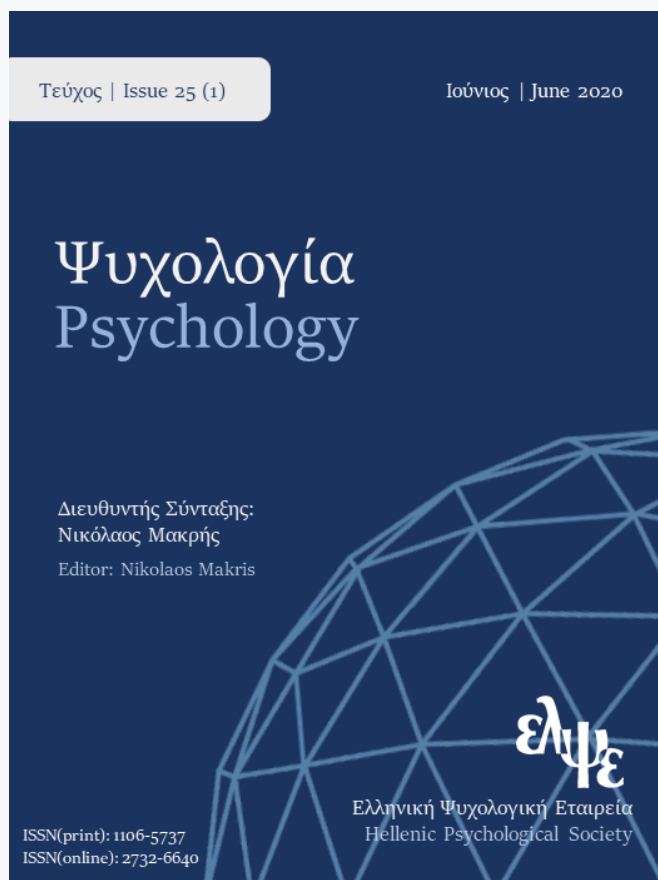


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ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

Character strengths and virtues in the Greek cultural context

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KEYWORDS	ABSTRACT
character strengths, cultural differences, validation, VIA, virtues	The aim of the present study was to examine the conceptual framework of character strengths in the Greek cultural context and, to do so, the factor structure of the Greek version of the Values In Action-120 (VIA-120) inventory of strengths was explored. A lifespan sample of 3,211 Greek adults was used to examine the factorial structure and psychometric characteristics of the measurement. The results indicated that the structure of the 24 character strengths was confirmed and a model of five virtues has emerged. The similarities and differences between the Greek and other cultures' models are being discussed. The VIA-114GR demonstrated adequate reliability, convergent validity to wellbeing indices, and discriminant validity to negative experiences. Gender and age differences were found in several strengths and virtues. Also, the findings showed that the five signature strengths of the Greek sample were kindness, love, honesty, fairness, and persistence and the five bottom strengths were love of learning, spirituality, perspective, modesty, and self-regulation. Limitations, recommendations for future studies, and practical implications for the use of VIA-114GR are being discussed.
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In recent years, the exploration of character strengths and virtues has been greatly encouraged by the field of Positive Psychology, which focuses on achieving high levels of functioning. Positive Psychology enables people to thrive and fulfill their potential, as it focuses on the positive aspects of life, and not only on the recovery from a diminished level of functioning, as the mainstream psychology does (Gable & Haidt, 2005). The need to start studying and understanding character strengths and virtues is of great importance, and Positive Psychology has managed to classify the former as topics of investigation for social science (Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005).

But what constitutes character strengths and virtues? According to Peterson and Seligman (2004), virtues are universal characteristics valued by philosophers, religions, and myths: wisdom, courage, humanity, justice, temperance, and transcendence. These positive traits may have been grounded in biology through an evolutionary process that selected these specific aspects of excellence as necessary for the survival of the species. For an individual to be considered of positive character, he or she should be characterized by all the aforementioned virtues. The character strengths, on the other hand, are defined as the main psychological components of virtues. Character strengths are characteristics that allow individuals to take advantage of their potentials, develop, and flourish. They are “the good in people’s core”,

the key to be our best self, they are leading individuals to do the right thing and affect the way they think, behave, and feel. The cultivation and application of character strengths is beneficial for both individuals and society (Linley & Harrington, 2006; Park et al., 2004; Peterson & Park, 2006; Peterson & Seligman, 2004).

Peterson and Seligman (2004) introduced the Values in Action (VIA) classification of 24 character strengths that are being grouped under six higher-order virtues. The VIA classification was developed to serve as the antithesis of psychiatry's Diagnostic and Statistical Manual (DSM-IV-TR; American Psychiatric Association, 2000) giving emphasis on human's positive elements and trying to create a common terminology among researchers and practitioners.

Measures of character strengths

The need to construct relevant psychometric instruments that measure strengths and virtues has been emerged. Thus, in order to measure character strengths, Peterson and Seligman (2004) introduced the VIA Inventory of Strengths (VIA-IS). Several, adaptation and validation, studies of the VIA-IS have been performed in various countries, e.g. Switzerland (Peterson et al., 2007), Germany (Ruch et al., 2010), Japan (Shimai et al., 2006), Croatia (Brdar & Kashdan, 2010), India (Singh & Choubisa, 2010), and Spain (Azañedo et al., 2014).

According to Peterson and Seligman (2004), the VIA-IS is a self-report questionnaire consisting of 240 items. People utilize this questionnaire in order to rate how much they believe each strength represents them. Ratings are based on a 5-point scale ranging from 1 (*not at all like me*) to 5 (*very much like me*). Individual scores for all 24 character strengths are averaged across the relevant questions. The 24 strengths are fairness, kindness, teamwork, forgiveness, modesty, leadership, appreciation of beauty and excellence, love, creativity, bravery, perspective, open-mindedness, curiosity, humor, social intelligence, prudence, persistence, self-regulation, honesty, hope, spirituality, zest, gratitude, and love of learning. There is also a shorter form of the VIA-IS, the VIA-120 that uses five items to measure each character's strength and gains ground in research and clinical practice since it presents similar psychometric characteristics to the full version of the scale.

In relevance to the VIA-IS, there is also the VIA Inventory of Strengths for Youth (VIA-Youth), which focuses on measuring the strengths of younger people aged 10–17 years (Park & Peterson, 2006). Moreover, the VIA Structured Interview constitutes another way of utilizing the VIA classification in order to get informed about one self's strengths. It assists individuals in identifying signature strengths by communicating with someone about situations, in which these strengths are expected to appear. In order to achieve that, the interviewer question respondents on the way they usually act in a specific setting regarding a particular character strength (Peterson, 2003).

Regardless of whether classification systems and measures focus on positive or negative traits, their development has been affected by the values of society, as well as by the professionals attending to these traits. Cultures continuously change over time. Thus, these tools should, constantly, be revised, and validated in order to preserve their applicability (Snyder & Lopez, 2006).

Psychometric properties of VIA-IS and VIA-120

The internal reliability, test-retest's reliability, and validity of VIA-IS scales have been demonstrated by various researches that have been conducted over the years (Park et al., 2004; Peterson & Seligman, 2004; Ruch et al., 2010). However, there is a need to further inspect the internal structure of the VIA-IS and the VIA-120 (Ruch et al., 2010). Shryack and colleagues (2010) on their research found that the structure of

the 24 strengths' dimension is unclear and explained that the VIA classification was not derived from factor analysis of empirical data but originated from professional consensus and literature review. As such, the disagreement regarding the conceptual structure should have been expected.

