Curr Psychol (2019) 38:128–133
DOI 10.1007/s12144-017-9595-7

The Tripartite Model of Mental Well-Being in Iran: Factorial and Discriminant Validity

Mohsen Joshanloo[1] · **Shirin Niknam**[2]

Published online: 10 April 2017
© Springer Science+Business Media New York 2017

Abstract The tripartite model of mental well-being regards well-being as a three-dimensional concept encompassing correlated yet distinct dimensions of hedonic, psychological, and social well-being. This study used confirmatory factor analysis (CFA) and exploratory structural equation modeling (ESEM) to evaluate this model in an Iranian sample ($N = 1435$). It was found that the model was generally consistent with the data, although a few variables did not have strong loadings on their target factors. The ESEM model provided improved fit compared with the CFA model. The results illustrate the methodological advantages of ESEM over traditional CFA in this line of research.

Keywords Tripartite model · Well-being · Hedonic · Eudaimonic · Social · ESEM

Introduction

Both hedonic and eudaimonic elements of well-being need to be considered for a comprehensive assessment of mental well-being (e.g., Ryan and Deci 2001; Joshanloo 2016b). The hedonic approach defines well-being as the preponderance of life satisfaction and positive affect over negative affect and dissatisfaction, whereas the eudaimonic approach defines it based on functioning well in life (Keyes and Annas 2009). The personal aspect of eudaimonic well-being consists of essentially personal skills and abilities such as self-acceptance (Ryff 1989). The social aspect of eudaimonic well-being concerns the relationship between the individual and larger society (Keyes 1998). The three aspects of hedonic, psychological, and social well-being are considered as crucial components in Keyes' tripartite model of mental well-being (Joshanloo 2016b; Keyes 2006).

Well-Being, Islam, and Iran

Iran is a non-Arab Islamic country located in the Middle East. The country is strongly influenced by Islamic ideology. Islam clearly recognizes subjective, psychological, and social aspects of well-being as important aspects of general well-being (Joshanloo 2013; Joshanloo 2017). However, it also posits that achieving well-being is not possible unless a Muslim has a strong faith and permanently acts in accordance with Islamic codes of conduct. Scholars are divided on whether or not Western models of well-being are applicable to Muslims. Some Muslim scholars are suspicious of modern scientific methodologies, and dismiss Western models because they believe these secular models ignore the spiritual needs of humans and are alien to Islamic worldview (e.g., Huq 2009). More empirically-oriented researchers, on the other hand, believe that although some adjustments may be needed, the Western models of mental well-being function reasonably well in Muslim samples (Ghorbani et al. 2007; Joshanloo 2013). For example, Joshanloo (2013) reviewed the studies that have examined the reliability and validity of Western well-being scales in Iranian samples, and concluded that these scales are fairly valid and reliable in Iran. Nevertheless, the previous studies have used relatively small samples and have usually focused

✉ Mohsen Joshanloo
mjoshanloo@hotmail.com

Shirin Niknam
shirinniknam92@yahoo.com

[1] Department of Psychology, Keimyung University, 1095 Dalgubeol Boulevard, Dalseo-Gu, Daegu 42601, South Korea

[2] Department of Psychology, Elmo-Farhang University, Tehran, Iran

on the properties of a single well-being scale rather than comprehensive well-being models. With multiple well-being scales and a relatively large sample, the present study provides a good opportunity to examine the applicability of the tripartite model of well-being to a Muslim sample.

Statistical Approach

A number of studies have supported the tripartite model of mental well-being across cultures (e.g., Gallagher et al. 2009; Joshanloo et al. 2013). However, some aspects of the model have also been criticized. The main criticism concerns the discriminant validity between the three aspects of the model. For example, some researchers regard the hedonic and psychological well-being dimensions as indistinguishable (Kashdan et al. 2008), on the grounds that studies using confirmatory factor analysis (CFA) have occasionally reported very strong correlations (e.g., > .85) between the two components (e.g., de Carvalho et al. 2016; Disabato et al. 2016; Gallagher et al. 2009).

