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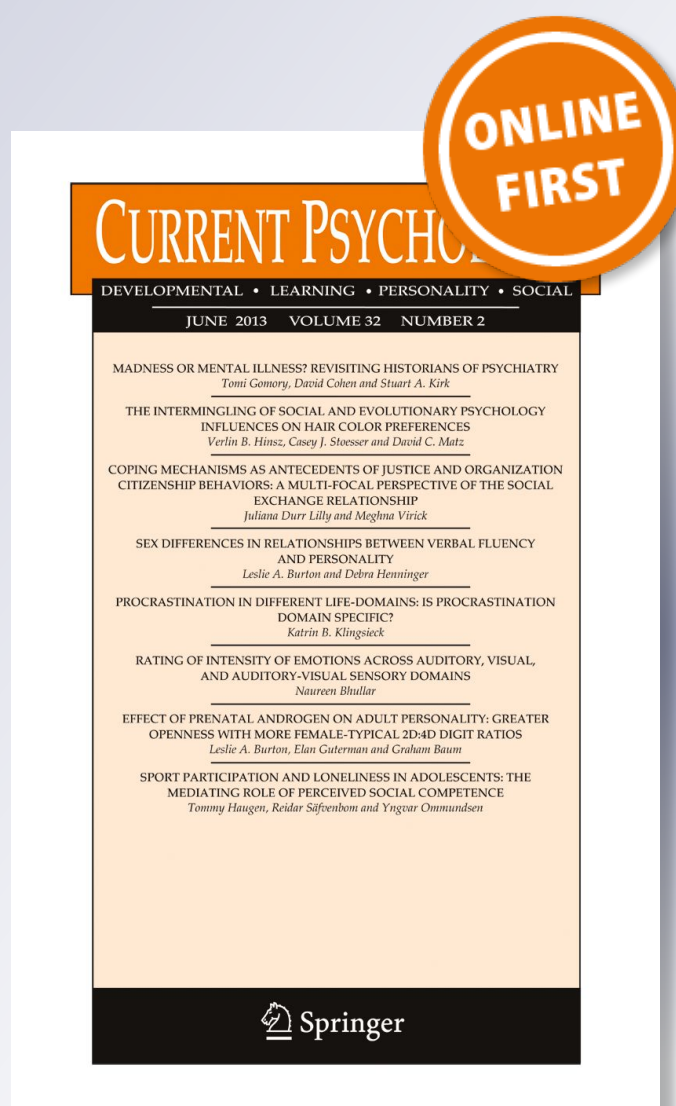
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Psychometric properties of the PERMA-Profiler as hedonic and eudaimonic well-being measure in an Italian context

Barbara Giangrosso¹

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Abstract

The aim of this work is to offer an exam of the PERMA-Profiler's psychometric proprieties in an Italian context, with particular attention to convergent validity measured through one of the most used instruments for assessing psychological well-being, the Ryff's Psychological Well-Being Scale (Ryff in *Journal of Personality and Social Psychology*, 57(6), 1069, 1989, *Psychotherapy and Psychosomatics*, 83(1), 10–28, 2014; Italian version by Ruini et al. in *Rivista di psichiatria*, 38(3), 117–130, 2003). Italian version of PERMA-Profiler appears to have good psychometric qualities, and its factorial structure is consistent with the original one (Butler & Kern in *International Journal of Wellbeing*, 6(3), 1–48, 2016), in line with Seligman's PERMA model (Seligman 2011). Although the dimension of Ryff's Autonomy subscale shows low correlation indices with PERMA subscales, the two Overall dimensions (Overall PERMA and Ryff's Psychological Well-Being total) show a good relation ($r = .81$). This data tends to favor the idea that the PERMA-Profiler is an instrument capable of measuring well-being, in a certainly more streamlined way (23-items vs 84-items), from a eudaimonic point of view (Ryff in *Psychotherapy and Psychosomatics*, 83(1), 10–28, 2014), and, with its attention to aspects related to positive emotions and happiness (factors Positive emotions and Engagement, and Happiness single-item) the instrument appears to be trans-theoretical, by also offering a hedonic and subjective vision of well-being.

Keywords PERMA-Profiler · Psychological well-being · Flourishing · Wellbeing · Measurement · Psychometric properties

Introduction

“Well-being is a fundamental human goal” (Huppert and Cooper 2014; p 1).