Peterson and Seligman (2004) suggested a conceptual structure consisting of six factors. The virtue of wisdom consisting of strengths of intellect, the virtue of courage consisting of strengths like bravery and persistence, the interpersonal virtue of humanity, the spiritual virtue of transcendence, the social virtue of justice, and the virtue of moderation that includes strengths of restraint. However, many other conceptualizations and factor structures have been proposed. For example, Peterson (2006) suggested a two-factor structure that is grounded on the analysis of impassive data. The first factor includes strengths of the heart and focusing on others, such as spirituality, humor, teamwork, leadership. On the other hand, strengths that concern the mind and the focus on one's self (e.g., self-regulation, persistence, creativity, curiosity) constitute the second factor of this structure. Last but not least, other studies (Azañedo et al., 2014, 2017; Ruch et al., 2010) propose a five-factor solution based on statistical analyses. More specifically, the first factor of these models consists of strengths of restraint and includes strengths like modesty and prudence. The second factor consists of intellectual strengths, such as creativity, curiosity, and love of learning. The interpersonal strengths (e.g., kindness, love, leadership, teamwork) constitute the third factor of this model, whereas emotional strengths (e.g., hope and zest) and theological strengths (e.g., gratitude and spirituality) compose the fourth and fifth factor respectively.

Following the aforementioned attempts, the factor structure of the VIA-IS and the VIA-120 has been referred to by a significant amount of studies (see Brdar & Kashdan, 2010; Littman-Ovadia & Lavy, 2012; Macdonald et al., 2008; Peterson et al., 2008; Shryack et al., 2010; Singh & Choubisa, 2010). The majority of these studies revealed that dimensional models consisting of either four or five factors are better suited regarding data. The number of factors maintained in the studies varied between three and five, and there was substantial variability in the contents of and labels applied to the factors. These variations may mirror and showcase cultural issues, as the studies were undertaken in different countries. Apart from cultural issues arising in the studies, a number of methodological differences existed as well.

Character strengths and wellbeing indices

According to various researchers, character strengths are associated with a broad range of positive outcomes, such as life satisfaction, positive emotions, and orientations to happiness (e.g. Brdar et al., 2011; Gradisek, 2012; Güsewell & Ruch, 2012; Lee et al., 2015; Peterson et al., 2007; Weber & Ruch, 2012). More analytically, a recent study conducted by Wagner, Gander, Proyer, and Ruch (2019) explored the relationship between character strengths and the multidimensional nature of wellbeing using the PERMA model (Seligman, 2011). The findings showed that, with the exception of modesty and prudence, character strengths were positively related to all PERMA factors with small to large effect sizes. The first pillar of wellbeing based on the PERMA theory, experiencing positive emotions showed stronger relationships with the character strengths of zest, humor, hope, and curiosity. Engagement was mainly predicted by persistence, zest, hope, curiosity, bravery, love of learning, and leadership. Positive relationships showed correlations with the strengths of teamwork, love, and kindness. Meaning in life was mainly linked to spirituality, but also gratitude, hope, leadership, curiosity, zest, appreciation of beauty and excellence, and creativity. Finally, accomplishments were predicted predominantly by hope, persistence, and zest, but also by the strengths of curiosity, bravery, perspective, love, love of learning, leadership, social intelligence, and self-regulation. Also, the findings of this study indicate that zest, hope, and curiosity predict strongly most PERMA components, however, other character strengths are most strongly linked to specific factors.

What is more, it has been shown that life satisfaction and happiness are improved by strength-based positive psychology interventions, thus assisting in diminishing symptoms of depression (e.g. Gander et al., 2013; Giapraki et al., in press; Proyer et al., 2015; Proyer et al., 2013; Seligman et al., 2005; Symeonidou et al., 2019; Zichnali et al., 2019). This correspondence between character strengths and well-being has experienced resolute support.

Gender and age differences in character strengths

The relationship between character strengths and demographics has also been studied. Heintz, Kramm, and Ruch's (2019) meta-analysis projects the idea that males and females share similar character strengths, apart from love, kindness, appreciation of beauty, and gratitude, in which females showcased a higher score. Another analysis (Linley et al., 2007) showed that women's rating on character strengths was superior to that of men, with the only exception being on the character strength of creativity. Nevertheless, regarding the humanity strengths, Ruch and colleagues (2010) discovered that female's scores were slightly advanced, whereas men's scores were greater on creativity, open-mindedness, perspective, and leadership.

In regard to age differences, Park and colleagues (2004) did not find a strength-age relationship. However, other researchers support that strengths typically show minor, but considerable, positive associations with age. The strongest relation to age was discovered on the character strengths of curiosity, love of learning, fairness, forgiveness, and self-regulation (Linley et al., 2007), while a positive connection was, likewise, reported by Ruch et al. (2010) between age and curiosity, fairness, spirituality, self-regulation, modesty, gratitude, forgiveness, and prudence.

The current study

The aim of the present study was to examine the conceptual framework of character strengths in the Greek cultural context by exploring the factor structure of the Greek version of the VIA-120. Thus, the present study focused on answering the following research questions: (1) Which is the conceptual structure of character strengths in the Greek culture and which are the differences to other cultural contexts? (2) Is the Greek version of VIA-120 a reliable psychological instrument for the measurement of character strengths and virtues? (3) Does the relationship between character strengths, virtues, and PERMA components support adequate convergent and discriminant validity of the Greek version of VIA-120? (4) Are there significant gender and age differences in character strengths and virtues in Greece? (5) Which are the signature and lesser strengths of the Greek population and specific subsamples based on gender and age

Method

Participants

Three studies were conducted to examine the structure of character strengths and virtues in the Greek cultural context ($n_1 = 1,338$, $n_2 = 909$, $n_3 = 964$). In total, 3,211 Greek adults aged from 18 to 80 have participated in the present study. The mean age of the total sample was 37.53, $SD = 12.98$, while the majority of the participants were women (58.6%), unmarried (42%), employed (66.7%), and residents of the Attica region (63.4%). Regarding the educational level of the participants, 29% of them were high school graduates, 9% university students, 42.4% university graduates and 12.6% have finished postgraduate studies.

Measures

Values In Action – 120 (VIA-120; Peterson & Seligman, 2004; Greek translation: Dimitriadou & Stalikas, 2012). The VIA-120 is the short version of the VIA-Inventory of Strengths and contains 120 items that measure six virtues and 24 character strengths (five items per strength) according to the classification of Peterson and Seligman (2004). Respondents use a 5-point Likert-type scale (0-*Very much like me* to 4-*Very much unlike me*) to report the extent to which each item describes them.

PERMA Profiler (Butler & Kern, 2016; Greek version: Pezirkianidis et al., 2019). The PERMA Profiler is a multidimensional questionnaire, which consists of 23-items that measure the five pillars of wellbeing based on Seligman's (2011) theory: positive emotions, engagement, positive relationships, meaning in life, and accomplishments. Three items are used to measure each of the five components and eight additional items measure: satisfaction with life (single item), negative emotions (three items), loneliness (single item), and physical health (three items). Participants use an 11-point Likert-type scale anchored by '0-*Never/Not at all/Terrible*' to '10-*Always/Completely/Excellent*' to answer each item. An overall wellbeing score can also be computed by combining the five PERMA factors and the satisfaction with life item. The Greek validation of the PERMA Profiler confirmed the five-factor structure of the instrument and revealed acceptable internal consistency, and adequate convergent and discriminant validity. In the present study, the scale demonstrated good internal consistency ($\alpha = .92$).

Demographics questionnaire. Participants were asked to report demographic information concerning: gender, age, marital status, residence, education, and employment status.

Procedure

Three studies were conducted to validate VIA-120 in the Greek cultural context. The first study aimed to examine the factorial structure of character strengths and their grouping into virtues as well as their convergent and discriminant validity. The second and the third study focused on the confirmation of the factorial structure of each of the 24 character strengths.

The studies were conducted during 2017-2018 and the data were collected by Panteion University of Social and Political Science students, who were trained to recruit adults of their social milieu without providing any external incentives to them. Before the completion of the questionnaire, participants provided informed consent, after being informed about study aims and anonymity of their responses. The data were recorded on answer sheets and scanned using the Remark Office OMR (Gaikwad, 2015). Any participants with missing values on their answers were deleted from the dataset.

Results

Inter-item correlations

First, we examined the intercorrelations of the five items that each of the VIA-120 strength consists of using Pearson r coefficient. Moderate positive inter-item correlations in each strength between .20 and .40 would be indicative of high item redundancy (Piedmont, 2014).

