

Research Paper: Construction and Validation of the Human Psychological Flourishing Scale (HPFS) in Sociocultural Context of Iran



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ABSTRACT

Objective: The increasing importance of the movement of positive psychology has led scientific research to explore and measure the optimal human performance or flourishing. Many researchers believe that the components of flourishing are different in sociocultural contexts, and culture is the primary factor affecting the optimal human performance. Therefore, in this study, we aimed to develop an instrument to measure human flourishing and to evaluate its psychometric properties in the sociocultural context of Iran.

Methods: In this study, we employed a cross-sectional research methodology. For this purpose, 412 teachers from senior high schools of Tehran were selected by the method of multistage cluster sampling and were requested to respond to the researcher-constructed human flourishing scale, Soleimani et al.'s Flourishing Scale, Diener's Flourishing Scale, PERMA-Profilier, Ahvaz Self-Actualization Questionnaire, and Beck's Depression Inventory. Data were analyzed using factor analysis, Cronbach's alpha, and Pearson correlation.

Results: Factor analysis was conducted via principal component analysis and varimax rotation. Three factors, namely, individual achievement/competency, social contribution, and sense of satisfaction/happiness were extracted. These three factors together explained 62.99% of the total variance. Thereafter, confirmatory factor analysis also confirmed the fitness of the three-factor model (CFI=0.96, GFI=0.95, AGFI=0.92, RMSEA=0.066, SRMR=0.047, $\chi^2=141.16$, $df=51$, and $\chi^2/df=2.77$). In addition, Pearson correlation analysis indicated that the researcher-constructed flourishing scale is significantly correlated with Soleimani et al.'s Flourishing Scale, Diener Flourishing Scale, PERMA-Profilier, Ahvaz Self-Actualization Questionnaire, and Beck's Depression Inventory. Cronbach's alpha reliability coefficients for the subscales of researcher-constructed flourishing scale, namely, sense of satisfaction/happiness, individual achievement/competency, and social contribution were respectively found to be 0.87, 0.83, 0.77, and 0.79.

Conclusion: The results of this study showed that the flourishing scale has acceptable psychometric features in teachers' community, and it can be used as a valid instrument in psychological research.

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1. Introduction

Optimal functioning and human flourishing have long been the primary subjects of research in human psychology and have recently attracted the attention of a branch of psychology called positive psychology (Hojabrian, Bigdeli, Najafi, & Rezaei, 2015). Positive psychology deals with the study of human optimal functioning; it helps to obtain a better understanding of factors affecting the prosperity and flourishing of individuals and communities (Seligman, Rashid & Parks, 2006; Gable & Haidt, 2015). Therefore, positive psychology is considered as the science of happiness and human flourishing (Compton & Hoffman, 2012). The colloquial application of the term “flourishing” is mainly concentrated on the realization of one’s potential (spiritual, evolutionary, economic, etc.), success, progress, and the offer of significant assistance to the community (Gokcen, Hefferon & Attree, 2012).

In the field of psychology, the primary approaches emerging in the topic of flourishing include mental health and positive psychological perspectives based on the theories of happiness or life satisfaction (Keyes, 2002; Seligman, 2004). Mental health perspectives claim that flourishing is a state of optimal mental health and is different from the state of absence of mental illnesses. As per this definition, flourished people act well in addition to holding a nice feeling and sense. They regularly experience positive emotions, are distinguished individuals in their daily lives, and constructively interact with their surrounding environments (Keyes, 2007).

Positive psychological perspectives have recently shifted from the theories of happiness or life satisfaction (Keyes, 2007; Deci & Ryan, 1985; Ryff, 1989) to well-being or flourishing models (Deci & Ryan, 2008a; Deci & Ryan, 2008b; Ryan, Huta & Deci, 2008; Ryff & Singer, 2006; Seligman, 2011a). These perspectives have placed greater emphasis both on the psychological need for satisfaction and mental health in order to propose comprehensive models of individuals’ optimal performance (Seligman, 2011a). For example, in his book entitled *Flourishing*, Seligman has put together the recently identified aspects of flourishing in PERMA model (including positive emotion, engagement, relationship, meaning, and achievement) and has proposed the comprehensive well-being theory (Seligman, 2011a). Therefore, currently, the term flourishing is often used to describe the high level of subjective well-being (Hone, Jarden, Schofield, & Duncan, 2014).

