

Validation of the Italian Versions of the Flourishing Scale and of the Scale of Positive and Negative Experience

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Abstract

Researchers are divided between those who consider well-being as a single global construct and those who maintain the need to keep the hedonic and eudaimonic components of well-being separate. Diener et al. proposed two separate scales for measuring well-being: the Flourishing Scale (FS) for eudaimonic well-being and the Scale of Positive and Negative Experience (SPANE) for hedonic well-being. The aim of this article is to validate the Italian versions of the FS and SPANE, and to provide support for the usefulness of distinct measures of well-being components. In Study 1, we examined an Italian undergraduate student sample ($n = 684$), whereas in Study 2 we considered two samples of unemployed ($n = 282$) and healthy control individuals ($n = 426$). Through multigroup confirmatory factor analysis, we demonstrated that the Italian FS and SPANE obtained strict measurement invariance across administration methods (paper-and-pencil and Internet) and strong measurement invariance across different groups (unemployed individuals seeking work and a healthy control group). In our data, we found a superior fit for a two-factor model over a one-factor model of well-being, which suggests the utility of separate measures of well-being components. Concurrent validity was verified with other well-being, depression, and anxiety measures. Furthermore, we showed that flourishing is more strongly related to the cognitive component of subjective well-being than hedonic affect. In summary, the Italian FS and SPANE are reliable and valid instruments, and may be beneficial in their applications in future Italian studies on well-being.

Keywords

hedonic well-being, eudaimonic well-being, flourishing, positive affect, negative affect, unemployed

Introduction

In the study of well-being, two main theoretical frameworks have been proposed: the hedonic approach and the eudaimonic approach (Ryan & Deci, 2001). Hedonic well-being corresponds to the subjective well-being (SWB) construct, defined as the presence of life satisfaction and positive affect, and the absence of negative affect. Eudaimonic well-being refers to the dimensions that describe the optimal psychological functioning of the individuals (e.g., meaning in life, positive relationships, and self-acceptance). Although these two perspectives have been developed independently of each other, recently it has been proposed that they should be integrated (Huppert & So, 2013) because of the substantial overlap between the two constructs (e.g., Disabato, Goodman, Kashdan, Short, & Jarden, 2016; Huta & Ryan, 2010; Kashdan, Biswas-Diener, & King, 2008). Here, we provide evidence contrary to this proposal by showing that hedonia and eudaimonia are distinguishable, and that flourishing relates to the cognitive component of SWB more than

hedonic affect. Moreover, factor analyses of our data support a bipartite model of SWB over a one-factor model. The results of the present study, thus, suggest the usefulness of separate measures for these two components of well-being.

Different Types of Well-Being?

It may be simpler to consider well-being to be a unidimensional construct, as hypothesized, for example, by the Oxford Happiness Questionnaire (Hills & Argyle, 2002) or by the single-item measures proposed in several contexts (e.g., Fordyce, 1977). Some researchers, however, have noted that

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different components of mental health are affected differently by life events, thus advocating the need of keeping the different components of well-being separate, at both the theoretical and operational levels (Huta & Ryan, 2010). In fact, it has been shown that, when constructing self-evaluations, respondents rely on multiple sources of information and social standards. Hedonic affect measures encourage respondents to base their evaluations on feelings of pure emotional pleasantness/unpleasantness; judgments of life satisfaction (SWB cognitive component), instead, tend to elicit higher order conscious processes. Likewise, eudaimonic measures involve cognitive processes beyond affective experience in evaluating one's positive functioning (Kashdan et al., 2008). For example, meaning and purpose in life can be influenced by thoughts about the future (Waytz, Hershfield, & Tamir, 2015). Consistent with these previous findings, the present study provides evidence that hedonic and eudaimonic well-being are related but distinct constructs.

Measuring Hedonic Affect

The affect dimensions of SWB are often measured with the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Diener et al. (2010), however, have pointed out that the PANAS has some important limitations, such as the inclusion of adjectives that do not represent real feelings (e.g., "strong," "alert," "determined," "active") or that are infrequent (e.g., "inspired"). Moreover, the PANAS omits some basic feelings ("sad," "depressed"), whereas others are overrepresented (e.g., "jittery," "nervous," "scared," and "afraid" are all feelings that represent anxiety). Overall, the PANAS tends to overrepresent states of high arousal, namely anxiety, for the negative affect, and enthusiasm for the positive affect; the negative (depression) and the positive (peace and serenity) counterparts characterized by low arousal are absent. This characterization of hedonic affect can be problematic, especially when applied to other cultures. In fact, if for North Americans and Europeans the emotional states characterized by high positive arousal are desirable, for East Asians low-arousal feelings such as "calm" and "relaxed" are more appreciated (Tsai, Knutson, & Fung, 2006).

Contrary to the PANAS, the Scale of Positive and Negative Experience (SPANE) is able to assess the full set of feelings felt by the respondent, both general and specific (Diener et al., 2009). Using adjectives with a broad and general significance, such as "good," "positive," and "pleasant," the SPANE includes a wide range of desirable feelings. Correspondingly, Diener et al. (2010) included general descriptors with a negative valence such as "bad," "negative," and "unpleasant." Specific feelings, both positive ("happy," "joyful," "contented") and negative ("sad," "afraid," "angry"), complete the full range of emotional states. The PANAS asks respondents to rate each feeling in terms of its intensity, although the temporal frame seems more strongly related to

well-being than the feeling's intensity (Diener, Colvin, Pavot, & Allman, 1991). For this reason, the SPANE asks respondents to quantify the amount of time they passed in a particular feeling in the previous month. Recently, Jovanović (2015) showed that the SPANE subscales explain more variance than the PANAS in life satisfaction, depression, and general well-being.