The correlations of the items in each strength were statistically significant ($N = 3,211$) and ranged for each strength between: (1) Curiosity: .35 and .53, (2) Love of learning: .10 to .66, (3) Open-mindedness: .19 to .30, (4) Creativity: .34 to .55, (5) Perspective: .31 to .60, (6) Zest: .22 to .57, (7) Bravery: .22 to .52, (8) Persistence: .36 to .68, (9) Honesty: .29 to .53, (10) Social intelligence: .19 to .38, (11) Kindness: .28 to .45, (12) Love: .26 to .50, (13) Teamwork: .32 to .47, (14) Fairness: .25 to .41, (15) Leadership: .25 to .45, (16)

Self-regulation: .11 to .46, (17) Prudence: .30 to .48, (18) Forgiveness: .08 to .43, (19) Modesty: .16 to .53, (20) Appreciation of beauty and excellence: .31 to .47, (21) Gratitude: .38 to .59, (22) Hope: .18 to .64, (23) Spirituality: .19 to .64, and (24) Humor: .28 to .68. Taking everything into account, the results show that the correlations between each strength's items are in their majority moderate and statistically significant indicating medium to high item redundancy and that items capture an adequate width of each strength's variance.

Factor analysis

Based on Peterson and Seligman (2004), VIA-120 measures 24 specific character strengths. In order to confirm the structure of each one of the 24 character strengths, we firstly conducted a confirmatory factor analysis (CFA) using the IBM SPSS AMOS, version 21 (Blunch, 2012). Secondly, we conducted an exploratory factor analysis (EFA; Principal Axis Factoring) using the IBM SPSS, version 21 (Hinton et al., 2014), to examine the factorial structure (virtues) of the VIA-120 using instead of items the 24 character strengths.

Regarding CFA, to assess overall model fit we evaluated different goodness of fit indices based on the suggestions of Hu & Bentler (1999): χ^2 ratio ($\chi^2/\text{degrees of freedom}$) less than 3, the standardized root-mean-square residual (SRMR; Hu & Bentler, 1995), the comparative fit index (CFI; Bentler, 1990), the goodness of fit index (GFI; Joreskog & Sorbom, 1984), the Tucker–Lewis index (TLI; Tucker & Lewis, 1973) and the expected cross-validation index (ECVI; Schreiber et al., 2006) were evaluated. SRMR values up to .08 and CFI, GFI, and TLI values greater than .90 are indicative of acceptable model fit. When comparing two models, smaller ECVI values indicate better model fit.

The results are presented in Table 1 and showed that twenty of the character strengths structure were confirmed without modifications. Regarding “Love of learning”, it was found that two of the five items (q17 and q48) did not adequately load to the factor presenting factor loadings less than .40 (.18 and .20 respectively). Thus, they were deleted, and a second model was created, which included only three items and demonstrated better model fit. The same applied to “Modesty”, where two items (q44 and q86) demonstrated low factor loadings (.29 and .28, respectively). Similarly, concerning “Self-regulation” and “Forgiveness” the findings indicated that one item of each strength (q54 and q88, respectively) was poorly loading to the factor (.20) and was deleted. Also, by comparing ECVI values before and after deleting the above items, the results show that their deletion improves model fit. Taking everything into account, six items were deleted and the Greek version of VIA-120, the VIA-114GR, has emerged.

To run the EFA ($n_i = 1.338$), we preliminarily checked that Kaiser-Meyer-Olkin measure of sampling adequacy was higher than .50 ($KMO = .93$), and Bartlett's Test of Sphericity was statistically significant ($p < .001$; Williams et al., 2010). In order to extract the number of factors, we tested Kaiser's criterion of eigenvalues higher than 1 and scree plot. Principal component analysis results indicated that five factors could be extracted explaining 62% of the total variance. Since most of the factors were moderately intercorrelated an oblique rotation method was used.

Table 1*Fit indices in confirmatory factor analysis for the 24 character strengths of VIA-120*

	n	x²/df	GFI	TLI	CFI	SRMR	ECVI
Curiosity	909	124.06	.97	.91	.96	.04	
Love of learning 5	909	20.743	.96	.82	.91	.08	.14
Love of learning 3	909						.01
Open-mindedness	909	2.429	.99	.97	.99	.02	
Creativity	909	11.996	.97	.92	.96	.04	
Perspective	909	6.460	.99	.96	.98	.03	
Zest	909	10.020	.98	.91	.95	.04	
Bravery	909	7.703	.98	.94	.97	.03	
Persistence	909	17.899	.96	.91	.96	.04	
Honesty	909	4.666	.99	.96	.98	.03	
Social intelligence	909	7.463	.98	.91	.96	.04	
Kindness	909	4.001	.99	.97	.99	.02	
Love	909	15.735	.97	.86	.93	.05	
Teamwork	964	4.687	.99	.97	.98	.02	
Fairness	964	5.042	.99	.96	.98	.03	
Leadership	964	5.486	.99	.95	.98	.02	
Self-regulation 5 items	964	7.825	.98	.91	.95	.04	.06
Self-regulation 4 items	964						.02
Prudence	964	7.263	.99	.95	.98	.03	
Forgiveness 5 items	964	9.580	.98	.87	.94	.04	.07
Forgiveness 4 items	964						.06
Modesty 5 items	964	9.258	.98	.85	.93	.05	.07
Modesty 3 items	964						.01
Appreciation of beauty	964	3.824	.99	.98	.99	.02	
Gratitude	964	15.063	.97	.92	.96	.04	
Hope	964	17.524	.96	.86	.93	.06	
Spirituality	964	9.686	.98	.93	.96	.04	
Humor	964	30.705	.93	.78	.90	.07	

* Note. Extraction method: Maximum Likelihood. *GFI* = goodness of fit index, *TLI* = Tucker-Lewis index, *CFI* = comparative fit index, *SRMR* = standardized root mean square residual, *ECVI* = the expected cross-validation index

Table 2 depicts the results, which have similarities with Peterson and Seligman's initial model and other validation attempts (Azañedo et al., 2017; Ruch et al., 2010) but also reveal cultural differences. More specifically, the first factor explained 38% of the total variance and included eight interpersonal strengths such as fairness, kindness, teamwork, forgiveness, modesty, leadership, appreciation of beauty and excellence, and love. The second factor explained 8% and was loaded by seven strengths of intellect and openness to experience, like creativity, bravery, perspective, open-mindedness, curiosity, humor, and social intelligence. The third factor explained 6% and included four strengths of restraint, such as prudence, persistence, self-regulation, and honesty. The fourth factor explained 6% of variance including four strengths of transcendence, e.g. hope, spirituality, zest, and gratitude, and last but not least, a factor that explained 5% of the total variance included the strength of knowledge, love of learning.

Table 2*Oblimin rotated 5-factor solution of Principal Component Analysis for the VIA-114GR*

Strengths	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Fairness	.85	.16	.07	-.08	.02
Kindness	.79	.18	-.09	.01	-.11
Teamwork	.74	.02	.16	.04	-.13
Forgiveness	.71	-.22	-.10	.15	.13
Modesty	.54	-.35	.21	.11	.18
Leadership	.54	.27	.25	-.01	-.02
Beauty	.49	.17	-.11	.21	.31
Love	.48	.26	-.06	.21	-.15
Creativity	.00	.68	-.03	.25	.18
Bravery	.03	.64	.15	.09	-.09
Perspective	.02	.60	.26	-.07	.32
Open-mindedness	.20	.52	.45	-.22	.19
Curiosity	.05	.51	-.08	.49	.15
Humor	.26	.50	-.24	.26	-.11
Social intelligence	.42	.44	.04	.12	-.01
Prudence	.16	.04	.71	.07	.12
Persistence	.03	.16	.63	.26	-.30
Self-regulation	-.10	-.11	.56	.31	.21
Honesty	.43	.19	.48	-.06	-.24
Hope	-.02	.19	.13	.75	-.08
Spirituality	.10	-.20	.22	.69	.04
Zest	.06	.34	.01	.66	-.02
Gratitude	.34	-.07	.03	.61	.08
Love of learning	-.02	.14	.01	-.02	.80
Eigenvalues	9.06	1.83	1.53	1.40	1.13
Variance explained	37.75	7.63	6.35	5.82	4.70

*Note. **Bold** indicates the highest factor loadings for each strength.

