fit of the data to this model, so we could not conclude that a single general factor explained the data better than the 11 first-factor order (psychological resources).

Model 3 proposes that the 11 resources are interrelated. This model has a good level of fit, which means that each resource is related, to a greater or lesser degree, to everything else. This result was consistent with numerous studies (Fredrickson et al., 2003; Kashdan et al., 2009; Seligman, 1999; Tafarodi & Swann, 2001; Taylor & Brown, 1988), and, in accordance with the Conservation Resources Theory of Hobfoll (1989), the gain or loss of resources occurred in a linked form. The fact that the psychological resources are interconnected clearly supports this idea. Moreover, this result strongly suggested that the eleven resources share higher order dimension. This is what Model 4 tests, and, it fits well with the empirical data. Therefore, we found a hierarchical structure, in accordance with which the eleven resources are at a first level and all of them in a single construct of second order. Models 3 and 4 are perfectly plausible from the theoretical point of view. However, Model 4 is more parsimonious than Model 3 and supplements it. So in order to understand how to organize the structure of psychological resources, it seems more appropriate that Model 4 is related to the structure of psychological well-being proposed by Ryff (1989). Our model was consistent with this, and expanded it.

In view of the findings, we concluded that the model which best summarizes the psychological resources' organization is hierarchical with 11 specific interrelated resources and can be summarized by a more general factor, that we have termed *Positive Psychological Functioning (PPF). "Positive"*, because psychological resources are related to well-being, "*Psychological*", due to the kind of resources they are, and, "*Functioning*" because most items measuring all these resources are related to managing and coping with life.

Study 2. Convergent and discriminant validity of Psychological Resources and PPF

After defining the hierarchical structure of PPF it is necessary to look at other evidence of validity (convergent and discriminant). For this an independent sample of Study 1 was used. Prior to the evaluation of these types of validities, the structure of the new construct into this new sample was replicated.

Method

Participants

The sample included 130 Psychology students with a mean age of 19.12 years (*SD* = 1.36) of which 76.2% were women.

Measures and procedure

The measures taken were:

1) The same as those used in Study 1 and listed in Table 1.
2) Eleven previously validated psychological resources scales:
   a. Autonomy: Autonomy Subscale, Spanish Adaptation of Ryff´s Psychological Well-being Scale (Diaz et al., 2006).
   b. Self-Esteem: Spanish version of Rosenberg's Self-Esteem Scale (Martin et al., 2007).
   c. Resilience BRS: The Brief Resilience Scale (Smith, Dalen, Wiggins, Tooley & Christopher & Bernard, 2008).
   d. Purpose in Life: Purpose in Life Subscale, Spanish Adaptation of Ryff´s Psychological Well-being (Diaz et al., 2006)
   e. Enjoyment SBI: Savoring Beliefs Inventory. First Factor. (Bryant, 2003).
   f. Optimism LOT: The Spanish version of Life Orientation Test Revised (LOT-R) (Ferrando, Chico & Tous, 2002)
   g. Curiosity: The Curiosity and Exploration Inventory-II (Kashdan et al., 2009)
   h. Creativity IBS: Ideational Behavior Scale. (Runco, Plucker & Lim, 2001)
   i. Humor: Multidimensional Sense of Humor Scale. Factor1: Personal competence to use humor. (Thorson & Powell, 1993)
   j. Environmental Mastery: Environmental Mastery Subscale. Spanish Adaptation of Ryff´s Psychological Well-being Scale (Diaz et al., 2006)
   k. Vitality SVS: Subjective Vitality Scale (Ryan & Frederick, 1997).
3) Different measures of well-being, positive and negative affect, depression and anxiety:
   a) SLS: Satisfaction With Life Scale (Diener et al., 1985)
   b) SHS : Subjective Happiness Scale (Lyubomirsky & Lepper, 1997)
   c) Flourishing Scale (Diener et al., 2010).
   d) Spanish Adaptation Ryff´s Psychological Well-being Scale (Diaz et al., 2006).
   e) Scales of Positive and Negative Affect PANAS (Watson, Clarck & Tellegen, 1988).
   f) Trait anxiety: State-Trait Anxiety Inventory of Spielberger, Gorssuch, Lushene, Vagg & Jacobs (1983).
   g) Depression BDI: Beck Depression Inventory. (Beck, Steer, & Brown, 1996).