Measuring Eudaimonic Well-Being

The eudaimonic theoretical framework is scarcely integrated because it encompasses the contributions by many authors, such as the self-determination theory by Ryan and Deci (2000), the concept of flow by Csikszentmihalyi (1990), and the concept of psychological well-being by Ryff (1989). In the eudaimonic tradition, well-being is identified with the construct of flourishing, which refers to the optimal psychological functioning of the individual (Keyes, 2002).

After noting the limitations of the existing measurement instruments, several authors studying flourishing have tried to identify its underlying dimensions (Diener et al., 2010; Huppert & So, 2013; Keyes, 2002; Seligman, 2011). For example, the factorial validity of the Psychological Well-Being Scales (PWBS; Ryff, 1989) has been questioned (Springer, Hauser, & Freese, 2006), and some of its items have been deemed inappropriate descriptors of eudaimonic well-being (Huta & Ryan, 2010). The conceptualizations proposed by Seligman (2011) and by Huppert and So (2013), in fact, spuriously include in the flourishing construct "positive emotions" dimension that should be measured separately (Keyes, Shmotkin, & Ryff, 2002).

The Flourishing Scale (FS) developed by Diener et al. (2010) was aimed at supplementing the existing instruments, which are too long (e.g., PWBS) or too narrow in scope (e.g., Basic Needs Satisfaction Scale [BNSS]; Ryan & Deci, 2000). The FS provides a brief and comprehensive measure of flourishing that summarizes the existing dimensions proposed by other authors: meaning and purpose of life (Ryff, 1989; Seligman, 2002), quality of relationships with others (Deci & Ryan, 2000; Ryff, 1989), engagement with daily activities (Csikszentmihalyi, 1990), perception of the personal contribution to the well-being of others (Putnam, 2000), perception of personal competence (Deci & Ryan, 2000; Ryff, 1989), self-acceptance (Ryff, 1989), optimism (Scheier & Carver, 2003), and being respected (Brown, Nesse, Vinokur, & Smith, 2003). The FS does not evaluate each of these single dimensions separately but provides a general overview of the individual's perception of his or her own positive functioning.

Purpose of the Study

The present study had two aims: (a) to validate the FS and the SPANE in an Italian sample, and (b) to test the usefulness of separate measures of the hedonic and eudaimonic well-being

components. The first aim was addressed by evaluating the psychometric properties of the Italian FS and SPANE (Study 1). The main reason for conducting this study is the growing interest in well-being research in Italy (Speroni, 2010) and a consequent increased need for appropriate measures of well-being. The second aim was addressed by examining the concurrent validity of hedonic affect and eudaimonic well-being, and by comparing one-dimensional and two-dimensional models of well-being. Specifically, we measured the strength of association between hedonia and eudaimonia (measured by the SPANE and the FS), on one side, and other measures of the cognitive component of SWB (Study 1) and two measures of psychological distress (Beck Anxiety Inventory [BAI], Beck, Epstein, Brown, & Steer, 1988; Beck Depression Inventory–II [BDI-II], Beck, Steer, & Brown, 1996), on the other, within a sample of unemployed individuals and within a control group (Study 2).

Study 1

We evaluated the internal consistency and the factorial validity of the Italian FS and SPANE. We also examined the factor-measurement invariance of the two instruments across paper-and-pencil and Internet data collection methods by means of multigroup confirmatory factor analysis (MG-CFA) techniques. In both the paper-and-pencil and Internet samples, we expected to find a one-factor structure for the Italian FS and a two-factor structure for the Italian SPANE (Diener et al., 2010). Once the invariance across the Internet and paper-and-pencil groups was established, convergent validity was explored in the combined sample by considering the correlations between the Italian FS, the Italian SPANE, and other measures of well-being, such as the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999), the PANAS (Watson, Clark, & Tellegen, 1988), the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), the Personal Wellbeing Index (PWI; International Wellbeing Group, 2006), and the Single Global Item (SGI; International Wellbeing Group, 2006). We expected to find a strong association between the SPANE-P and the PANAS-P, and between the SPANE-N and the PANAS-N, because they all measure positive or negative affect. Furthermore, we expected a stronger association of the FS compared with the SPANE scores with measures of the cognitive component of SWB (SWLS, PWI, SGI), given that eudaimonic well-being involves cognitive processes beyond affective experience.

Participants

We recruited 466 participants (age 18–40 years, M age = 23.2 years) from introductory undergraduate psychology classes at the University of Florence, Italy (68.4% females). Average age was 23.5 years ($SD = 3.1$) for females and 23.3 years ($SD = 3.6$) for males. This sample completed the paper-and-pencil versions of the Italian FS and SPANE. Additional 218

participants completed the Internet-based administrations of the same tests (169 females). Average age was 23.8 years ($SD = 2.8$) for females and 22.9 years ($SD = 3.8$) for males. Participation in the study was voluntary, anonymous, and in compliance with institutional ethical guidelines. All participants were informed through written instructions about the anonymity and confidentiality of their data.

Measures

To evaluate the convergent validity of the Italian FS and of the SPANE, we administered the following instruments.

FS. The FS (Diener et al., 2010) is an eight-item scale measured on a 7-point Likert-type scale response format, which focuses on the eudaimonic aspects of well-being (e.g., “I lead a purposeful and meaningful life,” “My social relationships are supportive and rewarding,” “I am engaged and interested in my daily activities”). The total score is calculated by the sum of the item scores and can range from 8 to 56, with higher scores meaning that the respondent rates himself or herself as a very positive functioning individual.