The measurement of flourishing or, say, the high level of well-being are among the important research topics that have created global interests (Hone et al., 2014; Butler & Kern, 2016; Huppert & So, 2013; Diener et al., 2009; Keyes, 2005). Michaelson et al. (2009) have identified eight measurement benefits of community well-being: the assessment of changes over time, the review and evaluation of political decision making and policymaking, the activation of international comparisons, the assessment of differences in subgroups, the identification of future areas of need or opportunity, the evaluation of potential impact of policy proposals, shaping the content and implementation of policy, and provision of the information for targeting new policies according to the population subgroups.

However, policymakers need to systematically assess well-being using reliable, valid, and responsive measurement tools that can provide them with effective and meaningful data (Diener, Lucas, Schimmack, & Helliwell 2009). In the last two decades, researchers have arrived at a general consensus with respect to the well-being being considered as a multi-dimensional structure and that flourishing refers to high levels of well-being (Keyes, 2002; Diener et al., 2009; Fredrickson & Losada, 2005; Huppert & So, 2009; Diener & Seligman, 2004; Forgeard, Jayawickreme, Kern, & Seligman 2011). However, researchers have failed to reach a consensus regarding the unitary definition of flourishing which shows that researchers have not been able to clarify what does and what does not include in the definition of flourishing (Hone et al., 2014). In addition, there is no consensus as to what should be used in research or what should be informed to policymakers with respect to flourishing (Huppert & So, 2013).

For example, four different research teams, including Keyes (2005), Diener et al., (2009), Huppert and So (2013), and Butler and Kern (2016) not only have differently theorized, conceptualized, and operationalized flourishing but also have asserted that the recognition of flourishing depends upon response scales and the combination of different components as well as the set thresholds used by the researchers (Hone et al., 2014). In Keyes’s model (2005), flourishing is, in fact, a combination of psychological well-being, emotional well-being, and social well-being. Huppert and So (2013) refer to flourishing as a construct with 10 components including positive relationships, engagement, meaning, self-esteem, positive emotion, competence, optimism, emotional stability, vitality, and resilience. In Diener et al.’s opinion (2009), flourishing includes components of positive relationships, engagement, purpose and mean-

ing, self-acceptance, competence, optimism, and social contribution, whereas Seligman (2011b) regards the five PERMA factors for flourishing scale. Hone et al. (2014) investigated the impact of operational definition on the prevalence of flourishing in a sample of over 10,000 adults in New Zealand and reported a considerable variation in the prevalence rates according to four operationalizations, including Huppert and So (flourishing of 24% of the individuals), Keyes (39%), Diener et al. (41%), and Seligman et al. (47%).

However, some researchers such as Huppert and So and Gokcen et al. believe that flourishing factors are different in the sociocultural contexts (Gokcen et al., 2012; Huppert & So, 2013). Lopez et al. (2006) also believe that culture is the primary effective factor in the creation, evolution, and the development of human capabilities and performance. In this regard, Soleimani, Rezaei, Kianersi, Hojabrian, Khalili Paji (2015) examined the components of Seligman's Flourishing among Iranian students, and their results did not support Seligman's engagement component.

Considering the aforementioned points, it is necessary to design a measurement tool to assess flourishing in line with the Iranian sociocultural context. It is noteworthy that two questionnaires, that is, Self-Actualization (Esmaealkhani, Najarian, & Mehrbizadeh Honarmand, 2001) and Seligman's Flourishing (Soleimani et al., 2015) have been constructed in Iran before the publication of this article. However, the first questionnaire was founded on the Maslow's self-actualization model and is derived from the school of humanistic psychology, and thus, it is highly different from the concepts available in positive psychology. The second questionnaire was specifically designed based on the Seligman's Flourishing Model, and this model, as it has been mentioned, was not fully approved among Iranian students. Hence, it seems necessary to design an instrument for the measurement of flourishing in harmony with perspectives of positive psychology and also in accordance with Iranian sociocultural characteristics.

2. Methods

In this study, a cross-sectional research methodology was employed. All the senior high school teachers in the academic year 2015-16 in high schools of Tehran constituted the statistical population of this study. A sample size of 450 participants was considered for analysis as the primary focus of this study was to develop a measurement instrument of flourishing and examine its psychometric properties. It is noteworthy that Kamery

regards a sample size of 300 participants as good and a sample size of 500 participants as very good in psychometric studies; Kass and Tinzly have also suggested a sample size of 300 participants (Hooman, 2001). In this study, a multi-stage cluster sampling method was used to select the required sample units. To this end, the city of Tehran was divided into five geographical regions (North, South, East, West, and the central part). Then, one education district was randomly selected from each geographical region, and then, four high schools (a total of 20 high schools) were randomly selected from each education district. Finally, after the distribution and collection of the questionnaires, 412 questionnaires (220 were completed by women and 192 were completed by men) were identified without any flaws and were used for statistical analysis.