All measures were applied to groups of 35 participants by a trained evaluator in two sessions of 50 minutes.

Results

First, Model 4 was tested in this sample in order to validate the results found in Study 1:

Figure 1 shows that second-order factor loadings on the first-order factors are above .49 and, the first-order factor loadings on the items are above .42. All factor loadings are statistically significant ($p < .001$). Factor loadings are inferior in Study 2 than in Study 1, likely due to the college sample characteristics.

With respect to goodness of fit statistics, the absolute fit index χ^2 indicates that the model differed significantly from the data [χ^2 (484) = 710.20, $p < .001$], the ratio χ^2/df was 1.467, less than 3, indicating good fit. The *RMSEA* value was .060, indicating good fit to the proposed factor structure. The incremental fit index shows moderate fit, *NFI* value was .702 and *CFI* value was .878, below .90, and therefore the empirical model is not significantly different from the null model. The parsimony fit index has values higher than .50, *PNFI* was .644, so it also shows good model fit. In general, it can be seen that the model shows a moderate fit to the data, due to the smaller representation of the sample in comparison to the Study 1 sample. In any case, the hierarchical structure in Study 1 was replicated in an independent sample.

Table 4. Correlations between scales and internal consistency of Study 2. Convergent and discriminant validity.

Validated scales	Self-Esteem	Resilience	Curiosity	Optimism	Autonomy	Vitality	Environmental mastery	Purpose in live	Humor	Enjoyment	PPF Creativity
Self-Esteem Rosenberg	**.63**	.26	.32	.37	**.53**	.33	.40	.47	.24	.37	.21
Resiliency BRS	.22	**.35**	.24	.43	.33	.27	.20	.14	.33	.17	.28
Curiosity CEI	.20	.26	**.52**	.26	.34	.28	.12	.34	.35	.34	.56
Optimism LOT	.30	.33	.35	**.68**	.32	.40	.43	.43	.28	**.53**	.24
Autonomy Ryff	.22	.33	.31	.19	**.46**	.18	.22	.35	.12	.11	.37
Vitality SVS	.28	.34	.42	.52	.38	**.76**	.41	.47	.38	**.60**	.36
Environmental Mastery Ryff	.41	.34	.27	.35	**.57**	.42	**.50**	.58	.27	.44	.33
Purpose in Life Ryff	.40	.24	.30	.26	**.54**	.33	**.55**	**.72**	.21	.50	.24
Humor MSHS	-.01	.04	.26	.22	.14	.25	.16	.19	**.65**	.37	.30
Enjoyment SBI	.38	.32	.37	.45	**.50**	.51	.46	.48	.27	**.52**	.23
Creativity IBS	.17	.19	.38	.11	.19	.16	-.03	.23	.31	.28	**.60**

Satisfaction With Life SLS	.58	.18	.15	.24	.49	.36	.45	.52	.15	.38	.10	.56
Subjetive Happiness SHS	.44	.19	.23	.45	.37	.44	.31	.39	.29	.41	.11	.55
Flourist Scale	.42	.32	.29	.38	.48	.44	.50	.55	.22	.55	.26	.69
Positive Affect PANAS	.33	.40	.42	.42	.42	.48	.40	.57	.36	.50	.39	.73
Negative Affect PANAS	-.45	-.24	-.15	-.43	-.43	-.32	-.31	-.29	-.29	-.17	-.30	-.49
Trait Anxiety	-.48	-.28	-.29	-.50	-.50	-.37	-.53	-.42	-.18	-.33	-.22	-.61
Depression BDI	-.28	-.18	-.17	-.27	-.27	-.14	-.51	-.29	-.03	-.31	-.00	-.37
Internal consistency (α)	.83	.71	.64	.74	.70	.89	.77	.88	.84	.62	.73	.91

* Correlations > .17 are statically significant, $p < .05$.

Second, we examined the convergent and discriminant validity of the 11 scales of psychological resources proposed, and, the general factor (PPF):

The first step was to calculate the correlation between eleven scales used in Study 1, and, other equivalent scales previously validated by others authors. These correlations appear in the upper half of Table 4. There are eight scales which have excellent convergent validity, since they have the highest correlation with the corresponding validated scale (see correlations in bold): Self-Esteem, Resilience, Curiosity, Optimism, Vitality, Purpose in Life, Humor and Creativity. Two scales have good convergent validity, as they have among the highest correlations with the corresponding scale of other authors: Environmental Mastery and Enjoyment. The worst convergent validity is in the case of Autonomy. Some explanations of these results are provided in the discussion.