SPANE. The SPANE (Diener et al., 2010) is a 12-item self-report measure made up of two subscales: six items for positive affect (SPANE-P) and six items for negative affect (SPANE-N). Positive and negative affect is evaluated over the past 4 weeks. Respondents rate how often they had experienced the feelings indicated by each item by means of a Likert-type scale ranging from 1 (*very rarely* or *never*) to 5 (*very often* or *always*). Scores of the SPANE-P and SPANE-N are calculated separately because of the putative independence between these two kinds of feelings (Diener et al., 2010). For each scale, scores can vary from 6 to 30. An overall score (SPANE-B), ranging from –24 to 24, is computed by subtracting the SPANE-N score from the SPANE-P score.

PANAS (trait). The PANAS (Terracciano, McCrae, & Costa, 2003; Watson, Clark, & Tellegen, 1988) is a 20-item inventory assessing the two primary mood dimensions: positive affect (PANAS-P) and negative affect (PANAS-N). Both affective dimensions can be measured either as a state (i.e., “How do you feel right now?”) or as a trait (i.e., “How do you generally feel?”). In the present administration, participants were instructed to assess their feelings “in general.” An affect balance score (PANAS-B) is computed by subtracting the PANAS-N scores from the PANAS-P scores. The 10 items of the PANAS-N assess unpleasant engagement and subjective distress (e.g., “afraid,” “upset”), whereas the 10 items of the PANAS-P assess positive affect (e.g., “enthusiastic,” “proud”). Participants rate to what extent they have generally experienced each emotion on a 5-point scale ranging from 1 (*very slightly* or *not at all*) to 5 (*extremely*). Total scores on each subscale range from 10 to 50, with higher scores indicating high levels of positive or negative affect.

SHS. The SHS (Iani, Lauriola, Layous, & Sirigatti, 2014; Lyubomirsky & Lepper, 1999) is a four-item scale rated on a 7-point Likert-type scale designed to assess global subjective happiness. Two items ask respondents to characterize themselves based on absolute ratings and ratings relative to peers, whereas the other two items ask to what extent participants identify themselves with descriptions of happy and unhappy individuals. A global score is computed by averaging the scores for the four items.

SWLS. The SWLS (Diener et al., 1985) is a five-item instrument created to measure the cognitive component of SWB. Participants respond to each item by indicating on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), their general satisfaction with life according to their own criteria. Total scores range from 5 to 25, with higher scores reflecting greater life satisfaction.

PWI. The PWI (International Wellbeing Group, 2006) consists of eight items that assess the personal satisfaction in eight specific life domains: standard of living, health, achievement in life, personal relationship, personal safety, community connectedness, future security, and spirituality religion. Respondents are asked to rate their level of satisfaction within each domain by a numerical rating ranging from 0 (*extremely dissatisfied*) to 10 (*extremely satisfied*).

SGI. This item (International Wellbeing Group, 2006) asks about participants' overall life satisfaction ("Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole?"), and it is often administered with the PWI. Participants respond on a 11-point scale, ranging from 0 (*completely dissatisfied*) to 10 (*completely satisfied*).

Procedure

The authors independently translated the original FS and the SPANE into Italian and made a synthesis of the four translations. Next, two native English speakers with a BS degree in psychology from a U.S. University back-translated the Italian version into English. This back-translation was then checked for consistency of meaning with the original English version. This process was repeated until the back-translation was found to correspond to the original. Moreover, the Italian FS and SPANE were judged by other two bilingual translators to verify the linguistic equivalence with their English versions. For the FS, the interrater agreement was $Kappa = .72$ ($p < .05$), 95% confidence interval (CI) = [0.191, 1.238], and for the SPANE, $Kappa = .75$ ($p < .05$), 95% CI = [0.281, 1.219]. This last step showed that further item refinement was unnecessary. The Italian FS and SPANE are reported in Supplementary Material Appendixes D and E.

Data Analysis

All the analyses were conducted with the software R (R Core Team, 2016). Confirmatory factor analysis (CFA) was performed with the R-package lavaan (Rosseel, 2012). To determine the fit of the CFA models, we considered the χ^2 test statistic, the comparative fit index (CFI), the Tucker–Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Generally, CFI and TLI values larger than .90 are taken to indicate acceptable fit, although values greater than .95 are desirable (Hox, 2010). RMSEA values lower than .05 indicate close fit, values between .05 and .08 indicate acceptable fit, values between .08 and .10 indicate mediocre fit, and values greater than .10 indicate poor fit (Browne & Cudeck, 1992). SRMR values range from 0 to 1.0, with well-fitting models obtaining values smaller than .05 (Byrne, 1998); however, values as high as .08 are deemed acceptable (Hu & Bentler, 1999).

We tested measurement invariance using MG-CFA across administration methods (paper-and-pencil and Internet). Factorial invariance was tested by comparing a series of increasingly restrictive models using the R-package semTools (semTools Contributors, 2015) with progressively more restrictive hypotheses about equality across groups (Wu, Li, & Zumbo, 2007).

Configural invariance is the most basic level of measurement invariance, and only requires the same number of factors and the same overall factor pattern across groups. *Weak invariance* adds to the requirements of configural invariance the constraint of the equality of the factor loadings across groups. *Strong invariance* (also referred to as scalar invariance) requires both the factor loadings and the item intercepts to be invariant across groups. *Strict invariance* adds to the previous constraints the equality across residuals. These four levels of increasingly restrictive constraints are defined by the relationship between the items and the factors (measurement model), and their equality across groups is a necessary condition for measurement invariance.

The $\Delta\chi^2$ test is typically used to compare the fit of two nested models, with the less parameterized model being favored when the χ^2 difference is not statistically significant. Like the χ^2 model fit test statistic, however, the $\Delta\chi^2$ test is sensitive to sample size. Therefore, we followed the practice of using the ΔCFI criterion, with $\Delta CFI < .01$ being considered evidence supporting the less parameterized model (Cheung & Rensvold, 2002).

