Psychometric Analysis of Inflexibility of Happiness in Undergraduate Students: A Reliability and Validity Study

Hacer Belen [ID]

Bursa Uludag University, Turkey

Murat Yildirim [ID]

Ağrı İbrahim Çeçen University, Turkey
University of Leicester, UK

Abstract

The purpose of this study was to evaluate the factor structure, measurement invariance, criterion-related validity, and incremental validity of the Inflexibility of Happiness Scale (IHS) in a sample of 432 undergraduate students from Turkey. To test the factor structure, the sample was split into two subsamples. Exploratory factor analysis (EFA) was conducted in the first subsample and confirmatory factor analysis (CFA) was next conducted in the second subsample. The results of EFA and CFA yielded a single factor structure and measurement invariance across gender was successfully established. In terms of reliability, internal consistency reliability was satisfactory for the IHS. Evidence of criterion-related validity showed that the IHS was positively related to the externality of happiness and negative affect and was negatively related to personality traits and dimensions of psychological well-being. Concerning incremental validity, the results indicated that inflexibility of happiness accounted for a significant amount of variance in predicting domains of psychological wellbeing - purpose in life, personal growth and positive relations over and above the personality traits. Collectively, these results suggest that the IHS is a reliable and valid instrument to measure the inflexibility of happiness beliefs among undergraduate students from Turkey.

Keywords: Inflexibility of happiness scale, well-being, reliability, validity, Turkish adaptation

Introduction

Happiness has been a central focus of the research and public health and conceptualized in different ways for the past few decades. Some researchers described happiness as a higher experience of positive affect, lower experience of negative affect, greater satisfaction with life (Diener, Suh, Lucas & Smith, 1999), and engagement with life challenges (Ryff, 1989). These definitions of happiness focus on adaptive aspects of happiness where happiness is believed to be useful for positive functioning (Lyubomirsky, King, & Diener, 2005). However, different views on the concepts of happiness have been proposed in recent years. For example, as negative conceptions of happiness, fear of happiness (Joshanloo, 2013), externality of happiness (Joshanloo, 2017), and irrational happiness beliefs (Yildirim, 2019) were put forth by happiness scholars and numerous studies documented that such concepts are related to personality traits, coping strategies, arousal and reduced subjective and psychological well-being. As such concepts are linked with vital life outcomes, it is useful to explore negative conceptions in to fully understand the dynamic process of happiness (Yildirim, 2019).

As one of these negative conceptualizations, inflexibility of happiness is a newly presented concept that has been defined as a notion that "one's level of happiness is fixed and unchangeable" (Joshanloo, 2019). The concept has been introduced as a construct that has a potential to negatively affect one's mental health and well-being. Individuals, who hold the belief that happiness cannot be changed, and it is stable, are characterized to possess low levels of control over their happiness and have a tendency to experience more negative feelings, less positive feelings and less satisfied with their life (Joshanloo, 2019).

Corresponding Author: Hacer Belen, Educational Science Department, Psychological Counseling and Guidance, Bursa Uludag University, Turkey. Telephone: 0090 2242942194.
Email: hacerbelen@uludag.edu.tr

Inflexibility of Happiness in a Framework

The concept of inflexibility of happiness can be understood best within the Acceptance and Commitment Therapy (ACT) framework (Hayes, 2012; Hayes, Strosahl, & Wilson, 2012). The ACT model is useful to understand both psychopathology and positive human functioning as the central goal of ACT is to develop psychological flexibility. With proposal of the concepts of psychological flexibility and inflexibility, the model allows us to comprehend patterns of behaviours that are mainly influenced by how people think and feel. Psychological flexibility refers to awareness of the present moment which is required for individuals to pursue their goals and values despite negative feelings, thoughts, and bodily sensations. On the other hand, psychological inflexibility is related to psychological distress that is mainly caused by rigid and inflexible thoughts and behaviours. Thus, conceptually, psychological flexibility can be considered as a model of positive human functioning, and well-being while psychological inflexibility can be considered as a model of psychopathology (Tanhan, 2019). Empirical studies demonstrated that psychological flexibility is positively related to quality of life and well-being (Eilenberg, Hoffmann, Jensen, & Frostholm, 2017; Levin, Hildebrandt, Lillis, & Hayes, 2012) and negatively linked with burnout symptoms (Ruiz, & Odriozola-González, 2017). As such, an array of studies documented that psychological inflexibility is related to increased levels of depression, anxiety, and stress and decreased levels of self-compassion and satisfaction with life (Marshall, & Brockman, 2016), subjective well-being and quality of life (Woodruff et al., 2014). Taking together, the findings of both conceptual and empirical studies, although it is a recent concept, *inflexibility of happiness* appears to emerge as a more negative psychological construct which has potential to affect well-being of others.