Reliability

Internal consistency of the 24 character strengths was tested and the results showed adequate reliability for almost all strengths. More specifically, the results ranged from $\alpha = .70$ to $\alpha = .82$ for the 20 strengths indicating satisfactory internal consistency levels (Kyriazos, 2017). However, four strengths, open-mindedness ($\alpha = .62$), fairness ($\alpha = .66$), modesty ($\alpha = .60$) and self-regulation ($\alpha = .65$) showed marginal reliability coefficient values. On the other hand, the alpha values of the five virtues were .92 for the interpersonal virtue, .91 for the virtue of intellect, .86 for the virtue of restraint, .89 for the virtue of transcendence and .81 for the virtue of knowledge. The internal consistency of the total VIA-114GR was found to be $\alpha = .96$.

Convergent and discriminant validity

Character strengths and virtues were expected to be positively associated with similar constructs (convergent validity), negatively correlated to opposite constructs, and non-correlated to totally different constructs (discriminant validity; Hubley, 2014).

To test convergent and discriminant validity of the VIA-114GR the correlations of character strengths and virtues with the PERMA Profiler factors were examined. More specifically, to evaluate the convergent validity of VIA-114GR, the correlations amongst its factors and positive psychology constructs (positive emotions, engagement, positive relationships, meaning in life, accomplishments, wellbeing) were tested. The results (see Table 3) indicate that all character strengths except for modesty, love of learning, appreciation of beauty, and self-regulation positively correlate to all five PERMA factors and overall wellbeing. The strengths that correlate the most to all wellbeing components are found to be love, hope, curiosity, and zest.

Similarly, all virtues apart from the virtue of knowledge were positively correlated to all positive constructs. Thus, the VIA-114GR indicates adequate convergent validity. On the other hand, the results show negative or zero correlations of all character strengths and virtues with the variables of negative emotions and loneliness indicating good discriminant validity.

Gender and age differences

Gender and age differences in character strengths and virtues were tested. Moreover, the most and less frequently reported strengths (signature and lesser strengths; Peterson & Seligman, 2004; Proyer et al., 2015) were examined across age and gender groups.

Independent samples t-tests were conducted to examine gender differences across strengths and virtues. The results (see Table 4) showed that women report statistically significant higher strength levels of fairness ($t = -2.607$, $df = 3,209$, $p = .009$), kindness ($t = -2.875$, $df = 3,209$, $p = .004$), appreciation of beauty and excellence ($t = -4.950$, $df = 3,209$, $p < .001$), love ($t = -3.307$, $df = 3,209$, $p = .001$), gratitude ($t = -3.970$, $df = 3,209$, $p < .001$), and love of learning ($t = -3.628$, $df = 3,073.654$, $p < .001$). Also, women found to report higher levels at interpersonal ($t = -2.882$, $df = 3,209$, $p = .004$) and knowledge virtues ($t = -3.628$, $df = 3,073.654$, $p < .001$). On the other hand, men reported significantly higher levels at character strengths of creativity ($t = 2.554$, $df = 3,209$, $p = .011$), bravery ($t = 3.049$, $df = 3,209$, $p = .002$), curiosity ($t = 3.138$, $df = 3,209$, $p = .002$), humor ($t = 2.837$, $df = 3,209$, $p = .005$), and self-regulation ($t = 2.219$, $df = 3,209$, $p = .027$), and also at the virtue of intellect ($t = 2.514$, $df = 3,209$, $p = .012$).

Also, the findings indicate that men and women report as their signature strengths kindness, love, persistence, and honesty. However, men complete their five signature strengths with open-mindedness and women with fairness. The lesser-bottom strengths of men and women are common: modesty, perspective, self-regulation, spirituality, and love of learning.

One-way ANOVA was conducted to test differences between age groups and the results indicate that significant differences exist at several strengths and virtues (see Table 5). More specifically, there are significant age differences at all interpersonal strengths except for love. Adults aged from 45 to 54 years old report higher levels of the interpersonal strengths and, consequently, the interpersonal virtue, while young adults amongst 18 and 24 years old report the lowest levels. Regarding the virtue and strengths of intellect, significant differences have found at perspective, humor, and social intelligence. The pattern of age differences is not the same here, because ages between 18 and 34 years old report higher levels of perspective and adults between 35 and 44 years old the lowest levels. The opposite finding concerns the strengths of humor and social intelligence.

Table 3

Convergent and discriminant validity: Average correlations of VIA-114GR factors with PERMA Profiler subscales

	P	E	R	M	A	O	NE	Lon
Fairness	.16*	.17**	.12	.11	.09	.16*	-.15*	-.19**
Kindness	.19**	.27***	.30***	.17**	.13*	.25***	-.09	-.23***
Teamwork	.22***	.30***	.20**	.24***	.16*	.27***	-.11	-.24***
Forgiveness	.24***	.15*	.11	.13*	.10	.18**	-.27***	-.13*
Modesty	.10	.09	.10	.09	.05	.11	.06	.01
Leadership	.19**	.21***	.13*	.20**	.17**	.22***	-.02	-.11
Beauty	.11	.16*	.14*	.02	-.01	.10	.15*	.04
Love	.47***	.43***	.59***	.38***	.31***	.53***	-.11	-.33***
Creativity	.25***	.34***	.16***	.25***	.30***	.30***	-.04	-.07
Bravery	.21***	.23***	.19**	.30***	.29***	.29***	.02	-.10
Perspective	.20**	.18**	.10	.23***	.31***	.24***	.01	-.06
Open-mindedness	.28***	.27***	.16*	.31***	.35***	.33***	-.05	-.10
Curiosity	.46***	.40***	.30***	.42***	.38***	.48***	-.10	-.22***
Humor	.21***	.28***	.28***	.13*	.16**	.25***	-.03	-.23***
Social intelligence	.30***	.26***	.24***	.27***	.25***	.32***	-.03	-.20**
Prudence	.22***	.15*	.14*	.23***	.31***	.26***	-.05	-.08
Persistence	.32***	.29***	.15*	.36***	.42***	.38***	-.03	-.13*
Self-regulation	.13*	.04	-.04	.12	.18**	.12	-.08	.04
Honesty	.25***	.31***	.22***	.34***	.36***	.35***	-.05	-.19**
Hope	.56***	.33***	.33***	.51***	.39***	.53***	-.25***	-.28***
Spirituality	.21***	.16*	.01	.21***	.12	.18**	-.02	-.07
Zest	.47***	.39***	.26***	.42***	.36***	.47***	-.21***	-.24***
Gratitude	.35***	.22***	.27***	.23***	.17**	.31***	-.05	-.12*
Love of learning	.07	.08	-.03	.09	.12	.08	-.09	.10
Interpersonal virtue	.30***	.32***	.30***	.24***	.18**	.33***	-.10	-.21***
Virtue of intellect	.38***	.39***	.29***	.38***	.41***	.44***	-.04	-.20**
Virtue of restraint	.29***	.23***	.13*	.33***	.40***	.34***	-.07	-.10
Transcendent virtue	.48***	.33***	.26***	.41***	.31***	.45***	-.15*	-.21***
Virtue of knowledge	.07	.08	-.03	.09	.12	.08	-.09	.10

*Note. P=positive emotions subscale, E=engagement subscale, R=relationships subscale, M=meaning subscale, A=accomplishment subscale, O=overall wellbeing score, NE=negative emotions subscale, Lon=Loneliness-PERMA Profiler single item. *p-value < .05, **p-value < .01, ***p-value < .001

Table 4*Mean differences across gender for VIA-114GR's character strengths and virtues (N = 3,211)*