Results

Descriptive analysis. Descriptive statistics for the FS and SPANE are shown in Table 1. The assumption of normal distribution was validated graphically by normal quantile–quantile (QQ) plots of test scores. Skewness and kurtosis were within the expected range (Lei & Lomax, 2005).

Table 1. Range of Scores, Internal Consistency, Means, Standard Deviations, Range of Skewness, and Range of Kurtosis for the Internet-Based Administration ($n = 466$) and for the Paper-Based Administration ($n = 218$) of the Italian FS and the Italian SPANE (Study 1).

	Range of scores		α	M (SD)	Range of skewness		Range of kurtosis	
	Minimum	Maximum			Minimum	Maximum	Minimum	Maximum
Paper								
FS	10	56	.88	38.83 (9.27)	-.92	-.13	-1.18	.54
SPANE-P	6	30	.91	19.68 (5.04)	-.43	-.16	-0.73	0
SPANE-N	6	30	.86	15.24 (5.28)	.20	.66	-0.78	-.43
SPANE-B	-24	24	.92	4.45 (9.24)	-.48	-.24	-0.55	-.01
Internet								
FS	8	56	.88	38.4 (9.47)	-.83	-.29	-0.96	.37
SPANE-P	6	30	.89	19.68 (4.72)	-.50	.11	-0.56	.08
SPANE-N	6	30	.85	15.33 (5.10)	.06	.63	-0.83	-.42
SPANE-B	-24	24	.91	4.35 (8.94)	-.56	-.17	-0.41	.15

Note. Ranges of skewness and kurtosis refer to the minimum and maximum values of the scale's items. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; SPANE-P = SPANE-Positive; SPANE-N = SPANE-Negative; SPANE-B = SPANE-Balance.

Internal consistency. Cronbach's alpha was larger than .80 for all scales, suggesting good internal consistency (Nunnally & Bernstein, 1994)—see Table 1. Item-total correlations were similar for all items (FS: .57-.73 range; SPANE-P: .66-.79 range; SPANE-N: .51-.74 range). The deletion of any single item did not appreciably decrease Cronbach's alpha (FS: .85-.87 range; SPANE-P: .88-.90 range; SPANE-N: .82-.86 range) (Supplementary Material Appendix A, Table S1).

CFAs for FS and SPANE scores. In the Italian sample, we replicated the factor solutions reported by Diener et al. (2010). The one-factor solution for the FS provides an adequate fit in both samples according to the χ^2/df , CFI, TLI, SRMR, and RMSEA criteria (Table 2). All items loaded on the latent factor in high degree from .60 to .80 for the paper-and-pencil administration, and from .64 to .81 for the Internet administration. Also, the two-factor solution for the SPANE had an acceptable fit in both samples. All the factor loadings were statistically significant ($p < .001$), ranging from .55 to .86 for the paper-and-pencil administration, and from .54 to .85 for the Internet administration. Correlations between the two latent dimensions were high in both the paper-and-pencil ($r = -.71$) and Internet ($r = -.77$) administrations.

Measurement invariance. Configural, weak, strong, and strict invariance models produced acceptable fit indices (CFI = .936-.942, RMSEA = .082-.099). In terms of the $\Delta CFI < .01$ criterion, we found no deterioration of fit with the constraints of configural, weak, strong, and strict invariance models (Table 3). Therefore, we conclude that the Italian FS and SPANE obtained strict invariance across the paper-and-pencil and Internet administration methods.

Combined sample. A one-way MANOVA assessed the administration method differences for the FS, SPANE-P, and SPANE-N scores. The combined dependent variables were

Table 2. Multiple Criteria for Evaluating the Fit of the CFA Models in Study 1: The χ^2 Test, the CFI, the TLI, the RMSEA, and the SRMR.

	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR
FS							
Paper	67.74	20	3.39	.96	.94	.07	.04
Internet	49.61	20	2.48	.95	.93	.08	.04
SPANE							
Paper	199.68	53	3.77	.95	.93	.08	.04
Internet	117.77	53	2.22	.94	.93	.07	.05

Note. CFA = confirmatory factor analysis; χ^2 = chi-square; df = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; df = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience.

not significantly affected by the method of administration, Pillai's trace = 0.0005, $F(3, 680) = 0.12$, $p = .9480$. No differences between the administration methods were observed when separate t tests were performed on the FS, SPANE-P, and SPANE-N scores. Therefore, in the following analyses, the two samples were combined. For the total sample, the average FS score was 38.7 (with average item scores ranging from 4.19 to 5.44). The average SPANE-P score was 19.68 (with average item scores ranging from 2.96 to 3.54). The average SPANE-N score was 15.27 (with average item scores ranging from 2.27 to 2.79).

Comparison of one- and two-factor models of well-being. To test the usefulness of separate measures for hedonic and eudaimonic well-being, we compared two confirmatory factor models of well-being by considering the correlations between the items of the SPANE and the FS. The two-factor model

Table 3. Goodness-of-Fit Statistics for Testing the Multigroup Factorial Invariance of the Italian FS and of the Italian SPANE (Study 1).