The second step was to analyze the correlation between the general construct (PPF) and other validated scales theoretically related to it. The lower half of Table 4 shows these correlations. Correlations of the overall factor of PPF are: positive, with all three measures of Well-Being, and, Positive Affect; and, negative, with Negative Affect, Anxiety and Depression. The values of these correlations are in most cases greater than .40 in absolute value.

Discussion

The resources structure found in Study 1 is stable: the results found in Study 1 (general sample) were replicated in Study 2 (college student sample). This gave stability to the findings in Study 1. However, we found some differences; the influence of PPF on resources loadings was not exactly the same in both cases (colleges vs. general sample) (see figure 1). We attributed these differences to the sample differences in Study 1 and Study 2: One was a representative sample of Spanish population, so it had large external validity. Moreover, this sample was composed of people of many different ages and, therefore, in different vital stages. Nevertheless, the other sample was only composed of college students (average age 19 years), so, it is a "teenagers'" sample. Obviously, the priorities, interests, attitudes, and motivations of this young group were different from those of other age groups, and likely, this was reflected in the influence of PPF on resources loadings for one sample (the college) and another (the general).

Nevertheless, the top positions of factor loadings resources were the same for both samples (Purpose in Life, Enjoyment, Autonomy and Vitality) although in different order. In this sense, it would be an interesting future study to analyze whether the resource contribution to PPF varies when a person is subject to unusual conditions such as illness or unemployment.

The convergent and divergent validity of the different scales of the PPF is appropriate in 8 of the 11 scales tested (Self-esteem, Resilience, Curiosity, Optimism, Vitality, Purpose in life, Humor and Creativity) (see Table 4). For the remaining scales (Autonomy, Environmental Mastery and Enjoyment) the following applies:

Autonomy is positively correlated with the Autonomy Ryff' subscale (.46), but has slightly higher correlations with other scales, particularly with: Environmental Mastery Ryff' subscale (.57); the Purpose in Life Ryff' subscale (.54); Self-Esteem Rosenberg' scale (.53), and, the Savoring Beliefs Inventory (taken as Enjoyment measure) (.50). In Study 1 we found similar results as shown in Table 3: the variables highest correlated with autonomy were: Self-Esteem (.63) Purpose in Life (.62) Environmental Mastery (.49) and Enjoyment (.48). It is therefore consistent that in Study 2 these relationships have also been expressed, although with scales developed by other authors. Moreover, in the adaptation of the Psychological Well-Being Ryff´s Scale to the Spanish population, (Díaz et al., 2006) it was found that Autonomy presents the highest correlation with Environmental Mastery (.46), Self-aceptance (.44) and Purpose in Life (.36). These results are consistent with ours.

In the case of Environmental Mastery, we found a slightly higher correlation between this variable and Purpose in Life Ryff' subscale (.55) than between said scale and the Environmental Mastery Ryff´ subscale (.50). Table 3 of Study 1 shows that the variable most correlated with Environmental Mastery is Purpose in Life (.53). Both results are consistent. Along the same line, other studies have found high correlations between these variables (Díaz et al., 2006).

In respect to Enjoyment, Table 3 shows that the variable most correlated with Enjoyment is Vitality (.68). Therefore it is not surprising that this high value in study 2 correlated to another Vitality scale, as shown in Table 4 (.60). Other researchers have shown a close relationship between these two variables (Mouratidis, Vansteenkiste, Sideridis & Lens, 2011).

The proposed new construct PPF had adequate levels of convergent and discriminant validity, and reliability (see Ta-

ble´s 4 last column): We obtained the strongest correlations between PPF and the PANAS Positive Affect (.73). This result is very consistent with The Broaden and Build Theory of Positive Emotions, according to which, there is a close relationship between positive emotions and psychological resources (Fredrickson, 1998; Fredrickson, 2001; Fredrickson & Cohn, 2008; Cohn et al., 2009). Correlations with other Well-Being measures were also relevant, but lower than these.

Moreover, we found negative correlations with discomfort scales: PANAS Negative Affect, and Depression BDI, Anxiety Trait, (- .49, - .49 and -. 37, respectively) showing adequate divergent validity of the PPF. Related to the PPF reliability Cronbach's Alfa was .91.