	Gender		t	df
	Male	Female		
Fairness	2.89 (.61)	2.97 (.58)	-2.607**	3,209
Kindness	3.08 (.59)	3.17 (.57)	-2.875**	3,209
Teamwork	2.88 (.64)	2.93 (.57)	-1.383	3,072.861
Forgiveness	2.63 (.75)	2.71 (.75)	-1.837	3,209
Modesty	2.37 (.74)	2.39 (.72)	-.612	3,209
Leadership	2.78 (.63)	2.74 (.60)	1.054	3,209
Beauty	2.73 (.69)	2.91 (.65)	-4.950***	3,209
Love	2.93 (.61)	3.04 (.60)	-3.307***	3,209
Creativity	2.73 (.64)	2.64 (.64)	2.554*	3,209
Bravery	2.83 (.61)	2.72 (.66)	3.049**	3,209
Perspective	2.50 (.65)	2.48 (.65)	.702	3,209
Open-mindedness	2.94 (.58)	2.91 (.51)	.997	3,060.218
Curiosity	2.67 (.60)	2.56 (.65)	3.138**	3,209
Humor	2.88 (.69)	2.77 (.67)	2.837**	3,209
Social intelligence	2.88 (.57)	2.92 (.53)	-1.353	3,105.325
Prudence	2.63 (.67)	2.62 (.66)	.479	3,209
Persistence	2.93 (.71)	2.96 (.68)	-.746	3,209
Self-regulation	2.33 (.80)	2.23 (.83)	2.219*	3,209
Honesty	3.24 (.56)	3.28 (.49)	-1.346	3,055.328
Hope	2.67 (.65)	2.62 (.67)	1.167	3,209
Spirituality	2.36 (.83)	2.41 (.76)	-1.188	3,209
Zest	2.54 (.61)	2.53 (.64)	.397	3,209
Gratitude	2.62 (.73)	2.78 (.71)	-3.970***	3,209
Love of learning	1.75 (1.11)	1.97 (1.00)	-3.628***	3,073.654
Interpersonal virtue	2.79 (.47)	2.86 (.44)	-2.882**	3,209
Virtue of intellect	2.78 (.44)	2.71 (.44)	2.514*	3,209
Virtue of restraint	2.78 (.50)	2.77 (.50)	.449	3,209
Transcendent virtue	2.55 (.58)	2.59 (.56)	-1.221	3,209
Virtue of knowledge	1.75 (1.11)	1.97 (1.00)	-3.628***	3,073.654

*Note. *p-value < .05, **p-value < .01, ***p-value < .001, SD in parentheses.

Table 5*Mean differences for character strengths and virtues of VIA-114GR across age groups (N = 3,211)*

	Age groups						F
	18-24	25-34	35-44	45-54	55-64	65+	
Fairness	2.78 (.62)	2.86 (.56)	3.02 (.59)	3.10 (.53)	3.00 (.53)	2.86 (.72)	12,020***
Kindness	3.06 (.59)	3.08 (.58)	3.20 (.57)	3.23 (.54)	3.09 (.54)	2.92 (.82)	4,814***
Teamwork	2.76 (.61)	2.83 (.57)	2.99 (.61)	3.05 (.57)	3.00 (.60)	2.80 (.72)	10,007***
Forgiveness	2.47 (.76)	2.51 (.79)	2.86 (.68)	2.89 (.68)	2.73 (.70)	2.73 (.79)	16,967***
Modesty	2.19 (.77)	2.28 (.67)	2.53 (.69)	2.52 (.72)	2.51 (.69)	2.33 (.79)	10,849***
Leadership	2.58 (.57)	2.68 (.59)	2.84 (.63)	2.89 (.58)	2.86 (.61)	2.76 (.80)	11,122***
Beauty	2.74 (.71)	2.78 (.64)	2.87 (.66)	2.97 (.65)	2.89 (.58)	2.77 (.86)	4,705***
Love	2.99 (.63)	2.98 (.62)	3.02 (.63)	3.04 (.55)	2.95 (.56)	2.80 (.81)	1,151
Creativity	2.60 (.67)	2.68 (.62)	2.69 (.66)	2.74 (.63)	2.73 (.61)	2.61 (.74)	1.633
Bravery	2.74 (.64)	2.74 (.60)	2.75 (.68)	2.78 (.68)	2.91 (.52)	2.55 (.77)	2.041
Perspective	2.54 (.70)	2.56 (.60)	2.40 (.67)	2.43 (.65)	2.50 (.51)	2.47 (.81)	2.591*
Open-mindedness	2.90 (.59)	2.94 (.52)	2.93 (.55)	2.93 (.52)	2.96 (.49)	2.75 (.67)	.857
Curiosity	2.64 (.60)	2.57 (.63)	2.62 (.61)	2.58 (.66)	2.70 (.61)	2.63 (.80)	1.019
Humor	2.86 (.70)	2.84 (.66)	2.88 (.69)	2.79 (.64)	2.59 (.68)	2.52 (.68)	4.648***
Social intelligence	2.85 (.51)	2.89 (.53)	2.96 (.57)	2.96 (.54)	2.82 (.61)	2.81 (.75)	2.677*
Prudence	2.48 (.73)	2.54 (.68)	2.74 (.63)	2.71 (.62)	2.75 (.54)	2.65 (.70)	7.688***
Persistence	2.82 (.71)	2.90 (.70)	3.00 (.67)	3.03 (.67)	3.05 (.64)	2.77 (.82)	4.720***
Self-regulation	2.11 (.83)	2.23 (.86)	2.38 (.81)	2.32 (.75)	2.44 (.79)	2.26 (.82)	4.712***
Honesty	3.22 (.52)	3.19 (.52)	3.31 (.51)	3.34 (.48)	3.31 (.50)	3.06 (.77)	4.721***
Hope	2.52 (.67)	2.52 (.67)	2.76 (.67)	2.77 (.65)	2.67 (.53)	2.67 (.71)	8.120***
Spirituality	2.17 (.76)	2.18 (.78)	2.57 (.76)	2.59 (.74)	2.56 (.80)	2.59 (.93)	18.529***
Zest	2.45 (.63)	2.47 (.64)	2.58 (.61)	2.62 (.62)	2.60 (.59)	2.46 (.77)	3.406**
Gratitude	2.59 (.68)	2.56 (.72)	2.82 (.74)	2.92 (.68)	2.72 (.70)	2.81 (.81)	11.006***
Love of learning	1.63 (1.01)	1.88 (1.11)	1.95 (1.06)	1.96 (1.01)	2.17 (1.04)	2.17 (1.03)	6.474***
Interpersonal virtue	2.70 (.45)	2.75 (.43)	2.92 (.46)	2.96 (.43)	2.88 (.44)	2.75 (.65)	15.160***
Virtue of intellect	2.73 (.43)	2.75 (.41)	2.75 (.48)	2.74 (.45)	2.74 (.40)	2.62 (.60)	.502
Virtue of restraint	2.66 (.51)	2.72 (.51)	2.86 (.50)	2.85 (.46)	2.89 (.44)	2.69 (.57)	8.952***
Transcendent virtue	2.43 (.52)	2.43 (.57)	2.68 (.57)	2.72 (.55)	2.64 (.55)	2.63 (.68)	14.725***
Virtue of knowledge	1.63 (1.01)	1.88 (1.11)	1.95 (1.06)	1.96 (1.01)	2.17 (1.04)	2.17 (1.03)	6.474***

* Note. **p*-value < .05, ***p*-value < .01, ****p*-value < .001, *df* = 5/3,210, *SD* in parentheses

Table 6*Descriptive statistics and normative data for strengths and virtues of VIA-114GR (N = 3,211)*