	Overall fit indices					Comparative fit indices				
	χ^2	<i>df</i>	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	Δdf	<i>p</i>	ΔCFI	$\Delta RMSEA$
FS										
Configural	174.51	40	4.363	.942	.099	—	—	—	—	—
Loadings	184.57	47	3.927	.941	.093	10.0587	7	.1853	.001	.007
Intercept	195.47	54	3.620	.939	.088	10.9002	7	.1430	.002	.005
Residuals	204.68	62	3.301	.939	.082	9.2123	8	.3247	.001	.005
SPANE										
Configural	400.20	106	3.775	.938	.090	—	—	—	—	—
Loadings	409.83	116	3.533	.938	.086	9.6212	10	.4743	.000	.004
Intercept	418.89	126	3.324	.938	.082	9.0599	10	.5264	.000	.004
Residuals	440.86	138	3.195	.936	.080	21.9730	12	.0378	.002	.002

Note. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; χ^2 = chi-square; *df* = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; $\Delta\chi^2$ = chi-square change; Δdf = degrees of freedom change; *p* = *p* value for the chi-square test; ΔCFI = CFI change; $\Delta RMSEA$ = RMSEA change.

Table 4. Correlations Between the Italian FS and the Italian SPANE (Study 1).

	FS	SPANE-P	SPANE-N	SPANE-B
FS	1.00			
SPANE-P	.69	1.00		
SPANE-N	-.48	-.62	1.00	
SPANE-B	.64	.89	-.91	1.00

Note. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; SPANE-P = SPANE-Positive; SPANE-N = SPANE-Negative; SPANE-B = SPANE-Balance.

specified two correlated factors: Hedonia identified by the SPANE items and Eudaimonia identified by the FS items. The correlation between the two latent dimensions was .84. The one-factor model specified a single well-being factor. Both the one-factor and the two-factor models exhibited a poor fit to the data with none of the CFI and TLI exceeding .90 and the RMSEA being greater than .08. Only the two-factor model SRMR (.065) proved an acceptable fit compared to the one-factor model SRMR (.085). Considering the χ^2 difference test, the two-factor model fared better than the one-factor model, $\chi^2(1) = 681.31$, $p < .001$ (Supplementary Material Appendix B, Table S2).

Concurrent validity. Concurrent validity was tested by examining the correlations between the FS and SPANE scores, on one side (Table 4), and the scores of the scales reported in Table 5, on the other. The correlations between the FS and the SPANE-P scores ($r = .69$) and between the FS and the SPANE-N scores ($r = -.48$) were medium-high. On average, the correlations between the FS and the SPANE scores, on one side, and the SHS, the PANAS, the SWLS, the PWI, and the SGI scores, on the other, were high, thus suggesting a high concurrent validity. A series of Steiger's (1980) *z* tests (Steiger's modification of Dunn & Clark's, 1969) were performed to

Table 5. Correlations Between the Italian FS and the Italian SPANE and Other SWB Scales (Study 1).

	SWLS	SHS	PANAS-P	PANAS-N	PANAS-B	PWI	SGI
FS	.76	.69	.70	-.50	.72	.73	.68
SPANE-P	.67	.70	.64	-.45	.65	.64	.65
SPANE-N	-.51	-.60	-.42	.71	-.70	-.48	-.50
SPANE-B	.65	.72	.58	-.65	.75	.62	.64

Note. All reported correlations are significant at the .01 level. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; SWB = subjective well-being; SWLS = Satisfaction With Life Scale; SHS = Subjective Happiness Scale; PANAS-P = Positive and Negative Affect Schedule-Positive; PANAS-N = Positive and Negative Affect Schedule-Negative; PANAS-B = Positive and Negative Affect Schedule-Balance; PWI = Personal Wellbeing Index; SGI = Single Global Item; SPANE-Positive; SPANE-N = SPANE-Negative; SPANE-B = SPANE-Balance.

test for differences in the magnitude of the correlations between the FS and the SPANE-P, and the measures of cognitive components of SWB (SWLS, PWI, SGI). The correlation between the SWLS and the FS was significantly stronger than the correlation between the SWLS and the SPANE-P, $z = 4.70$, $p < .0001$. The correlation between the PWI and the FS was significantly stronger than the correlation between the PWI and the SPANE-P, $z = 4.15$, $p < .0001$. The correlation between the SGI and the FS was not significantly stronger than the correlation between the SGI and the SPANE-P, $z = 1.41$, $p = .1581$. In summary, the FS shows a stronger association than the SPANE-P with the cognitive components of well-being (SWLS, PWI, SGI).

Discussion

The Italian FS and SPANE showed good reliability and validity. Internal consistency and factor analysis indicated a unidimensional structure for the Italian FS and a two-factor structure for the Italian SPANE. The Italian FS and the SPANE exhibited medium-high positive correlations with other SWB measures and with measures of related constructs,

thus displaying good convergent validity. The stronger correlation was between SPANE-N and PANAS-N. However, contrary to our expectations, the SPANE-P was more strongly associated with the SWLS, the SHS, and the SGI, compared with the PANAS-P. This finding could be explained by the different conceptualization of the positive affect adopted by the SPANE-P and the PANAS-P, as indicated in the “Measuring Hedonic Affect” section. Both the FS and the SPANE were strongly associated with life satisfaction. However, the FS showed a stronger association with the cognitive components of SWB than with the SPANE-P, thus suggesting that eudaimonic well-being involves affective information on a less explicit level compared with the SPANE.

Psychological research data collection has recently moved into the realm of the Internet, and self-report survey-based data collection is increasingly carried out using the Internet, as opposed to the traditional paper-and-pencil method. It is therefore important to determine the adequacy of the Internet-based data collection for the measurement instruments under examination. Our results provide evidence of strict measurement invariance across paper-and-pencil and Internet data collection procedures. We thus conclude that the Italian FS and SPANE can be administered through the Internet with good (i.e., equivalent to paper-and-pencil) results.

Study 2

Study 2 assessed the discriminant and nomological validity of the hedonia and eudaimonia constructs. After controlling for the effect of the unemployed participants' age, we examined a sample of unemployed individuals and a healthy control group. We performed CFAs for both the groups, and we tested metric invariance (i.e., invariance across individual factor loadings). Furthermore, the one-dimensional and the two-dimensional models of well-being were tested. Finally, we analyzed the discriminant validity of the FS and the SPANE by considering the BDI-II and the BAI scales.