The following six questionnaires formed the instruments of data collection in this study: Researcher-constructed Human Psychological Flourishing Scale (HPFS); Soleimani et al.'s Flourishing Scale; Diener's Flourishing Scale; The PERMA profiler; Ahvaz Self-Actualization Questionnaire; and Beck's Depression Inventory.

Researcher-constructed Human Psychological Flourishing Scale (HPFS) developed by Hojabrian et al. (2015) was used to construct this scale. Based on this model, which has been obtained from a mixed method of exploratory research, human psychological flourishing contains three components: sense of satisfaction/happiness, individual achievement/competency, and social contribution. For this purpose, 25 questions were prepared to measure the aforementioned three components via literature review and interviews with 20 experts. The experts were asked to express their opinions on each of the items in order to check the content validity of the scale. The experts included were professors or faculty members, PhD students of psychology, and PhD holders of psychology who had some research experience and records such as the fulfillment of a thesis, research projects, paper presentation, book writing and translation, and consulting and training in the field of well-being and human flourishing or related topics (such as life satisfaction, perfect human, and self-actualization).

At this stage, the Content Validity Ratio (CVR) for 21 items was found to be higher than the value of Lawshet-able (1975) for 20 panel members, that is, 0.42, and this value for 4 items was smaller than 0.42. Hence, these four questions were removed. After the evaluation of content validity and achievement of the required certainty, the questionnaires were piloted on a sample of 50 teachers from the statistical population. The purpose of

this stage was to check the clarity and ambiguity of the items and to apply the necessary changes. In this way, all the items were evaluated, and the literarily and technically ambiguous statements were edited. At this stage, three questions were left out, and thus, 18 questions were retained in the model questionnaire. This 18-item questionnaire was administered to the statistical sample, and accordingly, the psychometric properties as well as the factor structure of the questionnaire were examined. The information relating to this part has been presented in the Results section. In terms of scoring this questionnaire, six options were considered for each item: strongly agree, somewhat agree, slightly agree, slightly disagree, somewhat disagree, and strongly disagree; these were assigned with 6, 5, 4, 3, 2, and 1 point, respectively.

Soleimani et al.'s Flourishing Scale is a 28-item questionnaire and has been constructed using factor analysis based on Seligman's five-factor model of flourishing. As the items of engagement component did not hold an appropriate loading on this factor, thorough factor analysis and were excluded from the analysis. Seligman's model is composed of four factors of positive emotion: engagement, relationships, meaning, and achievement and enjoys acceptable and satisfactory psychometric properties (Soleimani et al., 2015). The convergent validity of Flourishing Questionnaire (FQ) was assessed through its concurrent implementation with Ahvaz Self-Actualization Questionnaire ($r=0.82$) and Diener's Flourishing Scale ($r=0.92$). In addition, the divergent validity of the questionnaire was examined and confirmed by its concurrent administration with Beck's Depression Inventory ($r=-0.66$; $P \geq 0.001$).

Moreover, the reliability values for positive emotions, relationships, meaning, achievement, and the total scale were equal to 0.91, 0.83, 0.88, 0.87, and 0.95, respectively. In this questionnaire, the items are scored based on a 6-point Likert scale, including strongly agree, somewhat agree, slightly agree, slightly disagree, somewhat disagree, and strongly disagree; these were assigned with 6, 5, 4, 3, 2 and, 1 point, respectively. In this study, Cronbach's alpha reliability coefficients were found to be equal to 0.92, 0.74, 0.86, and 0.84 for the components, namely, positive emotions, positive relationships, meaning in life, and achievement, respectively.

Diener et al. designed Flourishing Scale as a brief summary measure of psychological function to complement other measures of subjective well-being. This scale was first introduced in a 12-question format, but it was later reduced to eight questions (Diener & Biswas-Diener, 2009). Flourishing scale evaluates several identified hu-

man psychological needs by combining them with other well-being theories (Diener et al., 2009). The combined theories include eight-item scale of well-being that Ryff (1989) and Ryan and Deci (2001) regard important for positive functioning (e.g. competence, self-acceptance, meaning, and relatedness) as well as optimism, giving, and engagement. They have been proven to be involved in the well-being (Brown, Nesse, Vinokur, & Smith 2003; Csikszentmihalyi, 1990; Putnam, 1995; Scheier, Carver & Bridges, 2001; Seligman, 2011b). The convergent validity of this scale with Soleimani's Flourishing Questionnaire was found to be equal to 0.9 (Soleimani et al., 2015). In this study, reliability score of Diener's Flourishing Scale was found to be equal to 0.90 through Cronbach's alpha method.