Considering all results, we concluded that the PPF scale had adequate psychometric properties.

Conclusions

In order to integrate the results of the two studies in this paper we propose two general conclusions.

First, this research shows that psychological resources are interconnected with each other as part of a more general construct which we have called PPF. Therefore, we propose a hierarchical structure to explain the psychological resources. By using an analogy, the PPF would be a molecule consisting of a set of interconnected atoms (psychological resources) whose contribution to the molecule varies depending on its magnitude (factor loadings). The more magnitude each atom has, the greater the contribution to the molecule, and also to the contrary. Furthermore, if an atom would be affected, this would affect all the others.

Although the PPF would always be the same, we believe that there could be little variations on factor loading resources depending on the stage or situation of the person (e.g., youth vs. aging, employment vs. unemployment, health vs. disease, etc.), although future research is needed to test this issue.

Second, our study provided a valid and reliable measure of a newly described construct (PPF) in a general Spanish population. From the standpoint of psychological intervention, this is compelling because it allows us to not only understand people's psychological functioning with respect to their psychological resources, their strengths and weaknesses, but also appropriate intervention.

Finally, it would be of interest if future research studied the relationship between PPF and personality traits, and between PPF and cognitive resources such as intelligence.

Acknowledgements.- We would like to note that all data collected for Study 1 are the property of the Coca-Cola Institute of Happiness, who graciously shared them with us for the purpose of this research. We would like to thank them for making this research possible.

References

Abbott, R. A., Ploubidis, G. B., Huppert, F.A., Kuh, D., & Croudace, T. J. (2010). An Evaluation of the Precision of Measurement of Ryff's Psychological Well-Being Scales in a Population Sample. *Social Indicators Research, 97*, 357–373.

Arbuckle, J. L. (2006). *Amos 7.0 User's Guide.* Chicago: SPSS.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Beck, A.T., Steer, R. A., y Brown, G. K. (1996). BDI-II. *Beck Depression Inventory Second Edition. Manual.* San Antonio, TX: The Psychological Corporation.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.

Bentler, B. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588-606.

Bryant, F. B. (2003). Savoring Beliefs Inventory (SBI): A scale for measuring beliefs about savoring. *Journal of Mental Health, 12*(2), 175-176.

Chico, E. L. (2002). Optimismo disposicional como predictor de estrategias de afrontamiento. *Psicothema, 14* (3), 544-550.

Cohn, M. A., Frederikson, B. L., Brown, S. L., Mikels, J.A., & Conway, A. M. (2009): Happiness Unpacked: Positive Emotions Increase Life Satisfaction by Building Resilience. *Emotion, 9*, 3, 361–368.

Díaz, D., Rodríguez-Carvajal, R., Blanco, A., Moreno-Jiménez, B., Gallardo, I., Valle, C., y van Dierendonck, D. (2006). Adaptación española de las escalas de bienestar psicológico de Ryff. *Psicothema, 18*, 572-577.

Diener, E., Emmons, R. A., Larson, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71-75.

Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective well-being: A nomothetic and idiographic appfoach. *Journal of Personality and Social Psychology, 68*, 926–935.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicator Research, 97*, 143-156.

Ferrando, P. J. Chico, E., & Tous, J. M. (2002). Propiedades psicométricas del test de optimismo Life Orientation Test. *Psicothema, 14*, 3, 673-680.

Frankl, V. (1979). *El hombre en busca de sentido*. Barcelona: Herder.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*, 300 –319.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218 –226.

Fredrickson, B. L, Tugade, M. M., Waugh, C. E, & Larkin, G. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*, 365–376.

Fredrickson, B. L., & Cohn, M. A. (2008). Positive emotions. In M. Lewis, J. Haviland, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed.). New York: Guilford Press.

Hair, J. F., Black, W. C., Babin, B., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis (6th Edition).* New Jersey: Pearson.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*(3), 513–524.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. Review of *General Psychology, 6*(4), 307–324.

Hobfoll, S. E, (2010). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology, 84*, 116–122.

Huta, V., & Ryan, R. (2010). Pursuing Pleasure or Virtue: The Differential and Overlapping Well-Being Benefits of Hedonic and Eudaimonic Motives. *Journal of Happiness Studies, 11*, 6, 735-762.

Jahoda, M. (1958). *Current concepts of positive mental health*. Nueva York: Basic Books.