Work is not only a means of economic sustenance, but it also contributes to the definition of the self-image and to the construction of meaning in one's life (Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003). These latter two dimensions are important in the flourishing conceptualization and, therefore, we expected lower FS scores in the unemployed group than in the control group. Moreover, as unemployment has negative effects on well-being (e.g., A. E. Clark, Layard, & Senik, 2012), and because it increases the risk of hopelessness (Haatainen et al., 2003) and depression (Wanberg, 2012), we expected the mean SPANE-P, SPANE-N, BDI-II, and BAI scores to differ markedly between the unemployed participants and the control group. We also expected the BAI and BDI-II scores to be negatively associated with the FS and SPANE-P scores, because they represent the opposite poles of the mental health continuum, and to be positively associated with the SPANE-N scores, because their emotional negative content is in part overlapping (e.g., the “sad” and

“afraid” items of the SPANE-N). In line with previous studies (Tellegen, 1985; Watson, Clark, & Carey, 1988), we expected a weaker association between the BAI scores and well-being than between the BDI-II scores and well-being.

Participants

The unemployed sample consisted of 282 participants (183 females), unemployed for at least 6 months and actively seeking work.

The unemployed sample was divided into two subgroups: young unemployed adults (age ≤ 35) and older unemployed adults (age > 35). The threshold of 35 years was suggested by the Italian Institute of Statistics (ISTAT; Istituto Nazionale di Statistica) classification of unemployment ages. This unusually high threshold is justified by the particular Italian situation, in which 62.3% of individuals aged between 18 and 34 years still live with their family of origin, given an unemployment rate of 17.1% for this age group in 2011 (ISTAT, 2012). The young unemployed adults sample consisted of 222 participants (141 females) aged between 19 and 34 years ($M = 26.34$, $SD = 3.73$). The older unemployed adults sample consisted of 60 participants (43 females) aged between 35 and 59 years ($M = 42.67$, $SD = 6.62$). The control group consisted of 426 participants (331 females) with different working conditions: employees (50.7%), students (39.9%), retired (1.9%), people not seeking a job (1.9%), and unspecified condition (5.6%). Average age was 31.2 years ($SD = 11.4$) for females and 32.2 years ($SD = 12.4$) for males. Participants were recruited online via social networking websites and through email requests. All participants were informed through written instructions about the anonymity and confidentiality of their data.

Measures

To evaluate the divergent validity of the Italian FS and SPANE, we administered the following instruments.

BDI-II. The BDI-II (Beck et al., 1996; Sica & Ghisi, 2007) is a 21-item, self-rated scale that evaluates key symptoms of depression, including cognitive, emotional, and somatic aspects. Individual scale items are scored on a 4-point continuum (0 = *least*, 3 = *most*), with a total summed score range of 0 to 63. Higher scores indicate greater depressive severity. Suggested guidelines for cutoff scores are less than 14 for no or minimal depression, 14 to 19 for mild to moderate depression, 20 to 28 for moderate depression, and 29 or higher for severe depression.

BAI. The BAI (Beck et al., 1988; Sica & Ghisi, 2007) contains 21 items, each describing a symptom of anxiety. Respondents rate on a 4-point scale how much they have been bothered by the symptoms. Total score ranges between 0 and 63. Higher total score reflects increased symptoms of

Table 6. Range of Scores, Internal Consistency, Means, Standard Deviations, Range of Skewness, and Range of Kurtosis of the Italian FS and of the Italian SPANE in the Young and Older Unemployed Adults and in the Control Group of Study 2.

	Range of scores		α	M (SD)	Range of skewness		Range of kurtosis	
	Minimum	Maximum			Minimum	Maximum	Minimum	Maximum
Unemployed younger adults								
FS	8	56	.93	33.50 (10.70)	-.69	.17	-1.11	-.18
SPANE-P	6	30	.93	15.98 (5.58)	.03	.48	-0.83	-.61
SPANE-N	6	30	.85	19.82 (5.10)	-.46	.04	-1.03	-.36
SPANE-B	-24	22	.93	-3.84 (9.53)	-.08	.39	-0.59	-.09
Unemployed older adults								
FS	10	53	.92	32.55 (10.88)	-.52	.30	-1.16	-.58
SPANE-P	6	26	.87	15.32 (4.67)	.09	.54	-0.85	.11
SPANE-N	11	29	.80	20.22 (4.60)	-.59	.00	-1.22	-.30
SPANE-B	-23	11	.89	-4.90 (8.33)	.00	.39	-0.88	.18
Control group								
FS	8	56	.93	40.14 (9.79)	-1.15	-.42	-0.77	1.26
SPANE-P	6	30	.92	20.27 (5.17)	-.62	-.27	-0.47	.47
SPANE-N	6	27	.83	15.02 (4.48)	-.04	.61	-0.62	-.37
SPANE-B	-17	24	.91	5.25 (8.30)	-.38	-.03	-0.39	.12

Note. Ranges of skewness and kurtosis refer to the minimum and maximum values of the scale items. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; SPANE-P = SPANE-Positive; SPANE-N = SPANE-Negative; SPANE-B = PANAS-Balance.

anxiety. Scores of 0 to 7 reflect minimal anxiety, 8 to 15 mild anxiety, 16 to 25 moderate anxiety, and scores above 26 represent severe anxiety.

Results

Descriptive analysis. Descriptive statistics for the Italian FS and SPANE in the two unemployed samples and in the control group are shown in Table 6. Skewness and kurtosis were within the expected range (Lei & Lomax, 2005).