Literature of Inflexibility of Happiness

As a recent and an understudied construct, the literature of inflexibility of happiness is unsurprisingly scarce. Previous research has investigated the concept with other negative conceptions of happiness (e.g., inflexibility of happiness, fear of happiness, externality of happiness, valuing happiness, inclusive happiness, and transformative happiness) and their associations with personality traits, demographic variables, various components of well-being, and materialistic values across two different samples, Canada and Korea (Joshanloo, 2019). In terms of eudaimonic well-being,

the study employed social and psychological well-being while emotional well-being and life satisfaction were used for hedonic well-being. The results have indicated that such conceptions of happiness can significantly predict social well-being, psychological well-being, emotional well-being and life satisfaction in Canada and Korea, with conceptions being better predictors in Canada and better predictors for hedonic well-being compared to the eudaimonic well-being. In the same research, personality traits were found to be significant contributors to the prediction of above- mentioned conceptions of happiness with variance ranged between 1.4% and 19.9%, with an average variance of 7% across the two nations. To provide support for the incremental contribution of conceptions happiness in predicting various domains of well-being above and beyond the personality traits and demographic characteristics, Joshanloo (2019) carried out a series of hierarchical regression analyses and results have demonstrated that conceptions of happiness can predict a significant amount of variance in social well-being, psychological wellbeing, life satisfaction, positive affect, and negative affect above and beyond the effects of personality traits, age, and gender. As such findings emphasize, it is vital to investigate negative conceptions of happiness as the concepts are strong predictors of an array of well-being indices beyond personality traits and demographics.

In the literature, there are several measures for assessing negative conceptions of happiness such as Irrational Happiness Beliefs Scale (Yıldırım, 2019), Fear of Happiness Scale (Joshanloo, 2013), and Externality of Happiness Scale (Joshanloo, 2017). Joshanloo (2019) noted the scarcity of measurement tools that fully capture the ideas around negative conceptions of happiness and developed Inflexibility of Happiness Scale (IHS). The new measure was focused on the core and fundamental property of the negative side of happiness that one's happiness is invariant.

The IHS is a brief and single-factor instrument with four negatively worded items. In the original study (Joshanloo, 2019), the unidimensional factor of IHS accounted for 51.98% (Korea) and 60.86% (Canada) of the variance over the 2 different samples tested with principal axis factoring. The factor loadings for the items ranged between .33 (item 4, Korea sample) and .89 (item 2, Canada sample). Acceptable internal consistency reliability was reported α = .69 (Korea) - .78 (Canada). The structure, nomological network and its relevance to well-being were estimated with measures of negative conceptions of happiness, dimensions of well-being, Big

Five personality traits, materialism, and demographic variables.

Other than the original study (Joshanloo, 2019), to the best of our knowledge, there is no evidence on the psychometric properties of the IHS adapted for different cultures. Although the IHS has been validated using samples from collectivistic (Korea) and individualistic (Canada) cultural contexts, there is a need to validate the IHS in different cultural contexts to improve the cultural applicability of the scale. This is necessary to compare research outcomes across cultures using psychometrically and culturally sound measurement tools.