However, recent research using exploratory structural equation modeling (ESEM) has shown that CFA has in fact overestimated the correlations between the dimensions of mental well-being (Joshanloo 2016b; Joshanloo et al. 2017). This overestimation of factor correlations is a consequence of the way traditional CFA handles cross-loadings (Marsh et al. 2014; Morin et al. 2013). Specifically, in CFA, all the cross-loadings are fixed at zero. It has now been shown that this treatment can have an undesirable influence on model fit and the accuracy of estimates (Asparouhov and Muthen 2009). ESEM, on the other hand, freely estimates all the target and non-target factor loadings. ESEM has been found to represent the factor structure of many multidimensional constructs (such as personality traits) better than CFA (Marsh et al. 2014; Morin et al. 2013). Two main advantages of ESEM are improved model fit and more accurate factor correlations.

Prior research indicates that non-zero secondary loadings are far from rare in the structure of well-being scales (e.g., Joshanloo and Lamers 2016). This clearly necessitates the use of ESEM in this line of research. In fact, ESEM has resulted in improved fit and less elevated factor correlations than CFA when applied to the tripartite model in various cultures (Joshanloo 2016a, b; Joshanloo et al. 2016; Joshanloo and Lamers 2016). For example, in the context of Iran, a recent study using a 14-item scale of the tripartite model showed that ESEM resulted in better fit and smaller factor correlations in comparison to CFA (Joshanloo 2016a). The present study sought to extend these findings by using a larger sample and relatively lengthier well-being scales.

Methods

Participants

The data were drawn from the Iranian Mental Well-being Project (IMWP; Joshanloo and Bakhshi 2016), which has been run over the past decade. Convenience sampling has been used to collect samples, mainly consisting of university students studying at universities in Tehran (for more details about the project, see Joshanloo and Bakhshi 2016). The combined sample used in the present study included 1435 individuals (44.5% females), with a mean age of 22.82 (SD = 5.83). The majority of the participants (87.5%) had no missing value in any of the 14 variables, whereas 9.61% of the participants had only one missing value. No participant had more than four missing values.

Measures

Three scales were used to measure hedonic well-being: the satisfaction with life scale (Diener et al. 1985; α = .85) and the Negative (α = 0.85) and Positive (α = .85) Affect Scale (NAPAS; Joshanloo 2017a). The 18-item psychological well-being scale (Ryff 1989) and the 15-item social well-being scale (Keyes 1998) were used to measure personal and social aspects of eudaimonic well-being, respectively. Dimensions of psychological well-being included self-acceptance (α = .57), purpose in life (α = .32), environmental mastery (α = .32), positive relations (α = .50), personal growth (α = .44), and autonomy (α = .38). Dimensions of social well-being included social coherence (α = .35), social integration (α = .41), social acceptance (α = .47), social contribution (α = .63), and social actualization (α = .50). All of the scales were translated into Persian using the method of back translation (Joshanloo and Bakhshi 2016).

Statistical Analysis

Model fit was assessed with maximum likelihood in Mplus 7.4. An oblique geomin rotation with an ε value of .5 was used in ESEM. The full information maximum likelihood (FIML) method was used to handle missing data. Values of CFI (Comparative Fit Index) > 0.95, RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Square Residual) < 0.08 were used as indicators of acceptable fit (Browne and Cudeck 1993; Hu and Bentler 1999; Weston and Gore 2006). Smaller values of AIC (Akaike information criterion) and BIC (Bayesian information criterion) show better fit. In addition to the three-factor models, a one-factor model (in which all of the indicators loaded onto a general well-being factor) was also tested.

Results

The fit indices are presented in Table 1. Whereas the one-factor model and the three-factor CFA model did not provide adequate fit, the fit of the three-factor ESEM model was acceptable. Factor loadings for the three-factor models are presented in Table 2. As can be seen, the three ESEM factors corresponded to the three intended dimensions of the tripartite model. Loadings ≥ 0.30 are usually considered important and are used in defining constructs (e.g., Rosellini and Brown 2011). In the CFA model, all the variables had salient loadings (around 0.30 or higher) on their target factors, with the exception of autonomy. In the ESEM model, all of the hedonic and psychological variables, and three of the social variables had salient loadings on their target factors. Among social well-being variables, social coherence and social contribution had salient loadings on psychological well-being rather than social well-being. Many of the variables manifested significant non-target loadings. However, the non-target loadings were generally smaller than the primary loadings. This pattern of loadings explains the substantial fit advantage provided by ESEM over CFA. Finally, as shown in Table 3, factor correlations were considerably smaller in ESEM ($M = 0.31$) than in CFA ($M = 0.69$), showing that ESEM yielded more distinct factors.