Evaluating group differences. A series of one-way ANOVAs assessed the group (young unemployed adults, older unemployed adults, control group) differences for the FS, the SPANE-P, and the SPANE-N scores. There was a significant effect of group on the FS scores, $F(2, 705) = 38.60$, $p < .0001$ ($\eta^2 = .10$). Post hoc Tukey's honestly significant difference (HSD) tests ($p < .05$) indicated lower FS mean score for both the young unemployed adults ($M = 33.50$, $SD = 10.70$) and the older unemployed adults ($M = 32.55$, $SD = 10.88$), as compared with the control group ($M = 40.14$, $SD = 9.79$). The young and older unemployed groups did not differ significantly on their FS scores. The three groups differed on their SPANE-P mean scores, $F(2, 705) = 60.32$, $p < .0001$ ($\eta^2 = .15$): The mean SPANE-P scores for the young unemployed adults ($M = 15.98$, $SD = 5.58$) and for the older unemployed adults ($M = 15.32$, $SD = 4.67$) were significantly lower than those for the control group ($M = 20.27$, $SD = 5.17$), but the young and older unemployed adult groups did not differ significantly from each other. A similar result was found for the SPANE-N scores, $F(2, 705) =$

Table 7. Multiple Criteria for Evaluating the Fit of the CFA Models in Study 2: The χ^2 Test, the CFI, the TLI, the RMSEA, and the SRMR.

	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR
FS							
Unemployed	60.175	20	3.009	.970	.959	.084	.030
Control group	63.478	20	3.174	.965	.951	.071	.024
SPANE							
Unemployed	105.229	53	1.985	.968	.960	.059	.038
Control group	161.220	53	3.042	.951	.939	.069	.045

Note. CFA = confirmatory factor analysis; χ^2 = chi-square; df = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; df = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience.

48.53, $p < .0001$ ($\eta^2 = .21$). The mean scores for the young unemployed adults ($M = 19.82$, $SD = 5.10$) and for the older unemployed adults ($M = 20.22$, $SD = 4.60$) were significantly lower than those for the control group ($M = 15.02$, $SD = 4.48$), but the young and older unemployed adult groups did not differ significantly from each other. Given that we found no differences between young and older unemployed adults, the subsequent analyses were performed without distinguishing between them.

CFAs for FS and SPANE scores. The one-factor solution for the FS had acceptable fit indices (Table 7). All items loaded on the latent factor ($p < .001$), and loadings ranged from .68

Table 8. Goodness-of-Fit Statistics for Testing the Multigroup Factorial Invariance of the Italian FS and of the Italian SPANE (Study 2).

	Overall fit indices					Comparative fit indices				
	χ^2	<i>df</i>	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	Δdf	<i>p</i>	ΔCFI	$\Delta RMSEA$
FS										
Configural	159.96	40	3.999	.970	.091	—	—	—	—	—
Loadings	165.84	47	3.528	.970	.085	8.885	7	.261	.000	.006
Intercept	203.31	54	3.765	.962	.088	37.466	7	<.001	.008	.004
Residuals	257.38	62	4.151	.951	.094	54.076	8	<.001	.012	.006
SPANE										
Configural	337.30	106	3.182	.952	.079	—	—	—	—	—
Loadings	346.72	116	2.989	.952	.075	9.424	10	.492	.000	.004
Intercept	401.88	126	3.190	.943	.079	55.155	10	<.001	.009	.004
Residuals	448.05	138	3.247	.936	.080	—	12	<.001	.007	.001

Note. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; χ^2 = chi-square; *df* = degrees of freedom; χ^2/df = ratio of chi-square to its degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; $\Delta\chi^2$ = chi-square change; Δdf = degrees of freedom change; *p* = *p* value for the chi-square test; ΔCFI = CFI change; $\Delta RMSEA$ = RMSEA change.

to .89. The two-factor solution for the SPANE also had acceptable fit indices. The standardized factor loadings were all statistically significant ($p < .001$) and ranged from .462 to .906. Correlations between the two latent dimensions were medium-high: $r = -.66$ (unemployed sample) and $r = -.60$ (control group).

Measurement invariance. Configural, weak, strong, and strict invariance models produced acceptable fit indices (CFI = .951-.970, RMSEA = .085-.094). In terms of the $\Delta CFI < .01$ criterion, we found no deterioration of fit with the constraints of configural, weak, and strong invariance models (Table 8). Therefore, we conclude that the Italian FS and SPANE obtain strong invariance across the unemployed ($n = 282$) and the control ($n = 426$) groups.

Comparison of one- and two-factor models of well-being. We replicated the model comparison analysis of Study 1 across the unemployed and control groups (Supplementary Material Appendix C, Table S3). Despite the overall poor fit of both the one-factor (CFI = .664, TLI = .602, RMSEA = .167, SRMR = .126) and the two-factor models (CFI = .844, TLI = .825, RMSEA = .110, SRMR = .090), the latter demonstrated a far superior fit, $\chi^2(2) = 1,883.5$, $p < .001$.

Discriminant validity. Table 9 shows the correlation between the FS, the SPANE-P, the SPANE-N, the BAI, and the BDI-II scores calculated on the full sample of unemployed and control groups ($n = 708$). Differences in the magnitude of the correlations between the well-being measures (FS and SPANE) and the anxiety and depression measures (BAI and BDI-II) were evaluated by Steiger's *z* tests. The correlation between the FS and the BDI-II was significantly stronger than the correlation between the FS and the BAI, $z = -9.06$, $p < .0001$. The correlation between the SPANE-P and the BDI-II was significantly stronger than the correlation

Table 9. Correlations Between the Italian FS, the Italian SPANE, the BAI and BDI-II Scores in the Full Sample Composed by the Unemployed and Control Groups (Study 2).