The PERMA profiler was constructed in the absence of a valid short instrument that specifically measures all the five areas of PERMA (Butler & Kern, 2016). This 16-item questionnaire contains one question for the assessment of overall well-being and has three questions for each of the five components of PERMA. The overall question is used in the comparison with other population-based surveys. Each item is scored on an 11-point Likert scale, anchored by 0 (never) to 10 (always) or 0 (not at all) to 10 (completely). In addition, experiences were assessed via a range of different response scales, for example, "in general," "how often," "to what extent," and "how much of the time." Butler and Kern stated that their studies have found support for the acceptable reliability, test-retest reliability, and construct validity of this questionnaire. The confirmatory factor analysis confirmed the five-factor structure of PERMA (Butler & Kern, 2016). In this study, Cronbach's alpha reliability coefficients were found to be equal to 0.83, 0.74, 0.63, 0.84, and 0.60 respectively for the components of PERMA profiler, namely, positive emotions, positive engagement, positive relationships, meaning in life, and achievement.

Ahvaz Self-Actualization Questionnaire is a 25-item questionnaire and has been constructed using factor analysis to measure self-actualization and has acceptable and satisfactory psychometric properties (Esmaeelkhani et al., 2001). Reliability of this questionnaire was assessed by test-retest method (0.90) and internal consistency (Cronbach's alpha=0.92). The validity of Ahvaz Self-Actualization Questionnaire was measured by determining the correlation coefficient of this scale with Anxiety Questionnaire ($r=-0.70$), Coopersmith Self-Esteem Questionnaire ($r=0.66$), and Beck's Depression Inventory ($r=-0.77$). The results also revealed that all correlation coefficients of participants between students' scores in anxiety scale and depression scale were

negative, whereas these coefficients were found to be positive with regard to Coopersmith Self-Esteem Questionnaire and were significant at a significance level of 0.001. In fact, Ahvaz Self-Actualization Questionnaire is used for the accurate and reliable identification of the self-actualized individuals and enjoys satisfactorily high reliability and validity coefficients (Esmaelkhani et al., 2001). The convergent validity of this questionnaire with Soleimani's Flourishing Questionnaire was equal to 0.82 (Soleimani et al., 2015). In this study, the reliability of Ahvaz Self-Actualization Questionnaire was found to be equal to 0.89 through Cronbach's alpha method.

Beck's Depression Inventory is a self-report 21-item questionnaire that was first constructed by Beck in 1961 and was revised in 1971 (Beck, Rush, Shaw, & Emery, 1978). This scale measures depression as a single factor construct. Each question has four options and is scored from 0 to 3. In a study on 125 students of two Iranian universities, the reliability and validity of Beck's Depression Inventory were obtained on an Iranian population. The results indicated Cronbach's alpha of 0.87, and test-retest reliability of 0.74. This study supports the reliability and concurrent validity of the BDI-II-Persian as a measure of depressive symptoms in nonclinical samples (Ghassemzadeh, Mojtabai, Karamghadiri, & Ebrahimkhani, 2005). In this study, the reliability of Beck's Depression Inventory was found to be equal to 0.88 through Cronbach's alpha method.

The study process was in such a way that the sample size was determined and sampling was fulfilled. Then, the 18-item questionnaire was distributed among the sample teachers, and they were requested to carefully study the whole content of the questionnaire and select the alternative that fits their current situation. Convergent validity of the flourishing scale was evaluated by the concurrent administration of Soleimani's Flourishing, Diener's Flourishing, PERMA Profiler, and Ahvaz Self-Actualization Questionnaire. In addition, the divergent validity of the questionnaire was obtained with its administration with Beck Depression Inventory. It is noteworthy that the teachers responded to the questionnaire items consciously and with satisfaction, and they were assured that the information would remain confidential and there would be no need for the inclusion of participants' names.

3. Results

The data were analyzed using exploratory and confirmatory factor analysis methods to determine the factor structure of the questionnaire; Cronbach's alpha coefficients were also used to check the reliability of the

questionnaire; and Pearson correlation coefficient was used to assess the convergent and divergent validity of the questionnaire. The results are presented in the following subsection.