Discussion

ESEM improved model fit, showed that there were a large number of significant non-target loadings, and yielded diminished factor correlations. These results indicate that ESEM represents the factor structure of the variables better than does CFA in in the context of the present study. Of note is the considerable difference between the latent correlations produced by the two methods (Table 3). The ESEM correlations were considerably below the cutoff point of .85, which is usually used to identify highly overlapping or multicollinear factors (Kline 2011). Instead, consistent with the prior ESEM findings (Joshanloo et al. 2016), the present findings indicate that the three factors represent optimally distinct constructs, with no indication of poor discriminant validity.

ESEM revealed that two of the social well-being variables did not have strong enough loadings on their intended factors, and instead had salient loadings on psychological well-being. These critical findings on factor loadings were largely concealed in the CFA analysis due to the unnecessary zero constraints on the non-target loadings in CFA. Social contribution has been found to have salient loadings on psychological well-being in previous research (Joshanloo 2016b; Joshanloo et al. 2006; Bobowik et al. 2015). However, the strong loading of social coherence on psychological well-being seems to be unprecedented, and specific to Iranian culture.

In sum, the pattern of factor loadings (Table 2) implies that the tripartite model of well-being is generally supported in Iran, a large majority of the variables make salient contributions to their target factors, and the contributions of the non-target loadings to the factors are smaller than those of the target loadings. However, ESEM showed that some of the target loadings were not as strong as expected, which requires attention in future well-being research in Iran. Collectively these results contribute to the assessment of similarities and differences between the concept of mental well-being in Iran and other cultures. The results also can be used to refine the assessment tools in future research for a better fit with Iranian culture.

As mentioned in the Introduction, some researchers believe that Western psychological models of well-being cannot represent the concept of well-being in Islamic cultures (Haque 2004). For example, according to Ahmad (2009), "secular concepts have proved to be an utter failure in providing explanations for Islamic personalities" (p. 302). Huq (2009) asserts that, because the Western models ignore the divine aspect of human nature, they are necessarily "soulless, lopsided, and truncated" (p. 161). However, previous findings on the construct validity of Western scales of well-being has been promising (for a review, see Joshanloo 2013). The results of the present study also indicate that the tripartite model of well-

Table 1 Fit indices

Model	χ^2	*df*	CFI	SRMR	AIC	BIC	RMSEA	90% CI for RMSEA	
								LL	UL
One-factor									
ESEM/CFA	1097.839	77	0.767	0.063	107,743.979	107,965.274	0.096	0.091	0.101
Three-factor									
ESEM	364.939	52	0.929	0.031	107,061.079	107,414.097	0.065	0.059	0.071
CFA	842.898	74	0.825	0.059	107,495.039	107,732.140	0.085	0.080	0.090

All χ^2 values are significant at $p < .001$

LL lower limit, *UL* upper limit

Table 2 Standardized factor loading for the three-factor models

	ESEM			CFA
	Hedonic	Psychological	Social	
Hedonic				
Life satisfaction	**0.363*****	0.202***	0.239***	**0.587*****
Negative affect	**-0.666*****	-0.029	-0.019	**-0.691*****
Positive affect	**0.812*****	-0.118***	0.006	**0.663*****
Psychological				
Self-acceptance	0.274***	**0.433*****	0.150***	**0.658*****
Purpose in life	0.033	**0.539*****	0.063*	**0.533*****
Environmental mastery	0.142***	**0.442*****	0.112***	**0.567*****
Positive relations	0.138***	**0.354*****	0.186***	**0.536*****
Personal growth	0.075**	**0.659*****	0.025	**0.639*****
Autonomy	0.064	**0.290*****	-0.067	0.261***
Social				
Social coherence	0.078*	**0.293*****	0.243***	**0.514*****
Social integration	0.203***	0.121***	**0.457*****	**0.592*****
Social acceptance	-0.025	-0.187***	**0.751*****	**0.373*****
Social contribution	0.055*	**0.513*****	0.180***	**0.604*****
Social actualization	0.024	0.084**	**0.507*****	**0.469*****

Loadings greater than or very close to 0.30 are shown in boldface

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

being is largely consistent with the current Iranian data. Thus, the weight of empirical evidence lends more support to the alternative view that the general structure of well-being as formulated in Western traditions of research is applicable to Islamic cultures in its generality (e.g., Ghorbani et al. 2007; Joshanloo 2017b). This certainly does not mean that Western concepts, scales, and items do not need adjustments based on Islamic indigenous psychology. In fact, the present study indicated a few areas where the scales can be improved. However, the conclusion that Western models and scales are entirely alien to Islamic cultures seem to be erroneous. Given the available evidence, a more viable strategy would be to start with Western models and make necessary adjustments using insights from indigenous cultures.