James, L. R., Mulaik, S. A., & Brett, J. M. (1982), *Causal analysis: models, assumptions and data*. Beverly Hills, CA: Sage.

Kashdan, T. B., Gallagher, M. W., Silvia, P., Breen, W. E., Terhar, D., & Steger, M. F. (2009). The Curiosity and Exploration Inventory-II: Development, factor structure, and initial psychometrics. *Journal of Research in Personality, 43*, 987-998.

Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002): Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology, 82*, 1007–1022.

Lyubomirsky, S. (2001). Why are some people happier than others?: The role of cognitive and motivational processes in well-being. *American Psychologist, 56*, 239–249.

Lyubomirsky, S., Tkach, C., & Dimatteo, R. M. (2006): What are the differences between happiness and self-esteem? *Social Indicators Research, 78*: 363–404.

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: preliminary Reliability and construct validation. *Social Indicators Research, 46*, 137–155.

Martín, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg Self-Esteem Scale: Translation and Validation in University Students. *The Spanish Journal of Psychology 2007, 10*(2), 458–467.

Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003). Individual differences in the uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire. *Journal of Research in Personality, 37*, 48-75.

Mouratidis, A., Vansteenkiste, M., Sideridis, G., & Lens, W. (2011). Vitality and interest–enjoyment as a function of class-to-class variation in need-supportive teaching and pupils' autonomous motivation. *Journal of Educational Psychology, 103*, 2, 353-366.

Rodríguez-Carvajal, R., Díaz Méndez D., Moreno-Jiménez B., Blanco Abarca, A., & Van Dierendonck, D. (2010). Vitalidad y recursos internos como componentes del constructo de bienestar psicológico. *Psicothema, 22*(1), 63-70.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rotter, J. B. (1966). Generalized expectancies of internal versus external control of reinforcement. *Psychological Monographs, 80*(1), 1-28.

Runco, M. A., Plucker, J. A., & Lim, W. (2001). Development and Psychometric Integrity of a Measure of Ideational Behavior. *Creativity Research Journal, 13*, 3-4, 393–400.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorders. *British Journal of Psychiatric, 147*, 598 - 611.

Ryan, R. M., & Deci, E. L (2001). On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology, 52*, 141-166.

Ryan, R. M., & Frederick, C. (1997). On Energy, Personality, and Health: Subjective Vitality as a Dynamic Reflection of Well-Being. Journal of Personality, *65*(3), 529-565.

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069-1081.

Ryff, C. D., & Singer B. H. (2008): Know thyself and become what you are: A eudaimonic aPPFoach to Psychological Well-Being. *Journal of Happiness Studies. 9*, 19-39.

Scheier, M., & Carver, C. (1987). Dispositional optimism and well-being: The influence of generalized outcome expectancies on health. *Journal of Personality, 55*, 169-210.

Seligman, M. E. P. (1998). Learned optimism: *How to change your mind and your life*. (2a. ed.). New York, NY: Pocket Books.

Seligman, M. E. P. (1999). The president's address. *Annual Report. American Psychologist, 54*, 559-562.

Schmutte, P.S. and Ryff, C:D. (1997). Personality and Well-Being : Reexamining Methods and Meanings. *Journal of Personality and Social Psychology, 73*(3), 549-559.

Seligman, M. S. (2006). *La auténtica felicidad*. Barcelona: Vergara.

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. International *Journal of Behavioural Medicine, 15*, 194-200.

Spielberger, C. D., Gorssuch, R.L., Lushene, P. R., Vagg, P. R., & Jacobs, G.A (1983). *Manual for the State-Trait Anxiety Inventory*. Consulting Psychologists Press, Inc.

Steiger, J. H. (1990). Structural model evaluation modification: An interval estimation aPPFoach. *Multivariate Behavioral Research, 25*, 173-180.

Stones, M. J., Worobetz, S. & Brink, P. (2011). Overestimated Relationship with well-being. *Canadian Psychology*, *52*(2), 93-100.

Tafarodi, R. W., & Swann, W.B.(2001): Two dimensional self-esteem: theory and measurement. *Personality and Individual Differences, 31* (5), 653-673.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social–psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210.

Taylor, S. E., Kennedy, M. E., Reed, G. M., Bower, J. E. & Gruenewald, T. L. (2000). Sychological resources. Positive illusions and health. *American Psychologist, 35*, 99-109.