Exploratory factor analysis

Factor analysis was used to investigate the factor structure of the HPFS. The analysis of data factors using principal component analysis and varimax orthogonal rotation led to the best factor structure after three rotations. The results led to the extraction of three factors. It is worth mentioning that the conduct of some preliminary tests had confirmed the suitability and eligibility of the data to perform factor analysis. KMO (Kaiser-Meyer-Olkin) value was found to be equal to 0.893 and Bartlett's sphericity test was found to be equal to 1858.636, which was significant with the degree of freedom (df) of 66 at a significance level of 0.0001 ($P < 0.0001$). The loadings with the minimum value of 0.30 were used in factor analysis. The results of factor analysis showed that six items out of the 18 items were loaded on more than one factor, and thereby, these six items did not represent a clear construct and a coherent and significant dimension of flourishing. Finally, six questions were excluded from the questionnaire. In Table 1, factor loadings of the 12 remaining questionnaire items are presented.

It is noteworthy that the three extracted factors account for 62.99% of the matrix variance. In more detail, 22.28% of the 62.99% is explained by the first factor, 21.13% is accounted for by the second factor, and 19.58% is justified by the third factor. As was expected, the items numbered 1, 4, 7, and 10 were loaded on the factor sense of satisfaction/happiness; the items numbered 2, 5, 8, and 11 were loaded on the factor individual achievement/competency; and the items numbered 3, 6, 9, and 12 were loaded on the factor social contribution. In this way, the three-factor structure of the HPFS was supported based on the results of exploratory factor analysis.

As shown in Table 1, all the loading factors were found to be appropriate. The smallest loading factor (0.51) belongs to item 8 and the largest loading factor (0.83) belongs to item 4.

Confirmatory factor analysis

LISREL software was used in order to perform confirmatory factor analysis by maximum likelihood method. The model fitness was assessed by fitness index, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Standardized Root Mean Square Re-

Table 1. Results of varimax rotation for the items of Human Psychological Flourishing Scale (HPFS)

Question No.	Item	1	Factor 2	3
1	I feel my life is full of positive feelings and encouragement.	0.82	--	--
4	My life conditions are excellent.	0.83	--	--
7	I love life.	0.68	--	--
10	I feel more joy and happiness to sadness.	0.75	--	--
2	I can accomplish well the responsibilities that I have on my shoulder.	--	0.79	--
5	I have desired skills and competencies.	--	0.66	--
8	I take advantage of the available opportunities to show my potentials.	--	0.51	--
11	I am talented and skillful in activities that are important to me.	--	0.81	--
3	I can give important contributions to my community.	--	--	0.76
6	I spend time and energy to help improve my community.	--	--	0.75
9	My daily measures and activities are of valuable results for the community.	--	--	0.71
12	I grab the opportunities that allow me to help my community.	--	--	0.70

PRACTICE in
CLINICAL PSYCHOLOGY

sidual (SRMR). Different cut-off points have been proposed by experts for fitness indexes. For example, values equal to or less than 0.05, equal to or higher than 0.96, and equal to or less than 0.07 for RMSEA, CFI, and SRMR represent the adequate fitness of the model, respectively (Jöreskog & Sörbom, 1996). However, it has been proposed that if CFI, GFI, and AGFI are greater than 0.90 and RMSEA and SRMR are smaller than 0.05 then the representative ideal fitness should be smaller than 0.1 (Breckler, 1990). The fitness indexes of the final form of HPFS. Our results suggest the optimal data-model fitness. In this model, the following values were obtained: $\chi^2=141.16$, $df=51$, and $\chi^2/df=2.77$. Table 2 presents the results of analysis.

Reliability of the HPFS

Reliability of the flourishing scale was calculated using internal consistency and Cronbach’s alpha coefficient. Table 3 presents Cronbach’s alpha correlation coefficients.

As shown in Table 3, all the 12 items of flourishing scale enjoy appropriate discrimination indexes on the relevant factors. In addition, the omission of none of the questions causes a significant increase in alpha coefficient. Hence, the HPFS with three factors enjoys suitable reliability. The reliability coefficients are equal to 0.83, 0.77, 0.79, and 0.78 for sense of satisfaction/happiness, individual achievement/competency, social contribution, and the entire scale, respectively. This questionnaire was concurrently administered with five other scales, namely, Soleimani et al.’s Flourishing Scale, Diener’s Flourishing Scale, PERMA-Profler, Ahvaz Self-Actualization Questionnaire, and Beck’s Depression Inventory to assess the validity of this scale. The aforementioned questionnaires were simultaneously administered to 60 subjects of the sample, and the obtained data were analyzed using Pearson correlation coefficient. Table 4 shows the results of HPFS validity test.