Present Study

The present study aimed to provide evidence of construct validity, criterion-related validity and incremental validity of the Turkish form of IHS. In order to obtain construct validity, the current study hypothesized that exploratory factor analysis results would yield a one-factor structure as IHS was originally found to be unidimensional (Joshanloo, 2019) and confirmatory factor analysis would support the results derived from exploratory factor analysis. In regards with criterion-related validity, the correlation between inflexibility of happiness and externality of happiness, personality traits, positive and negative affect, and dimensions of psychological well-being were examined. It was hypothesized that inflexibility of happiness and externality of happiness scale would be positively correlated with both concepts emphasize the lack of control over one's level of happiness (Joshanloo, 2019). As such, we hypothesized negative affect to be correlated positively with scores of IHS as the concept inflexibility of happiness is considered to be a negative psychological construct. Likewise, we hypothesized that personality traits and dimensions of psychological well-being scale would be negatively correlated with inflexibility of happiness as the concept is considered as a negative psychological construct.

Method

Participants

A sample of 432 students (316 females and 116 males) was drawn from a University in an urban city in the West of Turkey and participants' age ranged between 18 and 38 (M=21.48, SD=2.16). The consent form to participate in the study was obtained via the first page of the online survey. Participants were informed about the purpose of the study, the rights to withdrawal during or after the involvement, anonymity, confidentiality, storage and the disposal of the personal information.

Procedure

Prior to the commencement of the study, permission was obtained from the author of the original scale via email. Forward-backward translation method was used for the translation process of the scale from English to Turkish. One bilingual linguistic expert and two bilingual academics specialized in psychology translated the scale independently from English to Turkish. Translations were rated by three bilingual psychologists in order to assess item-by-item consistency. Turkish version of the scale was translated back into English by bilingual native American and English language experts and compared the inconsistencies. Both versions did not differ noticeably.

Measures

Inflexibility of Happiness Scale (IHS). The IHS is a 4-item self-report measure based on a 7-point Likert scale (1=strongly disagree, 7=strongly agree) and developed to assess individuals' perceptions regarding the stability of their levels of happiness (Joshanloo, 2019). The global score of the scale is obtained via the sum of the items after reversing the negatively worded item (item 4) scores and higher scores on the scale convey the higher levels of inflexibility of happiness beliefs. Internal consistency reliability was found good with a coefficient alpha of .85 in the current study.

Externality of Happiness (EOH). The EOH is a 4-item self-report measure rated based on a 7-point Likert scale (1=strongly disagree, 7=strongly agree) and designed to examine the degree to which individuals perceive their levels of happiness dependent to external factors (Joshanloo, 2017). The total score of the scale is obtained by summing the item scores of the respondents and higher scores on the scale demonstrate higher levels of externality of happiness beliefs. Turkish adaptation of the scale demonstrated satisfactory psychometric properties of the scale (Yildirim, Barmanpek, & Farag, 2018).

Positive and Negative Affect Schedule (PANAS). The PANAS is a 20-item self-report measure based on a 5-point Likert scale (1=very slightly or not at all, 5=extremely) and designed to assess the degree to which a person experiences negative affect (distressed, upset, hostile) or positive affect (proud, inspired, attentive) (Watson, Clark, & Tellegen, 1988). Turkish form of the scale was validated by Gencoz (2000) who reported good internal consistency with a coefficient alpha of .83 for

positive affect and .86 for negative affect and test-retest reliability for PA and NA (.40, .54, respectively).

Scale of Psychological Well-being (SPWB).

SPWB is an 18-item scale that measures each of the following factors: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth (Ryff, 1995). Each factor is assessed using three negatively or positively worded items. The global score of the measure is obtained via the sum of the item scores after reversing negatively keyed items and sum of the scores of the associated factor. Previous studies reported acceptable levels of coefficient alpha in terms of the psychometric properties of the scale ranging from .60 to .75 for the dimensions of the psychological well-being (Li, Kao, & Wu, 2015). Turkish form of the scale was validated by Telef (2013) who reported good psychometric properties of the scale such as coefficient alpha of .80 and test-retest reliability of .86.

Ten-Item Personality Inventory (TIPI).