The aim of Positive psychology is to help people flourish (Seligman 2011), develop their interior potential and inherent qualities to live a full life. The experience of flow appears to be linked to numerous health benefits. Manderscheid et al. (2010) summarize evidence that shows that a high positive affect is linked to lower morbidity, increased longevity, and reduced health symptoms (Pressman and Cohen 2005); a positive emotional style was also associated with better endocrine and immune response (Steptoe et al. 2006), and similar findings have reported a link between positive affect and lower inflammatory response, lower blood pressure and lower cardiovascular risk; psychological well-being also seems be related to neural

functioning (Urry et al. 2006), and to reduced amygdala activation to aversive stimuli (Van Reekum et al. 2007).

Historically, psychological studies on well-being can be divided according to a hedonic and eudaimonic paradigm (McMahan and Estes 2011). Psychologists of the hedonic approach (eg, Diener et al. 1998) consider well-being to be made up of a subjective state of happiness (Subjective Well-being), which in most studies refers to a three-component structure: satisfaction in life, presence of positive affects, absence of negative affects (Diener 1984), overall definable happiness (Ryan and Deci 2001; Layard 2006, 2011; Lyubomirsky et al. 2005; Kahneman and Krueger 2006). The eudaimonic perspective (Biswas-Diener et al. 2009; Ryan and Deci 2001) is based on Aristotelian conceptions of virtue as the origin of well-being (McMahan and Estes 2011), in which well-being corresponds to the expression of a person's individual qualities and optimal functioning (flourishing).

Theoretical studies on well-being and flourishing have also led to the development of interest in their psychometric evaluation (Hone et al. 2014), in particular for clinicians who work on promotional interventions, to evaluate their effectiveness and improve their promotion strategies. Indeed, the promotion of well-being is increasingly developing in various contexts,

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such as schools, organizations or health care; it is therefore important to have effective and efficient instruments both in the screening phase for the design of ad hoc interventions, and in the evaluation phase of outcomes, to create better intervention techniques.

Therefore, researchers focused to create easy-to-use instruments that have a solid background theory of well-being.

The instruments aimed at evaluating well-being are based either on a theoretical background of reference or on a review of existing scales by selecting the key concepts considered most significant to explain the multidimensionality of the construct itself (eg, Warwick-Edinburgh Mental Well-being Scale of Stewart-Brown et al. 2009 and Tennant et al. 2007; Flourishing Scale of Diener et al. 2010; NHS Scotland of Parkinson 2007; NIH Toolbox of Gershon et al. 2010 and Salsman et al. 2013; Social Survey of Huppert et al. 2009).

To give an example of instruments that are based on a review of existing scales and constructs, we can find the Keyes' Mental Health Continuum Short Form (Perugini et al. 2017).

Keyes (2002, 2005, 2007) has developed this instrument for assessing the dimensions of emotional, social and psychological well-being (César Cosentino and Castro Solano 2014). Emotional well-being is the presence of positive emotions and satisfaction with life, as defined by Diener et al. (1999); psychological well-being includes aspects of individual psychological functioning, such as Ryff's dimensions of Autonomy and Personal growth (Ryff 1989); social well-being indicates how well an individual works in his social life, as defined by Keyes (1998), with dimensions of Social integration and Social contribution (Perugini et al. 2017).

Instruments that are based on a strong reference theory also relate to different concepts of well-being, in particular according to the theoretical paradigm of reference, whether hedonic or eudaimonic.

Among the instruments that consider well-being such happiness, satisfaction with life and the presence of positive emotions, we can count, among the most used, the Happiness Measures (Fordyce 1988), the Satisfaction with Life Scale (Diener et al. 1985), the Temporal Satisfaction with Life Scale (Pavot et al. 1998), the Subjective Happiness Scale (Lyubomirsky and Lepper 1999), the Scale of Positive and Negative Experience (Diener et al. 2010), or the Positive Affect and Negative Affect Scale (Watson and Clark 1999; Crawford and Henry 2004).

The major criticisms of this type of instruments refer mainly to a bias that can crop up in the answers to the items. As pointed out by Schwarz & Strack (1999), and taken up by Huppert (2014), people are reluctant to admit being poorly satisfied or unhappy.