Table 2. Fitness indexes of three-factor model of the Human Psychological Flourishing Scale (HPFS)

Model	X ²	CFI	IFI	NFI	NNFI	RMSEA	RMSEA CI 90%	RMR	SRMR	GFI	AGFI
Three-factor	141.16	0.96	0.96	0.93	0.94	0.066	0.053-0.079	0.058	0.047	0.95	0.92

PRACTICE in
CLINICAL PSYCHOLOGY

Table 3. Statistical characteristics (discrimination index and alpha coefficient) for the factors Human Psychological Flourishing Scale (HPFS)

Factor	Question No.	Discrimination Index	Alpha Coefficient if Item Removed	Factor's Alpha Coefficient
Sense of satisfaction/happiness	1	0.66	0.77	0.83
	4	0.67	0.77	
	7	0.62	0.79	
	10	0.65	0.78	
Individual competency/achievement	2	0.62	0.68	0.77
	5	0.58	0.71	
	8	0.48	0.76	
Social contribution	11	0.59	0.71	0.79
	3	0.61	0.75	
	6	0.64	0.72	
	9	0.59	0.75	
12	0.58	0.75		
Total alpha coefficient			0.87	

As shown in Table 4, all correlation coefficients of HPFS with Soleimani et al.'s Flourishing Scale, Diener's Flourishing Scale, and Ahvaz Self-Actualization Questionnaire were found to be positive, whereas the correlations were found to be negative with regard to

Beck's Depression Inventory. The correlation coefficient between social contribution and Beck's Depression Inventory was found to be significant at 0.05 level, but other coefficients were found to be significant at 0.01 level.

Table 4. Correlation coefficients of Human Psychological Flourishing Scale (HPFS) with other flourishing scales

	Soleimani et al.'s Flourishing Scale	Diener's Flourishing Scale	PERMA-Profler	Ahvaz Self-Actualization Questionnaire	Beck's Depression Inventory	Sense of Satisfaction/Happiness	Individual Achievement/Competency	Social Contribution	Total Score of Human Psychological Flourishing Scale
Soleimani et al.'s Flourishing Scale	1								
Diener's Scale	0.85**	1							
PERMA-Profler	0.82**	0.78**	1						
Ahvaz Self-Actualization Questionnaire	0.81**	0.82**	0.74**	1					
Beck's Depression Inventory	-0.43**	-0.41**	-0.44**	-0.65**	1				
Sense of satisfaction/happiness	0.68**	0.74**	0.76**	0.73**	-0.51**	1			
Individual achievement/competency	0.41**	0.55**	0.47**	0.50**	-0.34**	0.47**	1		
Social contribution	0.60**	0.51**	0.65**	0.43**	-0.25*	0.46**	0.61**	1	
Total score of Human Psychological Flourishing Scale	0.71**	0.76**	0.81**	0.70**	-0.47**	0.81**	0.82**	0.83**	1