The TIPI is a 10-item questionnaire based on a 7-point Likert scale (1=disagree strongly 7=agree strongly) and designed to assess personality traits with Big Five Inventory (Gosling, Rentfrow, & Swann, 2003). The measure is composed of five factors (extraversion, conscientiousness, openness to experience, agreeableness, and emotional stability) and each factor is represented by two items. Turkish form of the scale was adapted by Atak (2013) who reported internal consistency reliability of .67 for extraversion, .51 for agreeableness, .55 for conscientiousness, .62 for emotional stability, and .55 for openness to new experience.

Data Analysis

In order to examine the factor structure of Inflexibility of Happiness Scale, the total sample (n=432) was half split. One half (n=216) was employed for exploratory factor analysis and the other half for confirmatory factor analysis. Exploratory factor analysis was conducted with principal axis factoring with direct oblimin rotation and as the factor structure of the scale was determined by exploratory factor analysis, confirmatory factor analysis was performed with maximum likelihood method in order to confirm the factor structure obtained from EFA. Several fit indices were employed since studies take a range of fit statistics into account in order to evaluate the final model. The current study reports chi-square statistics depending on its sensitivity, Standardized Root Mean Square Residual (SRMR), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) and, finally, we report Chi-Square/DF ratio for parsimonious fit index. Calculations were performed using SPSS Amos 23.

In order to demonstrate measurement invariance across gender, we used chi-square difference test, ΔCFI and ΔSRMR with the total sample (N=432). First, we investigated measurement model for females (N=216) and males separately (N= 216). Then, we examined the configural model in which we tested the measurement model without imposing constraints. Finally, we also tested constrained models for factor loadings, item intercepts and item residuals. In chi-square difference test, insignificant alpha at .005 probability level for $\Delta\chi2$ between the configural model and the constrained models is indicative of invariance across groups while values less than .01 for ΔCFI and ΔSRMR is the criterion for the same interpretation. Thus, we tested significance levels of $\Delta\chi2$ between the configural model, factor loadings, item intercepts and item residuals, and we employed ΔCFI and ΔSRMR in terms of providing measurement invariance across gender groups.

In order to provide evidence for criterion-related validity, correlational analyses were conducted between inflexibility of happiness and externality of happiness, personality traits, positive and negative affect, and dimensions of psychological well-being. In this regard, we hypothesized that inflexibility of happiness, externality of happiness and negative affect would be positively correlated while we expect negative correlations with personality traits and dimensions of psychological well-being. In order to provide incremental validity, the incremental contribution of inflexibility of happiness on dimensions of psychological well-being (purpose in life, personal growth and positive relations) beyond personality traits was investigated.

Table 1. Descriptive statistics for items of IHS

Items	Min	Max	Mean	SD	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
Item 1	1	7	3.39	1.43	.374	.117	-.360	.234
Item 2	1	7	3.22	1.48	.516	.117	-.304	.234
Item 3	1	7	2.83	1.39	.751	.117	.010	.234
Item 4	1	7	2.88	1.43	.813	.117	-.013	.234

Results

Prior to conducting exploratory and confirmatory factor analyses, we assessed descriptive statistics and the data distribution for each item in Inflexibility of Happiness Scale. As Table 1 indicates, no severe violations of the normal hypotheses were encountered in terms of skewness and kurtosis values (West, Finch & Curran, 1995).

Exploratory Factor Analysis (EFA)

Exploratory factor analysis using principal axis factoring with direct oblimin rotation method was performed on data as the items are expected to correlate. Results indicated that Kaiser-Meyer-Olkin value was .78 (greater than .50) and the Barlett'sTest of Sphericity value was significant (.001) supporting the adequacy of the scale for exploratory factor analysis. As a rule of thumb, the factorial structure of the scale was determined based on three criteria: Eigenvalues greater than 1, scree plot analysis and pattern matrix. According to EFA results, a one-factor structure with an eigenvalue of 2.78 explained 60.88% of the total variance. Factor loadings ranged between .86 and .59 as demonstrated in Table 2.