Among the instruments based on a strong well-defined theoretical background, and on a eudaimonic side, we certainly find the Ryff's Psychological Well-Being Scale (Ryff 1989, 2014), of which there are over 25 publications that have

examined its psychometric properties (Ryff 2014), cited in over 6000 research articles. It is based on the theory of Psychological Well-being (Ryff 1989, 2014), according to which well-being is the index of a full functioning of the individual. According to Ryff's theory, well-being can be described as determined by the coexistence of feeling that life is full of meaning, purpose and direction (purpose in life), living in accordance with one's beliefs (autonomy), making use of one's talents and potentials (personal growth), having the perception of managing one's life situations well (environmental mastery), relying on deep interpersonal relationships (positive relationships) and having knowledge and acceptance of oneself, including awareness of one's limitations (self-acceptance). Ryff's Psychological Well-being construct fits into the positive psychology landscape in striking contrast to existing indicators focused on feeling good, happiness, positivity or satisfaction with life, typical of the hedonic approach.

Although the hedonic and eudaimonic conceptions of well-being have always been considered separate, in recent years the unilateral approach to the study of well-being has aroused interest (Henderson and Knight 2012; Kashdan et al. 2008; Waterman 2008; Perugini et al. 2017).

Kern and Buttlar have recently attempted to integrate the hedonic and eudaimonic approach (Kern and Butler 2013; Butler and Kern 2016) with a short instrument based on the PERMA model presented in Seligman's Well-being Theory (Seligman 2011), one of the main conceptualizations and operationalizations of the construct of flourishing (Hone et al. 2014).

In his model, Seligman (2002, 2011, 2012) identifies 5 dimensions linked to well-being: positive emotions (subjective experience of happiness with respect to the past, present and future), engagement (which concerns the use of the force of character and an individual's talents and capacity), meaning (which refers to feeling part of a greater purpose), relationships (degree of creativity and altruism in social relations) and accomplishment (joy deriving from striving for success and victory as a way to self-realization), which together define the full life (Peterson et al. 2005). By attaining optimal functioning or Flow (Csikszentmihalyi 1990), one gradually derives a sense of purpose to be pursued in life, to serve an ideal or a mission, things that give meaning to life and therefore happiness (Magyar-Moe 2009; Park et al. 2004, 2006; Seligman et al. 2005). The flourishing is a state that appears associated with the presence of factors that protect from the risk of depression (Manderscheid et al. 2010) or other physical and psychological pathologies, as well as increased productivity and relational capacity (Diener et al. 2009; Fordyce 2000; Huppert 2009; Keyes 2002, Lyubomirsky et al., 2005). As we can see, in addition to eudaimonic derivation dimensions, Seligman does not give up considering positive emotions, engagement and happiness (subjectives and edonic dimensions) as an integral part of well-being.

The PERMA-Profiler

Starting from a pool of 109 items related to 5 PERMA domains, administered together with other questionnaires (an eight-item version of the Center of Epidemiological Studies-Depression Scale - Eaton et al. 2004; Satisfaction with Life Scale - Diener et al. 1985; Pavot and Diener 1993; Flourishing Scale - Diener et al. 2010; Short Warwick-Edinburgh Mental Well-being Scale - Stewart-Brown et al. 2009; Personal Action Constructs Rating Scales - Little et al. 2017), the authors have identified 15 items capable of evaluating this construct, based on 5 dimension of Seligman's PERMA model.

The first scale is *Positive emotions*, linked to satisfaction, joy and positivity; this element, when present, leads to a pleasant life. The reliability of this scale, in original version, is: $\alpha = .88$; Guttman reliability coefficient = .83.

The second scale is represented by the *Engagement*; it concerns the optimal experience, being one with something (music, time, engaging activities in general), is what is called a flow experience, which involves cognitive and emotional resources together. The reliability of this scale, in original version, is: $\alpha = .72$; Guttman reliability coefficient = .64.

The third scale is related to *Relationships*; interpersonal relationships represent the "expedient" to be able to express and receive gratitude, kindness, love and support, elements considered fundamental for increasing well-being. The reliability of this scale, in original version, is: $\alpha = .82$; Guttman reliability coefficient = .76.

The fourth dimension is *Meaning*; unlike the Positive emotions and Engagement (which can be individual and subjective), it requires the search for a broader meaning that involves being part of something that we consider greater than our individual existence, and that has an intrinsic value (social commitment, religion, spirituality, ethic, etc.). The reliability of this scale, in original version, is: $\alpha = .90$; Guttman reliability coefficient = .86.

The fifth scale is represented by *Accomplishment*; this is a dimension of research of a realization in itself and for itself, produced by the impulse of trying to improve ourselves and to strive for the attainment of the objectives we set ourselves. The reliability of this scale, in original version, is: $\alpha = .79$; Guttman reliability coefficient = .74.