*Significant at $P \geq 0.05$

**Significant at $P \geq 0.01$

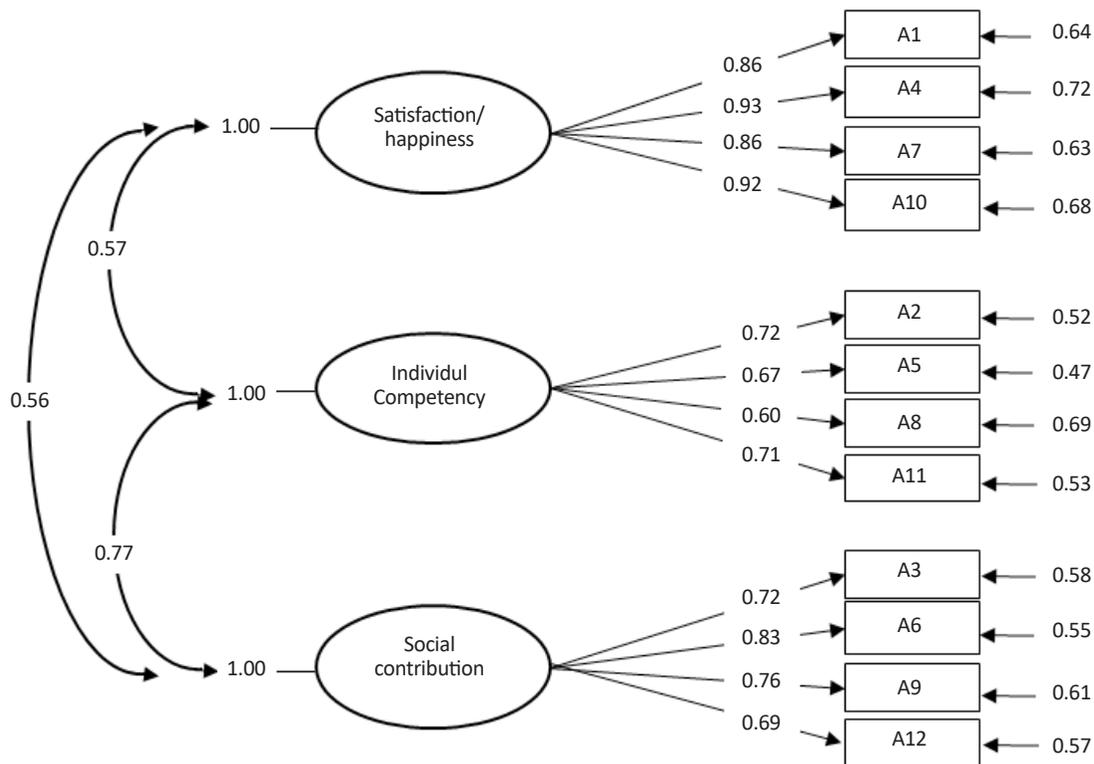


Figure 1. Measurement model of the Human Psychological Flourishing Scale (HPFS)

4. Discussion

In this study, we aimed to design a measurement instrument of flourishing and evaluate its psychometric characteristics in the sociocultural context of Iran (Figure 1). For this purpose, 25 questions were designed based on the literature review and interviews with experts to measure the constituent components of flourishing, namely, sense of satisfaction/happiness, individual achievement/competency, and social contribution in the sociocultural context of Iran. Having performed the initial analysis, the 18-item questionnaire was administered to teachers/educators, and the obtained data were analyzed using factor analysis and principal component analysis.

Before performing factor analysis, the index of sampling adequacy and Bartlett's sphericity test were calculated. In this analysis, KMO value was found to be equal to 0.893 and Bartlett's sphericity test was found to be significant. Thus, in addition to the sampling adequacy, the implementation of factor analysis was justifiable based on the matrix under study. Factor analysis of the data using principal component analysis and varimax orthogonal rotation led to the extraction of three factors. These three extracted altogether account for 62.99 of the matrix variance of the entire scale, and the loading factors of all the items were suitable. Finally, the results of

exploratory factor analysis led to the emergence of 12 items and three factors, namely, sense of satisfaction/happiness, individual achievement/competency, and social contribution.

Accordingly, sense of satisfaction/happiness is the first component of flourishing. A flourished person is satisfied with his/her performance and life, has a happy feeling, and loves life. Life satisfaction is the positive cognitive-emotional assessment of one's life (Diener, Oishi, & Lucas, 2003). Happiness is also defined by Seligman as engagement in positive emotions, commitment to life, and meaning in life (Seligman, 2004).

Happy people are generally optimistic, delightful, and healthy and enjoy their existence in life; they view life valuable and interact with the world in peace and understanding (Andersson, 2008; Cohn, Fredrickson, Brown, Mikels, & Conway 2009). According to these definitions, it is revealed that the sense of satisfaction and happiness is a subjective phenomenon. This factor is somehow similar to the component of positive emotions in the three models proposed by Keyes, Huppert and So, and Seligman et al.

The second component constituting flourishing is individual achievement/competency. In other words,

competency indicates how people should accomplish their duties or react in a particular situation or behave according to the situation (Lawler, 1994). Competency has also been highlighted in Diener et al.'s model, whereas it has been referred to as achievement in Huppert and So's model and the closest construct to it in Keyes' edition is "environmental mastery." Thus, a competent person is able to perform his/her responsibilities well, has desirable skills and competencies, takes advantage of the available opportunities to show his/her abilities, and is skillful and master in the activities that are important to him/her.