	Mean	SD	Range	5	10	25	50	75	90	95
Fairness	2.94	.59	3.60	1.80	2.20	2.60	3.00	3.40	3.60	3.80
Kindness	3.13	.58	3.60	2.18	2.40	2.80	3.20	3.60	3.80	4.00
Teamwork	2.91	.60	3.60	1.80	2.20	2.60	3.00	3.20	3.80	3.80
Forgiveness	2.68	.75	4.00	1.50	1.75	2.25	2.75	3.25	3.75	3.75
Modesty	2.39	.73	4.00	1.00	1.33	2.00	2.33	3.00	3.33	3.67
Leadership	2.75	.62	3.60	1.80	2.00	2.40	2.80	3.20	3.60	3.80
Beauty	2.84	.67	3.80	1.60	2.00	2.40	2.80	3.40	3.80	3.80
Love	3.00	.61	3.40	1.80	2.20	2.60	3.00	3.40	3.80	4.00
Creativity	2.68	.64	4.00	1.60	2.00	2.20	2.80	3.20	3.60	3.80
Bravery	2.76	.64	3.60	1.60	2.00	2.40	2.80	3.20	3.60	3.80
Perspective	2.49	.65	3.80	1.40	1.60	2.00	2.40	3.00	3.40	3.60
Open-mindedness	2.92	.54	3.00	2.00	2.20	2.60	3.00	3.20	3.60	3.80
Curiosity	2.61	.63	3.80	1.60	1.80	2.20	2.60	3.00	3.40	3.60
Humor	2.82	.68	4.00	1.60	2.00	2.40	2.80	3.40	3.60	3.80
Social intelligence	2.90	.55	3.40	2.00	2.20	2.60	3.00	3.20	3.60	3.80
Prudence	2.63	.67	4.00	1.40	1.80	2.20	2.60	3.00	3.40	3.60
Persistence	2.94	.69	3.60	1.60	2.00	2.40	3.00	3.40	3.80	4.00
Self-regulation	2.27	.82	4.00	.75	1.25	1.75	2.25	2.75	3.25	3.50
Honesty	3.26	.52	3.00	2.20	2.60	3.00	3.40	3.60	3.80	4.00
Hope	2.64	.66	4.00	1.40	1.80	2.20	2.60	3.20	3.40	3.60
Spirituality	2.39	.79	4.00	1.00	1.36	1.80	2.40	3.00	3.40	3.60
Zest	2.54	.63	3.60	1.60	1.80	2.20	2.60	3.00	3.40	3.60
Gratitude	2.72	.72	4.00	1.40	1.80	2.20	2.80	3.20	3.60	3.80
Love of learning	1.88	1.05	4.00	.00	.33	1.00	2.00	2.67	3.33	3.67
Interpersonal virtue	2.83	.46	3.17	2.06	2.23	2.56	2.83	3.14	3.43	3.60
Virtue of intellect	2.74	.44	2.97	2.03	2.20	2.46	2.74	3.03	3.31	3.49
Virtue of restraint	2.78	.50	3.09	1.90	2.11	2.48	2.79	3.14	3.43	3.56
Transcendent virtue	2.57	.57	3.20	1.60	1.85	2.20	2.55	2.95	3.35	3.50
Virtue of knowledge	1.88	1.05	4.00	.00	.33	1.00	2.00	2.67	3.33	3.67

* Note. Percentiles provided: 5, 10, 25, 50, 75, 90, 95.

Moreover, significant age differences were found at the virtue and strengths of restraint, where older adults aged from 55 to 64 years old report higher levels of almost all restraint factors, while individuals 18 to 24 years old report the less prudence and self-regulation results and the elderly report the lowest levels of persistence and honesty. Furthermore, the results indicate that there are statistically significant age

differences in the virtue and strengths of transcendence. In particular, participants aged between 45 and 54 years old demonstrate the highest levels of transcendent virtue and strengths and younger participants from 18 to 34 years old the lowest levels. Last but not least, there are age differences regarding the virtue of knowledge, where older individuals report higher levels of the characteristic and vice versa.

To add more, the signature and lesser strengths of each age group were formed differently. More specifically, all age groups share two common signature strengths: kindness and honesty, and three common lesser strengths: modesty, self-regulation, and love of learning. Moreover, other signature strengths of the young adults between 18 and 24 years old were love, open-mindedness, and humor and their lesser strengths were spirituality and zest. Regarding the group of 25 to 34 years, their unique signature strengths were love, open-mindedness, and persistence, and their lesser strengths were spirituality and zest. The age groups between 35 and 54 years old share the same signature strengths: teamwork, love, and persistence. However, the lesser strengths of the 35 to 44 age group were perspective and spirituality, while of the 45 to 54 group were perspective and curiosity. The findings concerning the fourth age group (55 to 64 years old) indicate that teamwork, persistence, and open-mindedness constitute its unique signature strengths, while perspective and spirituality its bottom strengths. Last but not least, fairness, social intelligence, and gratitude were found to be the signature strengths of the oldest age group, while zest and perspective were its bottom strengths.

Normative data

Means, standard deviations, ranges, and percentiles were computed for the VIA-114GR factors to assist mental health professionals deeply understand and better interpret VIA scores (see Table 6). The five signature strengths of the Greek sample were kindness, love, honesty, fairness, and persistence. Additionally, the five bottom strengths of the Greek participants were love of learning, spirituality, perspective, modesty, and self-regulation.

Discussion

The purpose of the present study was to investigate the conceptual framework of character strengths and virtues in the Greek cultural context in order to shed light on possible cultural differences and facilitate the blooming of research and interventions concerning character strengths in the Greek population. The findings of the present study indicate that the conceptual structure behind VIA-114GR, the Greek version of the VIA-120, has similarities with Peterson and Seligman's (2004) initial model and other validation attempts but also reveal cultural differences. Also, the VIA-114GR was found to be a reliable and valid instrument to measure character strengths and virtues.

More specifically, the results of the confirmatory factor analysis showed that the items included in each of the 24 character strength factors demonstrated adequate fit to the data confirming the structure of each strength with the deletion of six items in total. Besides, the exploratory factor analysis results highlighted the existence of a five-virtue model that group interpersonal, intellectual, restraint, transcendent, and knowledge strengths respectively. The second-order conceptual structure that emerged in the Greek population is quite similar to that found in equivalent studies with Spanish and German samples (Azañedo et al., 2014, 2017; Ruch et al., 2010). Those studies resulted in a five-factor model that separates emotional (e.g. hope, zest) and theological (e.g. gratitude, spirituality) strengths while incorporating the strength of knowledge into the core virtue of intellect. Differences in the content of each virtue are being noticed between the aforementioned studies and the current research. For instance, the strength of love in the present study loads to the interpersonal virtue, while on the other two studies it

loads to the theological and emotional virtue, respectively. Moreover, in the Greek population, the character strength of appreciation of beauty and excellence is more related to other interpersonal strengths, in Spain relates to intellectual strengths and in Germany to theological strengths. Therefore, it is obvious that cultural factors significantly affect the structure of positive character and future studies should shed light on recognizing these factors.

Furthermore, the findings of the present study indicate that all character strengths apart from modesty, love of learning, appreciation of beauty, and self-regulation positively correlate to all five PERMA factors and overall wellbeing in agreement to the literature (Littman-Ovadia & Lavy, 2012; Wagner et al., 2019). Similarly, all virtues apart from the virtue of knowledge positively correlate to all positive constructs, whilst all character strengths and virtues zero or negatively correlate with the variables of negative emotions and loneliness. In line with previous findings, each PERMA factor predominantly correlates to specific character strengths, while love, curiosity, hope, and zest are the character strengths that mostly correlate to all wellbeing components. The aforementioned results underline that VIA-114GR is characterized by good convergent and discriminant validity. Also, it seems that, despite the different conceptual structures of strengths and virtues across cultures, the connection of the elements of positive character with the wellbeing components is the same in different cultural contexts.

The results of the present study also shed light on the effects of gender and age on character strengths. Regarding gender differences, women report higher levels of fairness, kindness, appreciation of beauty and excellence, gratitude, and love of learning than men. These results partially confirm previous findings, which support that women are characterized more than men by love, kindness, appreciation of beauty, and gratitude (Heintz et al., 2019). Moreover, in the present study was found that men's ratings on creativity, bravery, curiosity, humor, and self-regulation were higher than women's. This is also in partial agreement with previous findings that indicate superior self-ratings of men on creativity, open-mindedness, perspective, and leadership (Linley et al., 2007; Ruch et al., 2010). The slight disagreements among studies in different countries possibly indicate the existence of cultural differences in how gender affects the self-reports about discrete aspects of positive character.

Concerning age differences, the present study revealed significant age effects on the self-ratings of most character strengths apart from curiosity, love, creativity, bravery, and open-mindedness. These findings partially agree with previous ones (Linley et al., 2007; Park et al., 2004; Ruch et al., 2010), but disagree on the strength-age relationship regarding curiosity pointing out the importance of cultural factors.