Each of these five scales consists of 3 items. The sum of 15 items form Overall PERMA flourishing; the reliability of Overall PERMA, in original version, is: $\alpha = .94$; Guttman reliability coefficient = .95.

Also, eight additional items (which do not converge to the Overall PERMA Flourishing) were added: one item for assessing overall happiness; three negative emotion items for assessing sadness, anger, and anxiety; one item for assessing loneliness; and three items for assessing self-perceived physical health.

The final version of the PERMA-Profiler (23-items) was administered for evaluating psychometric proprieties with a total sample of 33,628 participants. The dimensions used as external criteria (and related number of participants) included: Depression ($N = 1974$), Anxiety ($N = 1984$), Fatigue ($N = 1919$), Perceived stress ($N = 1880$), Gratitude ($N = 1919$), Hope ($N = 2225$), Life satisfaction ($N = 2098$), Self-efficacy ($N = 1905$), Values ($N = 163$), Burnout ($N = 195$), Compassion ($N = 264$), Self-identification as an activist ($N = 285$), Political orientation ($N = 245$), Self-compassion ($N = 277$), Self-determination ($N = 250$), Organization Practice ($N = 294$), Social Capital ($N = 293$) and Work performance ($N = 293$). [For details, see Butler and Kern 2016].

In conclusion, Butler & Kern have created a measure that captures the five PERMA domains. The instrument demonstrates acceptable reliability (α from .72 to .94; Guttman reliability coefficient from .74 to .95), cross-time stability (Test-retest at 12 week: from .51 to .70), and evidence of divergent (from $-.40$ with Fatigue to $-.61$ with Depression) and convergent (from .26 with Values to .78 with Life Satisfaction) validity, although no specific dimensions of psychological well-being have been considered. [For more details, see Butler and Kern 2016].

Although it was created based on various populations all over the World, the PERMA-Profiler has not been used in populations of southern Europe, particularly in Italy. The aim of this study is to offer an exam of the PERMA-Profiler's psychometric proprieties in an Italian context, with particular attention to convergent validity measured through one of the instruments most used for assessing psychological well-being, the Ryff's Psychological Well-Being Scale (Ryff 1989, 2014; Italian version by Ruini et al. 2003).

Methods

Ethical Considerations

The study has obtained the approval of the Privacy Referee of the Careggi Hospital Complex.

We considered voluntary participation, confidentiality and anonymity as ethical aspects for this research.

Translation of PERMA-Profiler

A back-translation was performed to create an Italian version of PERMA-Profiler. Firstly, each item was translated into Italian by two independent psychologists; subsequently, the translations thus obtained were compared and were identical; the Italian translation was then delivered to a native English speaker, who proceeded to perform a back-translation from Italian into English. All the back-translated items were identical to the original PERMA-Profiler items.

Participants

The study was conducted with a sample of 2533 participants (Females 70.8%); they were voluntary students recruited from the University of Florence, Italy. The age average is 26,42 years ($SD = 2,99$; range 19 – 40 years). Although 98,2% of participants was not married, 66,2% was engaged in a romantic relationship. Table 1 shows demographic characteristics of the sample.

Measures

The Italian version of PERMA-Profilers consists of 23 items, as well as original version: 15 items related to the five main scales (3 items for assessing Positive emotions, 3 for Engagement, 3 for Relationships, 3 for Meaning, 3 for Accomplishment); one item for overall happiness; 3 for negative emotions; one item for loneliness; and 3 items for assessing self-perceived physical health. According to the original version, the response style is a Likert scale ranged from 0 to 10 (0 = not at all - 10 = completely; 0 = never - 10 = always; 0 = terrible - 10 = excellent). At a higher score corresponds the greater presence of the investigated dimension. For the contents of the items on the main scales, see Table 3.

To assess the concurrent validity of the PERMA-Profilers, one of the instruments most used in the literature for Psychological Well-being evaluation was chosen (Ryff 1989, 2014).