	FS	SPANE-P	SPANE-N	BDI-II	BAI
FS	1.00				
SPANE-P	.66	1.00			
SPANE-N	-.40	-.61	1.00		
BDI-II	-.57	-.62	.61	1.00	
BAI	-.32	-.39	.48	.66	1.00

Note. FS = Flourishing Scale; SPANE = Scale of Positive and Negative Experience; BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory-II; SPANE-P = SPANE-Positive; SPANE-N = SPANE-Negative.

between the SPANE-P and the BAI, $z = -9.14$, $p < .0001$. The correlation between the SPANE-N and the BDI-II was significantly stronger than the correlation between the SPANE-N and the BAI, $z = 4.94$, $p < .0001$.

Discussion

In study 2, we considered a group of unemployed individuals and a control group comprised (for the most part) of employees and students. Because we found no statistically significant differences between the young unemployed adults and the older unemployed adult groups, here we only present the comparisons between the full sample of unemployed individuals and the control group. The unemployed participants showed lower scores than the control group on the FS ($\eta^2 = .10$), the SPANE-P ($\eta^2 = .15$), and the SPANE-N ($\eta^2 = .21$). For both the unemployed sample and the control group, the Italian FS and the SPANE obtained strong measurement invariance in terms of the $\Delta CFI < .01$ criterion. This result provides further evidence of the FS and the SPANE validity, establishing that they measure the same constructs in different populations.

The association between the SPANE-N and the BAI was significantly lower than the association between the SPANE-N and the BDI-II. The same pattern of correlations was observed for the SPANE-P, which was more strongly associated with BDI-II than with BAI scores. A similar result was also found by Sumi (2014) in the Japanese validation of the SPANE and by other studies comparing the associations among BAI, BDI-II, and PANAS (Ahrens & Haaga, 1993; Watson & Kendall, 1989).

The FS was more strongly (negatively) associated with the BDI-II than with the BAI scores. A possible interpretation of this result can be provided by the different cognitive contents of anxiety and depression (D. A. Clark, Beck, & Stewart, 1990). Anxious cognitive content is focused on physical or psychological threats, whereas depressive cognitive content refers to thoughts related to negative self-evaluation, hopelessness, and pessimistic view of the world. The cognitive content of depression (more than the cognitive content of anxiety) may thus be considered to be the negative counterpart of flourishing, which is based on positive self-evaluation, optimistic view on the future, and general positive view of the life.

General Discussion

It has recently been proposed that the experience of positive emotional states (hedonia) and the meaning and development of one's potentials (eudaimonia) represent a single well-being construct, rather than two related dimensions (Disabato et al., 2016). However, our results do not support this conclusion. CFAs revealed two correlated factors rather than a single well-being construct. Moreover, the FS showed stronger correlations with measures of the cognitive components of SWB compared with the SPANE-P. These results also suggest the distinct placement of the constructs of hedonia and eudaimonia in a nomological network of related constructs (Cronbach & Meehl, 1955) and support their concurrent validity.

The previous considerations highlight the importance of validating the translations of the FS and SPANE in different national languages. In this respect, our results indicate that the Italian FS and the Italian SPANE have adequate psychometric properties. The FS showed a unidimensional factor structure, whereas the SPANE showed a two-factor structure. Both scales revealed good levels of internal consistency, homogeneity, and validity. Convergent validity of the Italian FS and SPANE was also well supported. This is the first study, to our knowledge, that has examined the problem of measurement invariance for the FS and for the SPANE. MG-CFA indicated that the Italian FS and SPANE obtained strict measurement invariance across administration methods (paper-and-pencil and Internet) and strong measurement invariance across groups (unemployed individuals seeking work and control group). Such evidence of measurement invariance thus supports the possibility of

valid inferences concerning the FS and SPANE scores across different administration methods and heterogeneous social groups.

We acknowledge some limitations of the current study. First, test-retest reliabilities of the Italian FS and SPANE have not been assessed. Second, in the assessment of concurrent validity of Study 1 we did not consider the eudaimonic dimensions of well-being. The association between the Italian FS and SPANE with other dimensions of well-being thus remains a task for future research. Third, measurement invariance for the paper-and-pencil and Internet administration methods of the Italian FS and SPANE might be inflated by the fact that most of the participants were college students or young adults used to interact with the Internet. Fourth, in Study 2 the cognitive component of hedonic well-being was not assessed, given that we were only interested in measuring FS and SPANE scores among unemployed individuals to evaluate the discriminant validity with the BAI and BDI-II scores. From this point of view, our results corroborate the outcomes of previous studies (e.g., Ahrens & Haaga, 1993; Watson & Kendall, 1989). Fifth, the Italian translations of the PWI and the SGI were only validated as part of a more comprehensive study on the role of cognitive variables in psychological disorders (Sica, Caudek, Chiri, Ghisi, & Marchetti, 2012). Sixth, although we found a superior fit for the two-factor model over the one-factor model of well-being, we acknowledge that even the two-factor model does not fit the data well. Therefore, more research on the factor structures of the FS and SPANE is required. However, we believe that the present work provides a valuable starting point for an improved assessment of well-being in the Italian language. Finally, in Study 2 we were not able to collect potentially useful information, such as the length of time of unemployment or the distinction between individuals who were unemployed because they were looking for their first job and individuals who were unemployed because they lost their job or were laid off.

In conclusion, hedonic and eudaimonic motives are both important for the individual well-being. Whereas eudaimonic motives favor individual growth and meaning construction, hedonic motives foster emotional regulation (Huta & Ryan, 2010). An assessment of personal well-being in all its scope thus requires the consideration of both these dimensions.

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