It should be mentioned that the general support for the tripartite model of mental well-being in Iran does not mean that the nomological networks of the well-being concepts are the same across non-Islamic and Islamic cultures. For example, research shows differential relationships between well-being dimensions and personal values in Iran and Western countries (e.g., Joshanloo and Ghaedi 2009). Caution should also be used when generalizing the findings of the present study to other Islamic cultures, considering that Islamic countries considerably differ on various socio-economic and cultural indicators (Legatum Institute 2012).

A major limitation of the study was that the social and psychological well-being scales did not yield acceptable internal consistencies. This is partly to be expected (Heene et al. 2014; Rammstedt and Beierlein 2014) given that each scale has only three items, and because items for these short versions have not been "selected to maximize internal consistency but rather to cover the underlying components of each scale (thereby maintaining fidelity with the conceptual foundation of each scale)" (Ryff 2014, *p.* 13). The selected items provide wider content coverage of the concepts under study, despite the brevity of the scales. Hence, the loss incurred with regards to internal consistencies should be considered along with the significant conceptual advantage gained with heterogeneity of the items. Needless to say, future research will require to use longer versions of the scales for a more accurate and reliable assessment of mental well-being in Iran. Given that the sample consisted largely of university students, additional studies will also need to use more nationally representative samples.

Table 3 Factor correlations

	Hedonic	Psychological	Social
Hedonic	–	0.643	0.610
Psychological	0.324	–	0.831
Social	0.312	0.315	–

CFA and ESEM correlations are presented above and below the diagonal, respectively. All correlations are significant at $p < .001$

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed were in accordance with the conventional ethical standards applied in psychological research.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

Ahmad, S. F. (2009). The Islamic personality: a sequential model. In A. Haque & Y. Mohamed (Eds.), *Psychology of personality: Islamic perspectives* (pp. 283–316). Singapore: Cengage Learning Asia.

Asparouhov, T., & Muthen, B. (2009). Exploratory structural equation modeling. *Structural Equation Modeling, 16*, 397–438. doi:10.1080/10705510903008204.

Bobowik, M., Basabe, N., & Páez, D. (2015). The bright side of migration: Hedonic, psychological, and social well-being in immigrants in Spain. *Social Science Research, 51*, 189–204.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Beverly Hills: Sage.

de Carvalho, J. S., Pereira, N. S., Pinto, A. M., & Marôco, J. (2016). Psychometric properties of the mental health continuum-short form: a study of Portuguese speaking children/youths. *Journal of Child and Family Studies, 25*(7), 2141–2154.

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

Disabato, D. J., Goodman, F. R., Kashdan, T. B., Short, J. L., & Jarden, A. (2016). Different types of well-being? A cross-cultural examination of hedonic and eudaimonic well-being. *Psychological Assessment, 28*(5), 471–482.

Gallagher, M. W., Lopez, S. J., & Preacher, K. J. (2009). The hierarchical structure of well-being. *Journal of Personality, 77*(4), 1025–1049. doi:10.1111/j.1467-6494.2009.00573.x.

Ghorbani, N., Watson, P. J., & Khan, Z. H. (2007). Theoretical, empirical, and potential ideological dimensions of using Western conceptualizations to measure Muslim religious commitments. *Journal of Muslim Mental Health, 2*, 113–131.

Haque, A. (2004). Psychology from Islamic perspective: contributions of early Muslim scholars and challenges to contemporary Muslim psychologists. *Journal of Religion and Health, 43*(4), 357–377.

Heene, M., Bollmann, S., & Bühner, M. (2014). Much ado about nothing, or much to do about something? *Journal of Individual Differences, 35*(4), 245–249.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55. doi:10.1080/10705519909540118.

Huq, M. (2009). The heart and personality development. In A. Haque & Y. Mohamed (Eds.), *Psychology of personality: Islamic perspectives* (pp. 159–181). Singapore: Cengage Learning Asia.

Joshanloo, M. (2013). Mental well-being in Iran: the importance of comprehensive well-being in understanding the linkages of personality and values. In C. L. Keyes (Ed.), *Mental well-being: international contributions to the study of subjective well-being and positive mental health* (pp. 177–207). New York: Springer.