The Ryff Psychological Well-Being Scale (Ryff 1989; Italian version Ruini et al. 2003) is an 84 item scale, divided into 6 dimensions: Self Acceptance (SA), Positive relations (PR), Autonomy (AU), Environmental Mastery (EM), Purpose in Life (PL) and Personal Growth (PG). Reliability data of the original version of Ryff Psychological Well-Being Scale are very interesting and make us understand why so

frequent use of this instrument in research and in clinical practice related to psychological well-being: the internal coherence of each original scale is quite high, both for Chronbach's Alpha (SA $\alpha = .93$; PR $\alpha = .91$; AU $\alpha = .86$; EM $\alpha = .90$; PL $\alpha = .90$; PG $\alpha = .87$) and the test-retest method with a 4 week interval between measurements (SA $r = .85$; PR $r = .83$; AU $r = .88$; EM $r = .81$; PL $r = .82$; PG $r = .81$). In the sample of the present study, the reliability of the Ryff's scales is slightly lower (SA $\alpha = .89$; PR $\alpha = .86$; AU $\alpha = .84$; EM $\alpha = .84$; PL $\alpha = .89$; PG $\alpha = .75$).

Statistical Analyses

For evaluating psychometric properties of PERMA-Profilers, we calculated:

- internal consistency (Chronbach's α , Guttman reliability coefficient and split half reliability) by using the SPSS package (version 24);
- confirmatory factor model (Root Mean Square Error of Approximation, RMSEA; Standardized Root Mean Residual, SRMR; Comparative Fit Index, CFI; chi-squared test) by using the Lisrel package (version 8.80);
- convergent validity (correlations calculated using Pearson's r coefficient, because the variables were found normally distributed) by using the SPSS package (version 24).

Results

Psychometric Properties of the PERMA-Profilers

The results of internal consistency (summarized in Table 2) show acceptable reliability in all factors, except for the Engagement subscale.

The confirmatory factor model is shown in Fig. 1.

Latent factor loading and fit indices are summarized in Table 3. The RMSEA value indicates an adaptation close to

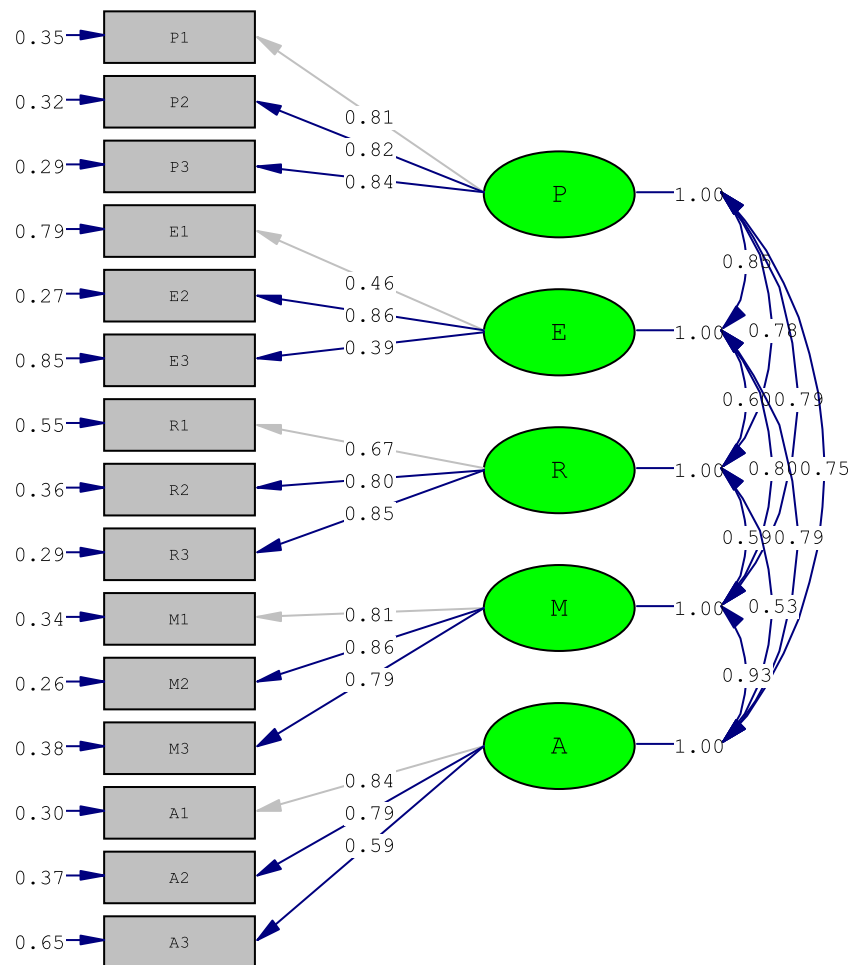
Table 1 Participant demographics

	N	%
Sex		
Male	740	29.20
Female	1793	70.80
Age group		
19 to 24	715	28.23
25 to 34	1738	68.61
35 to 40	80	3.16
Education		
High school	1798	71.00
Graduation	735	29.02
Employment status		
Student	1674	66.10
Working student	273	1.78
Full-time employed	586	23.10