Finally, there are differences among the results of the present study and previous findings on the subject of signature and bottom self-reported strengths. The five signature strengths of the Greek sample were found to be kindness, love, honesty, fairness, and persistence, while previous studies in other cultures resulted in kindness, fairness, honesty, gratitude, and open-mindedness (Park et al., 2006). Additionally, the results of the present study are in accord with previous findings of the bottom strengths of individuals underlining spirituality, modesty, and self-regulation. However, Greek participants also report among lowest strengths love of learning and perspective, while in other countries participants have low self-ratings on zest and prudence (Park et al., 2006). It is obvious once more that cultural factors play a significant role in self-ratings of individuals regarding different aspects of positive character.

Taking everything into account, the positive character follows a unique conceptual structure in the Greek cultural context, that has similarities with the models presented in other cultures but also present several differences to other conceptualizations. The VIA-114GR has been found to be a reliable and valid psychological instrument to measure the components of the positive character, virtues, and character

strengths. This measurement will provide a useful tool to help researchers study the positive character in Greece and mental health professionals to measure character strengths and design suitable interventions in order to help people flourish.

Theoretical and practical implications

The results of the present study are of high importance for the promotion of research on character strengths in Greece since they suggest a conceptual structure for the positive character and highlight the similarities and differences with other cultural frameworks. Also, the VIA-114GR can be considered as a valuable, timesaving alternative option to the long-form (VIA-IS) that is used in Greek studies. Moreover, counsellors, coaches, and psychologists in educational, work, or clinical settings could use the VIA-114GR to assist individuals to identify the “good in their core”. Through instilling hope in them they can cultivate and implement strengths in order to achieve higher levels of life satisfaction, well-being, and accomplishments. Last but foremost, the short version of the VIA-IS could be used during psychotherapy sessions as a screening test but also to evaluate the effectiveness of therapy on specific strength-goals, especially in a positive psychotherapy setting, which has recently emerged in Greece.

Limitations

A point of concern about the present study regards the sampling method since the sample is not a result of random sampling. In addition, the present study does not provide proof about the test-retest reliability and the predictive validity of the VIA-114GR. Also, the instruments used in this study were based only on self-report items, thus response bias could have taken place since individuals could have depicted a fake positive or negative self.

Recommendations for future research

Future research should provide additional information on the psychometric characteristics of the measure by discriminating character strengths from personality traits, examining test-retest reliability, and instrument’s sensitivity to change after a psychological, psychoeducational, or psychotherapeutic intervention. Furthermore, it is necessary validity scales and reversed items to be included in the inventory to provide further information to practitioners regarding the effects of social desirability and faking good attempts during answering the questionnaire. Also, future research should focus on reaching an agreement interculturality on the conceptual structure of positive character using empirical data and advanced statistical methods, e.g. Exploratory Structural Equation Modelling and Multidimensional Scaling, using random sampling to revise Peterson and Seligman’s (2004) model.

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References

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders. Text revision* (4th ed.). American Psychiatric Association.
- Azañedo, C., Fernández-Abascal, E., & Barraca, J. (2014). Character strengths in Spain: Validation of the Values in Action Inventory of Strengths (VIA-IS) in a Spanish sample. *Clínica y Salud*, 25(2), 123-130. <https://doi.org/10.1016/j.clysa.2014.06.002>
- Azañedo, C., Fernández-Abascal, E., & Barraca, J. (2017). The short form of the VIA Inventory of Strengths. *Psicothema*, 29(2), 254-260. <https://doi.org/10.7334/psicothema2016.225>
- Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Blunch, N. (2012). *Introduction to structural equation modeling using IBM SPSS statistics and AMOS*. Sage.
- Brdar, I., Anić, P., & Rijavec, M. (2011). Character strengths and well-being: are there gender differences?. In I. Brdar (Ed.), *The human pursuit of well-being: A cultural approach* (pp. 145-156). Springer.
- Brdar, I., & Kashdan, T. (2010). Character strengths and well-being in Croatia: An empirical investigation of structure and correlates. *Journal of Research in Personality*, 44(1), 151-154. <https://doi.org/10.1016/j.jrjp.2009.12.001>
- Butler, J., & Kern, M. (2016). The PERMA-Profil: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1-48. <https://doi.org/10.5502/ijw.v6i3.526>
- Dimitriadou, D., & Stalikas, A. (2012). Values In Action Inventory of Strengths (VIA-IS). In A. Stalikas, S. Triliva, & P. Roussi (Eds.), *Psychometric Instruments in Greece* (2nd ed., pp. 543). Pedio.
- Gable, S., & Haidt, J. (2005). What (and why) is positive psychology?. *Review of General Psychology*, 9(2), 103-110. <https://doi.org/10.1037/1089-2680.9.2.103>
- Gaikwad, S. (2015). Image processing based OMR sheet scanning. *International Journal of Advanced Research in Electronics and Communication Engineering*, 4(3), 519-522.
- Gander, F., Proyer, R., Ruch, W., & Wyss, T. (2013). Strength-based positive interventions: Further evidence for their potential in enhancing well-being and alleviating depression. *Journal of Happiness Studies*, 14(4), 1241-1259. <https://doi.org/10.1007/s10902-012-9380-0>
- Giapraki, M., Moraitou, D., Pezirkianidis, C., Stalikas, A. (in press). Humor in aging: Is it able to enhance wellbeing in community dwelling adults? *Psychology*, Special issue on Positive Psychology.
- Gradišek, P. (2012). Character strengths and life satisfaction of Slovenian in-service and pre-service teachers. *Center for Educational Policy Studies Journal*, 2(3), 167-180.
- Güsewell, A., & Ruch, W. (2012). Are only emotional strengths emotional? Character strengths and disposition to positive emotions. *Applied Psychology: Health and Well-Being*, 4(2), 218-239. <https://doi.org/10.1111/j.1758-0854.2012.01070.x>
- Heintz, S., Kramm, C., & Ruch, W. (2019). A meta-analysis of gender differences in character strengths and age, nation, and measure as moderators. *The Journal of Positive Psychology*, 14(1), 103-112. <https://doi.org/10.1080/17439760.2017.1414297>
- Hinton, P., McMurray, I., & Brownlow, C. (2014). *SPSS explained*. Routledge.
- Hu, L., & Bentler, P. (1995). Evaluating model fit. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Sage.
- Hu, L., & Bentler, P. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55. <https://doi.org/10.1080/10705519909540118>
- Hubley, A. (2014). Discriminant validity. In A. C. Michalos, (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 1664-1667). Springer.
- Jöreskog, K., & Sörbom, D. (1984). *LISREL-VI user's guide* (3rd ed.). Scientific Software.
- Kyriazos, T. (2017). Reliability of psychometric instruments. In M. Galanakis, C. Pezirkianidis, & A. Stalikas (Eds.), *Basic Aspects of Psychometrics* (pp. 85-121). Topos Publications.