Thorson, J, A, & Powell, F. C. (1993). Development and validation of a multidimensional sense of humor scale. *Journal of Clinical Psychology, 49*, 13-23.

Tomás, J. M., Meléndez, J. C. Oliver,A., Navarro, E., & Zaragoza, G. (2010). Efectos de método en las escalas de Ryff: Un estudio en población de personas mayores. *Psicológica, 31*, 383-400.

Vázquez, C., Hervás, G., Rahona, J., & Gómez, D. (2009): *Buscando los ingredientes básicos. Instituto Coca-Cola de la Felicidad*. Documento no publicado.

Watson, D, Clarck, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANNAS scales. *Journal Personality Social Psychology, 54*, 1063-1070.

Young, J. G. (1985). What is Creativity? *The Journal of Creative Behavior*, *19*(2), 77–87.

(Article received: 15-3-2013; revision received: 27-7-2013; accepted: 17-10-2014)

Annex 1: Escala de funcionamiento psicológico positivo

		Completamente en desacuerdo				Completamente de acuerdo
1.	Me gusta mi forma de ser	1	2	3	4	5
2.	No me rindo fácilmente ante las dificultades de la vida	1	2	3	4	5
3.	Me considero una persona optimista	1	2	3	4	5
4.	Sé encontrar nuevos usos a las cosas	1	2	3	4	5
5.	Tengo confianza y seguridad en mí mismo	1	2	3	4	5
6.	Compagino adecuadamente mi vida laboral, social y personal	1	2	3	4	5
7.	Estoy lleno de vitalidad	1	2	3	4	5
8.	Para bien o para mal las decisiones importantes de mi vida las he tomado yo	1	2	3	4	5
9.	Sé relacionar cosas dispares y sacar algo distinto	1	2	3	4	5
10.	Yo llevo las riendas de mi vida	1	2	3	4	5
11.	Estoy completamente entregado a conseguir los objetivos de mi vida	1	2	3	4	5
12.	Soy capaz de ver las cosas desde puntos de vista completamente diferentes	1	2	3	4	5
13.	El sentido del humor es muy importante en mi vida	1	2	3	4	5
14.	Ante las dificultades me hago fuerte.	1	2	3	4	5
15.	Siempre veo el lado bueno de las cosas	1	2	3	4	5
16.	Sé disfrutar de las pequeñas cosas que ofrece la vida cada día	1	2	3	4	5
17.	Me interesa todo lo que pasa a mi alrededor	1	2	3	4	5
18.	Me siento orgulloso de ser como soy	1	2	3	4	5
19.	Soy una persona entusiasta	1	2	3	4	5
20.	Si volviera a nacer me gustaría ser tal y como soy	1	2	3	4	5
21.	Creo que el futuro me traerá más cosas buenas que malas	1	2	3	4	5
22.	En mi día a día no llego a todo: trabajo, familia, pareja, amigos	1	2	3	4	5
23.	Soy capaz de reírme en muchas situaciones	1	2	3	4	5
24.	Lucho por conseguir las cosas que me importan	1	2	3	4	5
25.	Superar dificultades me ha hecho más fuerte.	1	2	3	4	5
26.	Estoy en el camino de lograr mis metas personales	1	2	3	4	5
27.	Muchas cosas de la vida despiertan mi curiosidad e interés	1	2	3	4	5
28.	Lo paso bien casi con cualquier cosa	1	2	3	4	5
29.	Intento sacar el humor a cualquier situación	1	2	3	4	5
30.	Me apasiona aprender y descubrir cosas nuevas	1	2	3	4	5
31.	Manejo adecuadamente y sin agobios las obligaciones que tengo	1	2	3	4	5
32.	Soy una persona llena de energía	1	2	3	4	5
33.	En la vida hay muchas cosas que me llenan de ilusión	1	2	3	4	5

Relación de ítems por subescalas: **Autoestima**: ítems 1,18,20; **Resiliencia**: ítems 2,14,25; **Optimismo**: ítems 3,15,21; **Creatividad**: ítems 4,9,12; **Autonomía**: 5,8,10; **Domino del entorno**: 6,***22***,31; **Vitalidad:** 7,19,32; **Propósito Vital**: 11,24,26; **Humor**: 13,23,29; **Disfrute**: 16,28,33; **Curiosidad**: 17, 27,30. (**El ítem 22 está invertido**).