Table 2 Internal reliability for PERMA factors

	Cronbach's α	Guttman	Split half
Positive emotion (P)	.86	.73	.71
Engagement (E)	.57	.50	.35
Relationship (R)	.81	.75	.71
Meaning (M)	.86	.79	.72
Accomplishment (A)	.78	.59	.54
Overall well-being	.92	.87	.79
Negative emotion (NE)	.77	.72	.68
Physical health (H)	.91	.83	.85

Fig. 1 Five-factor model based on the 15 PERMA measure in Italian context. *P* positive emotion, *E* engagement, *R* relationships, *M* meaning, *A* accomplishment



good when producing a value between 0.05 and 0.08 (Cangur and Ercan 2015). SRMR value has the acceptable fit with a value smaller than 0.10, but some Authors (Cangur and Ercan 2015; Iacobucci 2010) suggest the indicator of good fit if the value is lower than 0.05. The CFI produces values between 0 and 1, and when the CFI value is 0.97 or more, it means that the adaptation in question is good (Schermele-Engel et al. 2003). Finally, the Goodness of Fit Index typically summarize the discrepancy between observed values and the values expected under the model in question, and produces values between 0 and 1. Traditionally an cut-off point of 0.90 has been recommended for the GFI.

The model satisfactorily fit the data ($n = 2533$, $RMSEA = .071$ [90% confidence interval = .068, .075], $SRMR = .039$, $CFI = .98$, $GFI = .94$), also from the comparison with the original validation data of the instrument ($n = 31,966$, $RMSEA = .064$ [90% confidence interval = .063, .065], $SRMR = .031$, $CFI = .97$, $GFI = .96$).

The correlations (calculated using Pearson's r coefficient for variables normally distributed) between the PERMA factors are summarized in Table 4. The strength of the correlations varied for each PERMA factor. Engagement results the

factor with lower correlation indices with other factors of PERMA-Profilers. Loneliness and Happiness, which are single items, show interesting correlations; in particular, Happiness is related positively with Overall PERMA ($r = .81$).

Convergent Validity

To evaluate convergent validity, Ryff's Psychological Well-Being Scale (PWBS) was used. Table 5 summarizes the correlations between the PERMA-Profilers factors and PWBS subscales.

The dimension of *Positive emotions* shows the highest coefficients with the dimensions of Self Acceptance and with the PWB total, while it shows the lowest scores with Autonomy; *Engagement* shows good correlation with the PWB total, while the lower scores are with Autonomy and with Personal Growth. As expected, *Relationships* has the highest correlation with Positive Relationships and the lowest with Autonomy. Consistently, *Meaning* has higher correlations with Purpose in Life, as well as *Accomplishment*, also linked to the Environmental Mastery scale. All PERMA-Profilers

Table 3 Latent factor loading and fit indices in confirmatory factor analysis for main 15 PERMA items

Factor/Questions			min	max	M	SD
Positive emotion			0	30	20.06	5.43
How often do you feel joyful?	λ_{p1}	.81	0	10	7.06	2.27
How often do you feel positive?	λ_{p2}	.82	0	10	4.39	2.48
To what extent do you feel contented?	λ_{p3}	.84	0	10	6.53	2.38
Engagement			0	30	22.80	4.30
How often do you become absorbed in what you are doing?	λ_{e1}	.46	0	10	7.04	1.86
To what extent do you feel excited and interested in things?	λ_{e2}	.86	0	10	6.66	2.16
How often do you lose track of time while doing something you enjoy?	λ_{e3}	.39	0	10	7.24	2.21
Relationships			0	30	21.84	5.80
To what extent do you receive help and support from others when you need it?	λ_{r1}	.67	0	10	7.51	1.91
To what extent have you been feeling loved?	λ_{r2}	.80	0	10	7.01	2.36
How satisfied are you with your personal relationships?	λ_{r3}	.85	0	10	6.64	1.97
Meaning			0	30	21.19	5.73
To what extent do you lead a purposeful and meaningful life?	λ_{m1}	.81	0	10	7.21	2.06
To what extent do you feel that what you do in your life is valuable and worthwhile?	λ_{m2}	.86	0	10	4.01	2.91
To what extent do you generally feel you have a sense of direction in your life?	λ_{m3}	.79	0	10	7.44	2.24
Accomplishment			0	30	22.23	4.73
How much of the time do you feel you are making progress towards accomplishing your goals?	λ_{a1}	.84	0	10	6.76	1.98
How often do you achieve the important goals you have set for yourself?	λ_{a2}	.79	0	10	7.57	1.82
How often are you able to handle your responsibilities?	λ_{a3}	.59	0	10	7.74	2.25
Latent factor covariance						
Positive emotion - engagement	$\Phi_{p,e}$	.85				
Positive emotion - relationships	$\Phi_{p,r}$	.73				
Positive emotion - meaning	$\Phi_{p,m}$	.79				
Positive emotion - accomplishment	$\Phi_{p,a}$	.75				
Engagement - relationships	$\Phi_{e,r}$	.60				
Engagement - meaning	$\Phi_{e,m}$	.80				
Engagement - accomplishment	$\Phi_{e,a}$	.79				
Relationships - meaning	$\Phi_{r,m}$	.59				
Relationships - accomplishment	$\Phi_{r,a}$	.53				
Meaning - accomplishment	$\Phi_{m,a}$	.93				
Model fit						
N		2533				
RMSEA		.071				
RMSEA 90% confidence interval		.068				
		.075				
SRMR		.039				
$\chi^2(df = 80)$		1109.72		$p < .001$		
CFI		.98				
Goodness of fit		.94				