Confirmatory Factor Analysis (EFA)

In order to test the one-factor structure of the scale derived from exploratory factor analysis, confirmatory factor analyses were employed. Multivariate normality was assessed by using Mardia's Multivariate Normality Test (Mardia, 1974) and the results indicated multivariate non-normality for the current study as multivariate kurtosis coefficient is greater than 1.96 (CR=9.26). In order to eliminate the normal theory constraints, bootstrap sampling with a Bollen-Stine test statistic was used with 500 bootstrapped samples. Although non-significant Bollen-Stine p-value is indicative of good global fit (p=.06), other fit indices were examined in order to determine the goodness of fit. The fit statistics suggested that model provided a good fit to the data (χ^2=7.234, p=.02, χ^2/df= 3.6, CFI= .988, GFI= .98, IFI= .979, SRMR= .06). Results yielded high factor loadings between items and their respective factors (Figure 1).

Measurement Invariance

Before testing for measurement invariance, we separately estimated factor models for females (n=316) and male participants (n=116). Results demonstrated a good model fit for both genders (Byrne, 2001; Hu & Bentler, 1999). The configural model also indicated a good model-data fit in regards with the fit statistics such as SRMR and CFI. Then, we performed chi-square difference test and results indicated that significance levels of $\Delta\chi^2$ for factor loadings, item intercepts, and item residuals are greater than probability level (0.05) suggesting the measurement invariance across gender groups. Additionally, we examined ΔSRMR and ΔCFI in order to investigate whether unstandardized factor loadings (metric invariance) and item intercepts (scalar invariance) are invariant in regards with gender criterion and the results demonstrated that ΔSRMR and ΔCFI were less than .01 indicating that factor score estimates used for linear equations are practically equivalent for both of the genders. Thus, measurement invariance was obtained based on gender-related criterion (see Table 3).

Criterion-Related Validity

In order to provide evidence for criterion-related validity of the scale, the current study examined the relationship between IHS and externality of happiness, personality traits, negative and positive affect, and the dimensions of psychological well-being (Table 4). As hypothesized, moderate and small, though significant and positive correlations were found between inflexibility of happiness, externality of happiness and negative affect while small and negative correlations were found with personality traits (Cohen, 1988). In terms of well-being and inflexibility of happiness, correlation analyses revealed small to moderate and negative correlations between IHS and dimensions of psychological well-being scores. Emotional stability and positive affect were not found to be correlated with inflexibility of happiness.

Incremental Validity

To be parsimonious, the current study conducted hierarchical multiple regression analysis to examine the incremental value of IHS scores in predicting indicators of psychological well-being after accounting for personality traits. In each of the regression models, dimensions of psychological well-being were considered as dependent variables, whereas inflexibility of happiness and personality traits were conceptualized as independent variables (Table 5). For each of the regression analyses, personality traits were entered into the models in the first step and results demonstrated that five personality traits significantly predicted all dimensional scores of psychological well-being. In the second step, inflexibility of happiness was included in the models for each regression analyses and IHS scores uniquely accounted for a significant amount of variance in three dimensions of psychological well-being, namely purpose in life, personal growth and positive relations.

Table 2. Factor loadings of principal axis factoring for IHS

Language	Items	Loadings
Turkish	*Bir kimsenin mutluluk düzeyi onunla ilgili çok temel bir şeydir ve çok fazla değiştirilemez*	.87
English	A person's level of happiness is something very basic about them, and it can't be changed much	
Turkish	*Bir kimsenin mutlu olması veya olmaması kişiliğinin derinlerine yerleşmiştir ve çok fazla değiştirilemez*	.86
English	Whether a person is happy or not is deeply ingrained in their personality. It cannot be changed very much.	
Turkish	*Bazı insanlar çok mutludurlar ve bazıları değildirler. İnsanlar gerçekten de mutluluk düzeylerini değiştiremezler.*	.77
English	Some people are very happy, and some aren't. People can't really change how happy they are.	
Turkish	*Kim olursa olsun, insanlar mutluluk düzeylerini her zaman değiştirebilir.*	.59
English	No matter who somebody is, they can always change how happy a person they are.	