Joshanloo, M. (2016a). A new look at the factor structure of the MHC-SF in Iran and the United States using exploratory structural equation modeling. *Journal of Clinical Psychology, 72*, 701–713.

Joshanloo, M. (2016b). Revisiting the empirical distinction between hedonic and eudaimonic aspects of well-being using exploratory structural equation modeling. *Journal of Happiness Studies, 17*(5), 2023–2036.

Joshanloo, M. (2017a). Factor structure and criterion validity of original and short versions of the negative and positive affect scale (NAPAS). *Personality and Individual Differences, 105*, 233–237.

Joshanloo, M. (2017b). Islamic conceptions of well-being. In R. Estes & J. Sirgy (Eds.), *The pursuit of human well-being: the untold global history* (pp. 109–131). Switzerland: Springer International Publishing.

Joshanloo, M., & Bakhshi, A. (2016). The factor structure and measurement invariance of positive and negative affect across gender and cultural groups: a study in Iran and the USA. *European Journal of Psychological Assessment, 32*(4), 265–272.

Joshanloo, M., Bobowik, M., & Basabe, N. (2016). Distinction between hedonic and eudaimonic well-being: contributions of exploratory structural equation modeling. Unpublished manuscript.

Joshanloo, M., Capone, V., Petrillo, G., & Caso, D. (2017). Discriminant validity of hedonic, social, and psychological well-being in two Italian samples. *Personality and Individual Differences, 109*, 23–27.

Joshanloo, M., & Ghaedi, G. H. (2009). Value priorities as predictors of hedonic and eudaimonic aspects of well-being. *Personality and Individual Differences, 47*, 294–298.

Joshanloo, M., & Lamers, S. M. A. (2016). Reinvestigation of the factor structure of the MHC-SF in the Netherlands: contributions of exploratory structural equation modeling. *Personality and Individual Differences, 97*, 8–12.

Joshanloo, M., Rostami, R., & Nosratabadi, M. (2006). Examining the factor structure of the Keyes's comprehensive scale of well-being. *Journal of Iranian Psychologists, 9*, 35–51 (in Persian).

Joshanloo, M., Wissing, M. P., Khumalo, I. P., & Lamers, S. (2013). Measurement invariance of the mental health continuum-short form (MHC-SF) across three cultural groups. *Personality and Individual Differences, 55*(7), 755–759.

Kashdan, T. B., Biswas-Diener, R., & King, L. A. (2008). Reconsidering happiness: the costs of distinguishing between hedonics and eudaimonia. *The Journal of Positive Psychology, 3*(4), 219–233. doi:10.1080/17439760802303044.

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly, 61*, 121–140. doi:10.2307/2787065.

Keyes, C. L. M. (2006). The subjective well-being of America's youth: toward a comprehensive assessment. *Adolescent & Family Health, 4*(1), 3–11.

Keyes, C. L., & Annas, J. (2009). Feeling good and functioning well: distinctive concepts in ancient philosophy and contemporary science. *The Journal of Positive Psychology, 4*(3), 197–201. doi:10.1080/17439760902844228.

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.

Legatum Institute. (2012). The 2012 Legatum Prosperity Index: Methodology and technical appendix. Retrieved from: http://www.prosperity.com

Marsh, H. W., Morin, A. J. S., Parker, P. D., & Kaur, G. (2014). Exploratory structural equation modeling: an integration of the best features of exploratory and confirmatory factor analysis. *Annual Review of Clinical Psychology, 10*(1), 85–110. doi:10.1146/annurev-clinpsy-032813-153700.

Morin, A. J. S., Marsh, H. W., & Nagengast, B. (2013). Exploratory structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: a second course* (2nd ed., pp. 395–436). Charlotte: Information Age Publishing.

Rammstedt, B., & Beierlein, C. (2014). Can't we make it any shorter? *Journal of Individual Differences, 35*(4), 212–220.

Rosellini, A. J., & Brown, T. A. (2011). The NEO five-factor inventory: latent structure and relationships with dimensions of anxiety and depressive disorders in a large clinical sample. *Assessment, 18*(1), 27–38.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*(1), 141–166.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081. doi:10.1037//0022-3514.57.6.1069.

Ryff, C. D. (2014). Psychological well-being revisited: advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics, 83*(1), 10–28.

Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist, 34*(5), 719–751. doi:10.1177/0011000006286345.