Confirmatory factor analysis estimated using the LISREL package (version 8.80). See Fig. 1 above for the estimated model

RMSEA Root Mean Square Error of Approximation, SRMR Standardized Root Mean Residual, CFI Comparative Fit Index

Table 4 Correlation between PERMA factors ($n = 2533$)

	P	E	R	M	A	Overall	NE	H
Positive emotion								
Engagement	.57**							
Relationships	.65**	.41**						
Meaning	.67**	.56**	.50**					
Accomplishment	.61**	.54**	.43**	.77**				
Overall well-being	.87**	.73**	.76**	.87**	.82**			
Negative emotion	-.61**	-.27**	-.44**	-.42**	-.38**	-.53**		
Physically health	.48**	.30**	.37**	.34**	.34**	.45**	-.41**	
Loneliness	-.53**	-.27**	-.63**	-.40**	-.32**	-.54**	.54**	-.27**
Happiness	.84**	.52**	.70**	.64**	.57**	.81**	-.55**	.44**

P positive emotion, *E* engagement, *R* relationships, *M* meaning, *A* accomplishment, *Overall* overall well-being, *NE* negative emotion, *H* physical health

** p value $>.001$

scales (including the Overall) also have a correlation higher than .60 with the PWB total.

Although not part of the model, the N and H dimensions also have interesting trends; the first shows negative correlations with all the dimensions of the Ryff's Psychological Well-Being Scale (in particular with the scales of Self Acceptance, Environmental Mastery and PWB total); the H scale shows extremely weak correlations, ranging from the lowest with Autonomy to the highest with Self Acceptance (but only $r = .40$).

Discussion

The PERMA-Profil is an instrument composed of 23 items. In the Italian version, too, it appears to have good psychometric qualities, and its factorial structure is consistent with the original one (Butler and Kern 2016); the five factors of which it is composed are correlated, in line with the PERMA model of Seligman (2011), which has asserted that these five domains can be defined and measured as separate but correlated constructs. The values of Chronbach's α , the Guttman reliability coefficient and split-half are encouraging, suggesting,

despite their brevity, a good degree of reliability. These indices therefore show that this instrument is easy to administer, slender but reliable. Even the overall score contributes to giving an adequate measure of the global well-being construct.

In the present study we have compared the scores obtained through the PERMA-Profil to those obtained through Ryff's Psychological Well-being Scale, one of the most used in literature and in clinical practice to measure Eudaimonic Well-being. Again, the results that emerged are extremely encouraging, showing links between the variables of the two instruments. In particular, the score that appears most interesting is yielded by the correlation coefficient between the total score of Ryff's Psychological Well-being and the Overall of PERMA-Profil.