The third constituent component of flourishing is social contribution. In addition, to individual achievements, a flourished person will constructively involve in the community and endeavors toward the promotion of others' well-being (Diener et al., 2009). Such a person can offer important contributions to community, spend time and energy to help improve community, and his/her daily activities and actions will lead to fruitful results for community. In fact, social contribution is a constructive part of the expectation that life has with the human beings, and a flourished person fulfills this expectation. This factor is the most important boundary distinguishing flourished individuals from successful humans in the broad and commonsensical sense. This factor is somehow similar to the component of social contribution examined by Keyes', entitled social well-being.

After exploratory factor analysis, confirmatory factor analysis was used to evaluate the fitness of the model. The results confirmed the fitness indexes of the three-factor model. The reliability of the flourishing scale was calculated using internal consistency and Cronbach's alpha coefficient. All the Cronbach's alpha correlation coefficients represented satisfactory reliability and high applicability of the instrument.

In addition to the aforementioned findings, the convergent and divergent validity of the flourishing scale was investigated by its concurrent administration with Soleimani's Flourishing, Diener's Flourishing, PERMA Profiler, Ahvaz Self-Actualization Questionnaire, and Beck's Depression Inventory. The aforementioned instruments were simultaneously administered and the obtained data were analyzed using Pearson correlation coefficient. The results showed that the correlation coefficients of the researcher-constructed flourishing scale with Soleimani et al.'s Flourishing Scale, Diener's Flourishing Scale, PERMA Profiler, Ahvaz Self-Actualization Questionnaire, and Beck Depression Inventory were statistically significant. In addition, the relationship

between the subscales of flourishing and the aforementioned variables was found to be statistically significant. These findings are consistent with the results obtained by Soleimani et al. (2015). As mentioned in the Introduction section, few studies in this field have already been conducted in Iran. However, the similarities and differences of the currently constructed questionnaire with the other four flourishing models are elaborately reviewed.

The two key advantages of the constructed flourishing scale in this study are brevity and clarity, the same as the other four models discussed in this study. The Iranian Flourishing Scale with 12 items measures the multi-dimensional nature of flourishing, and as it has been recommended by psychometric experts (OECD Better Life Initiative, 2013), it adheres to the principles of brevity despite the integration of more than one question in each construct.

Like any other research, this study has some limitations. One of the limitations of this study is that it is not clear to what extent the scores obtained from this instrument are associated with the actual behavior of an individual's in life. In the same way, the results cannot be generalized to other populations as this research has been conducted on teachers/educators in Tehran. Based on these limitations, it is recommended that the scores be correlated with measures of actual behavior in everyday life so that some evidence can be obtained regarding the extension of the scores obtained from this instrument to real-life situations.

Furthermore, it is recommended that such studies be conducted in the future by evaluating the practical applications of the scores in predicting the actual behavior of individuals in their life in addition to the diagnosis of cut-off scores for the differentiation of flourished individuals from nonflourished ones. The evaluation of validity of the scores obtained from this scale, as an instrument for the identification of the sensitivity of interventions, can be another stream for future research. Alternatively, it is suggested that the relationship of flourishing with several psychological variables such as pragmatism and goal orientation, emotional intelligence, personality traits, and motivation be examined. In this way, some comprehensive knowledge will be obtained about flourishing and the relations of this construct with other psychological constructs. Such findings can be utilized in relevant planning and the conduct of educational interventions. Moreover, it is recommended that this instrument be used in other populations, such as students, staff, ordinary people, and different ethnic groups so that

evidence regarding the development of the construct validity of this instrument can be obtained.

In conclusion, the Iranian Flourishing Scale gives rise to a comprehensive model of flourishing with a brief presentation consisting of 12 questions. In addition, this scale integrates the well-known approaches in human flourishing, including sense of satisfaction, good performance, and social well-being. Indeed, different pieces of information were revealed for this scale as follows: ease of implementation, ease of grading, ease of interpretation, no need for an expert to perform and interpret the results, usability for a wide range of potential end-users in clinical area, policy-making and the promotion of well-being and flourishing in community, little response time (less than 3 minutes), and practicality. Accordingly, it can be argued that the researcher-constructed flourishing scale enjoys acceptable psychometric properties in the community of Iranian teachers/educators and thereby can be used as a valid instrument in psychological research.

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Conflict of Interest

The authors declared no conflicts of interest. Author contribution is as follows: Study design: Hanieh Hojabrian, Ali Mohammad Rezaei, Imanollah Bigdeli; Data collection and analysis: Hanieh Hojabrian, Ali Mohammad Rezaei, Mohammad Ali Mohammadifar; and Manuscript preparation: Hanieh Hojabrian, Ali Mohammad Rezaei, Mohammad Najafi.

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