- Lee, J., Foo, K., Adams, A., Morgan, R., & Frewen, A. (2015). Strengths of character, orientations to happiness, life satisfaction and purpose in Singapore. *Journal of Tropical Psychology*, 5, 1-21. <https://doi.org/10.1017/jtp.2015.2>
- Linley, P., & Harrington, S. (2006). Strengths coaching: A potential-guided approach to coaching psychology. *International Coaching Psychology Review*, 1(1), 37-46.
- Linley, P., Maltby, J., Wood, A., Joseph, S., Harrington, S., Peterson, C., Park, N., & Seligman, M. (2007). Character strengths in the United Kingdom: The VIA inventory of strengths. *Personality and Individual Differences*, 43(2), 341-351. <https://doi.org/10.1016/j.paid.2006.12.004>
- Littman-Ovadia, H., & Lavy, S. (2012). Differential ratings and associations with well-being of character strengths in two communities. *Health Sociology Review*, 21(3), 299-312. <https://doi.org/10.5172/hesr.2012.21.3.299>
- Macdonald, C., Bore, M., & Munro, D. (2008). Values in action scale and the Big 5: An empirical indication of structure. *Journal of Research in Personality*, 42(4), 787-799. <https://doi.org/10.1016/j.jrp.2007.10.003>
- Park, N., & Peterson, C. (2006). Moral competence and character strengths among adolescents: The development and validation of the Values in Action Inventory of Strengths for Youth. *Journal of Adolescence*, 29(6), 891-909. <https://doi.org/10.1016/j.adolescence.2006.04.011>
- Park, N., Peterson, C., & Seligman, M. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, 23(5), 603-619. <https://doi.org/10.1521/jscp.23.5.603.50748>
- Park, N., Peterson, C., & Seligman, M. (2006). Character strengths in fifty-four nations and the fifty US states. *The Journal of Positive Psychology*, 1(3), 118-129. <https://doi.org/10.1080/17439760600619567>
- Peterson, C. (2003). Classification of positive traits in youth. *Promoting Positive Child, Adolescent, and Family Development*, 4, 227-255.
- Peterson, C. (2006). Strengths of character and happiness: Introduction to special issue. *Journal of Happiness Studies*, 7(3), 289-291. <https://doi.org/10.1007/s10902-005-3645-9>
- Peterson, C., & Park, N. (2006). Character strengths in organizations. *Journal of Organizational Behavior*, 27(8), 1149-1154. <https://doi.org/10.1002/job.398>
- Peterson, C., Park, N., Pole, N., D'Andrea, W., & Seligman, M. (2008). Strengths of character and posttraumatic growth. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 21(2), 214-217. <https://doi.org/10.1002/jts.20332>
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology*, 2(3), 149-156. <https://doi.org/10.1080/17439760701228938>
- Peterson, C., & Seligman, M. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). Oxford University Press.
- Pezirkianidis, C., Stalikas, A., Lakioti, A., & Yotsidi, V. (2019). Validating a multidimensional measure of wellbeing in Greece: Translation, factor structure, and measurement invariance of the PERMA Profiler. *Current Psychology*, 1-18. <https://doi.org/10.1007/s12144-019-00236-7>
- Piedmont, R. (2014). Inter-item Correlations. In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 3303-3304). Springer.
- Proyer, R., Gander, F., Wellenzohn, S., & Ruch, W. (2015). Strengths-based positive psychology interventions: A randomized placebo-controlled online trial on long-term effects for a signature strengths-vs. a lesser strengths-intervention. *Frontiers in Psychology*, 6, 456. <https://doi.org/10.3389/fpsyg.2015.00456>
- Proyer, R., Ruch, W., & Buschor, C. (2013). Testing strengths-based interventions: A preliminary study on the effectiveness of a program targeting curiosity, gratitude, hope, humor, and zest for enhancing life satisfaction. *Journal of Happiness Studies*, 14(1), 275-292. <https://doi.org/10.1007/s10902-012-9331-9>
- Ruch, W., Proyer, R. T., Harzer, C., Park, N., Peterson, C., & Seligman, M. E. (2010). Values in action inventory of strengths (VIA-IS). *Journal of Individual Differences*, 31, 138-149. <https://doi.org/10.1027/1614-0001/a000022>

- Schreiber, J., Nora, A., Stage, F., Barlow, E., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323-338. <https://doi.org/10.3200/JOER.99.6.323-338>
- Seligman, M. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14. https://doi.org/10.1007/978-94-017-9088-8_18
- Seligman, M., Steen, T., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American Psychologist*, 60(5), 874-884. <https://doi.org/10.1037/0003-066X.60.5.410>
- Shimai, S., Otake, K., Park, N., Peterson, C., & Seligman, M. (2006). Convergence of character strengths in American and Japanese young adults. *Journal of Happiness Studies*, 7(3), 311. <https://doi.org/10.1007/s10902-005-3647-7>
- Shryack, J., Steger, M., Krueger, R., & Kallie, C. (2010). The structure of virtue: An empirical investigation of the dimensionality of the virtues in action inventory of strengths. *Personality and Individual Differences*, 48(6), 714-719. <https://doi.org/10.1016/j.paid.2010.01.007>
- Singh, K., & Choubisa, R. (2010). Empirical validation of values in action-inventory of strengths (VIA-IS) in Indian context. *Psychological Studies*, 55(2), 151-158. <https://doi.org/10.1007/s12646-010-0015-4>
- Snyder, C., & Lopez, S. (2006). *The scientific and practical explorations of human strengths*. Sage Publications.
- Symeonidou, D., Moraitou, D., Pezirkianidis, C., & Stalikas, A. (2019). Promoting subjective wellbeing through a kindness intervention. *Hellenic Journal of Psychology*, 16, 1-21.
- Tucker, L., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38(1), 1-10. <https://doi.org/10.1007/BF02291170>
- Wagner, L., Gander, F., Proyer, R., & Ruch, W. (2019). Character strengths and PERMA: Investigating the relationships of character strengths with a multidimensional framework of well-being. *Applied Research in Quality of Life*, 1-22. <https://doi.org/10.1007/s11482-018-9695-z>
- Weber, M., & Ruch, W. (2012). The role of a good character in 12-year-old school children: Do character strengths matter in the classroom?. *Child Indicators Research*, 5(2), 317-334. <https://doi.org/10.1007/s11482-018-9695-z>
- Williams, B., Onsman, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Journal of Emergency Primary Health Care*, 8(3), 1-13. <https://doi.org/10.33151/ajp.8.3.93>
- Zichnali, O., Moraitou, D., Pezirkianidis, C., & Stalikas, A., (2019). Examining the effectiveness of two types of forgiveness intervention to enhance well-being in adults from young to older adulthood. *OBM Geriatrics*, 3(2), 1-29. <https://doi.org/10.21926/obm.geriatr.1902044>

Δυνατά στοιχεία του χαρακτήρα και αρετές στο ελληνικό πολιτισμικό πλαίσιο

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ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ	ΠΕΡΙΛΗΨΗ
Αρετές, δυνατά στοιχεία χαρακτήρα, διαπολιτισμικές διαφορές, στάθμιση, Values in Action (VIA)	Στόχος της παρούσας έρευνας ήταν να εξετάσει το εννοιολογικό πλαίσιο των δυνατών στοιχείων του χαρακτήρα στην ελληνική κουλτούρα μέσω της διερεύνησης της παραγοντικής δομής της ελληνικής εκδοχής του Values In Action-120 (VIA-120) εργαλείου μέτρησης των δυνατών στοιχείων. Ένα δείγμα 3.211 συμμετεχόντων από όλο το ενήλικο ηλικιακό φάσμα χρησιμοποιήθηκε για να εξεταστούν η παραγοντική δομή και τα ψυχομετρικά χαρακτηριστικά του εργαλείου. Τα αποτελέσματα έδειξαν ότι επιβεβαιώθηκε η δομή των 24 δυνατών στοιχείων και ότι ένα μοντέλο πέντε πυρηνικών αρετών βρίσκεται πίσω από αυτήν. Συζητούνται οι ομοιότητες και οι διαφορές ανάμεσα στο ελληνικό μοντέλο και μοντέλα, που αναδύθηκαν σε άλλα πολιτισμικά πλαίσια. Το VIA-114GR παρουσίασε ικανοποιητική αξιοπιστία, συγκλίνουσα εγκυρότητα με δείκτες ευζωίας και αποκλίνουσα εγκυρότητα με αρνητικές εμπειρίες. Παρατηρήθηκαν διαφορές ηλικίας και φύλου αναφορικά με διάφορα δυνατά στοιχεία του χαρακτήρα και αρετές. Επίσης, τα ευρήματα έδειξαν ότι τα πέντε κυρίαρχα δυνατά στοιχεία του ελληνικού δείγματος ήταν η καλοσύνη, η αγάπη, η ειλικρίνεια, η αμεροληψία και η επιμονή, ενώ τα πέντε σπανιότερα δυνατά στοιχεία του χαρακτήρα ήταν η αγάπη για μάθηση, η πνευματικότητα, η προοπτική, η μετριοφροσύνη και ο αυτοέλεγχος. Οι περιορισμοί της μελέτης, προτάσεις για μελλοντικές έρευνες και πρακτικές εφαρμογές του VIA-114GR συζητούνται αναλυτικά.
ΣΤΟΙΧΕΙΑ ΕΠΙΚΟΙΝΩΝΙΑΣ	
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