The scale that does not seem to show high correlations with the dimensions of PERMA-Profil is that of Autonomy. This dimension has been described by the author (Ryff 1989, 2014) as typical of very self-confident and independent people, able to resist social pressures, evaluating themselves through personal standards, which consider their own satisfaction and loyalty to their own ideas more important to the search for conciliation. This tendency of poor correlation perhaps can

Table 5 Evidence for convergent validity between PERMA factors and PWBS's subscale

	P	E	R	M	A	Overall	N	H	Lon
Self acceptance	.73**	.45**	.56**	.69**	.64**	.76**	-.63**	.40**	-.55**
Autonomy	.25**	.23**	.17**	.30**	.30**	.31**	-.29**	.15**	-.19**
Personal growth	.45**	.46**	.35**	.51**	.50**	.55**	-.28**	.25**	-.25**
Environmental mastery	.66**	.42**	.48**	.66**	.70**	.72**	-.60**	.38**	-.48**
Positive relationships	.52**	.33**	.68**	.39**	.34**	.57**	-.41**	.25**	-.57**
Purpose in life	.66**	.51**	.50**	.82**	.74**	.80**	-.48**	.33**	-.47**
PWB total	.72**	.52**	.60**	.73**	.70**	.81**	-.60**	.39**	-.52**

P positive emotion, *E* engagement, *R* relationships, *M* meaning, *A* accomplishment, *Overall* overall well-being, *NE* negative emotion, *H* physical health, *Lon* Loneliness, *PWB total* Ryff's Psychological Well Being total

** p value $>.001$

be explained if we consider the dimensions of the PERMA-Profiler and the elements that compose it (see Table 3): even in the most subjective dimensions, the items of PERMA-Profiler never ask for a comparison with the outside, or the idea about what others think, but they refer only to what the individual thinks about a certain thing (“How often do you feel joyful?” “How often do you become absorbed in what you are doing?” “How satisfied are you with your personal relationships?” “To what extent do you lead to purposeful and meaningful life?” “How often do you achieve the important goals you have set for yourself?”). So, perhaps it is difficult to compare or approach a dimension that bases its elements on not seeking approval, on the absence of concern for the opinion of others, and on the absence of people’s influence.

Although the dimension of Autonomy show low correlation indices with PERMA subscales, the two overall dimensions (Overall PERMA and Ryff’s PWB total) appear related with $r = .81$. This data tends to favor the idea that the PERMA-Profiler is an instrument capable of measuring well-being, in a certainly more streamlined way (23-Items vs 84-items), from a eudaimonic point of view (Ryff 2014), and, with its attention to aspects related to positive emotions and happiness (factor positive emotion and happiness single-item) the instrument appears to be trans-theoretical, by also offering a hedonic vision of well-being.

The scale of Engagement is the one with the lowest reliability indices. As Seligman himself suggests, it concerns the expression of flow: if we ask who is in this condition what he is feeling, in general he replies that he does not think or feel anything but rapture. In the flow, says Seligman, we merge with the object, and there are no strategies to arrive at this condition if we do not draw on our strengths and talents, wherever they reside, and stay within the situation, perceiving what is happening. The Engagement takes into consideration many nuances that are lost by operating them; the low reliability of the scale could perhaps depend on this. However, this scale shows a good correlation index with the Overall PERMA ($r = .76$). Even in the original version, this factor is the least reliable; however, it appears to be related to other external criteria, such as compassion, identifying as an activist, and workplace performance (Butler and Kern 2016).

The evaluation of the psychometric characteristics of PERMA-Profiler also in the Italian context, offers the evidence that its structure and its qualities are maintained even in populations different from those used for its creation.

The study presents evident limits regarding the choice of the sample and the use of a single instrument to assess convergent validity. The sample consisted only of students; future perspectives could consider the application of PERMA-Profiler also to the general population and, in particular, to the different age groups. The use of only one instrument to assess convergent validity was a deliberate choice, to increase the specificity of the numerous (but sometimes non-specific)

measures used by the original authors (Butler and Kern 2016). In future studies, additional instruments for well-being assessment could be used.

Since the promotion of well-being is increasingly taking place in various contexts (school, organization, health), it is very important to have effective and efficient instruments that allow a quick assessment of the dimensions of which it is composed, both in screening (for specific planning specific and targeted interventions) and in the evaluation phase of the results obtained, in order to allow an ever greater improvement of the intervention strategies for the wellbeing of individuals.

In conclusion, in line with the authors of PERMA-Profiler (Butler and Kern 2016), we would like to emphasize that there is no ideal PERMA-profile to aspire to, because the different profiles can be more or less adaptive for different people at different times. As suggested by Butler and Kern, future research should deal with evaluating the associations between different profiles and other elements of health or adaptation to specific situations in order to construct targeted interventions.

Compliance with Ethical Standards

Conflict of Interest The corresponding author states that there is no conflict of interest.

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