Results demonstrated that inflexibility of happiness scores uniquely explained 2% (purpose in life; $F_{(1,425)}=10.28$, $p \le .001$), 3% (personal growth; $F_{(1,425)}=21.87$, $p \le .001$) and 1% of the variance ($F_{(1,425)}=10.17$, $p \le .01$) in the components of well-being beyond the effect of personality traits.

Discussion

The present study offers a further exploration of the lay conceptions of happiness, inflexibility of happiness, which is a new research area that has, to date, been neglected from psychological research attention. In general, this study attempted to better understand the underlying factors structure of inflexibility of happiness, correlates and outcomes of happiness. In particular, our investigation aimed to validate a Turkish version of the IHS, which was originally developed for use in English speaking population and cross-validated for use in Korean speaking population (Joshanloo, 2019).

Replicating previous research findings in Western and East Asian countries, the current study indicated that inflexibility of happiness beliefs had positive relationship with externality of happiness beliefs, negative affect and negative relationships with aspects of psychological well-being and personality traits. These results are congruent with the results of Joshanloo (2019) who reported a significant association of inflexibility of

happiness with different forms of well-being - social well-being, psychological wellbeing, and subjective well-being –and personality traits. The relationship between inflexibility of happiness and other conceptions of happiness and their relationship with well-being and personality are also consistent with the previous research outcomes on conceptions of happiness reported in Turkey (e.g., Yildirim, 2019; Yildirim& Aziz, 2017;Yildirim & Belen,2019) and other countries (e.g., Agbo & Ngwu, 2017; Joshanloo, 2018).

Concerning the instrument's psychometric features, the current investigation indicates that the IHS has a good level of reliability in terms of internal consistency. This suggests that researchers can use the IHS to obtain reliable information about one's general beliefs of inflexibility of happiness. However, other types of reliability such as temporal stability and test re-test reliability need to be tested to fully ensure the reliability of the scale.

This study also offers evidence to support the construct validity of the IHS. Using EFA and CFA to evaluate the instrument's structural validity, the results showed that the original one-factor structure proposed by Joshanloo (2019) has been replicated among Turkish undergraduates.

Table 3. Measurement invariance across gender

Models	χ^2	df	$\Delta\chi^2$	Δdf	SRMR	ΔSRMR	CFI	ΔCFI
Female	11.45	2			0.03		.99	
Male	10.80	2			0.09		.96	
Configural	22.29	4			0.05		.98	
Factor loading	24.88	7	2.59	3	0.06	0.01	.98	-.001
Item intercept	24.88	8	2.59	4	0.06	0.01	.98	-.002
Item residual	36.06	12	13.76	8	0.08	0.03	.97	.006

The results of measurement invariance demonstrated that the proposed factor structure was invariant for both male and female groups. These results provide strong support for the structural validity of the scale in a non-western sample.

To assess criterion-related validity, we investigated the correlations of IHS with externality of happiness, domains subjective well-being and psychological well-being as well as personality traits. As expected, inflexibility of happiness shared positive relationships with negative affect and externality of happiness beliefs and had negative relationships with autonomy, purpose in life, environmental mastery, personal growth, positive relations, and self-acceptance, extraversion, agreeableness, conscientiousness, and openness to new experiences.

Regarding incremental validity, we found that inflexibility of happiness significantly predicted three domains of psychological well-being, namely purpose in life, personal growth and positive relations with others, over and above the personality traits. These three domains were generally predicted similarly by the inflexibility of happiness. This means inflexibility of happiness accounted for a significant amount of variance over and above the personality traits. It also suggests that having negative beliefs about happiness are associated with reduced levels of experienced psychological well-being despite the effect of personality traits. This is consistent with previously reported findings by Joshanloo (2019). The association between inflexibility of happiness and different forms of well-being is also in accordance with results reported in the light of the ACT model.

Previous studies showed that inflexibility has a significant positive relationship with psychological distress such as depression, anxiety, and stress (Marshall & Brockman, 2016) and significant negative relationship with well-being and quality of life (Woodruff et al., 2014). A recent systematic review study highlights that the ACT can be used to promote wellbeing and address psychological problems (Tanhan, 2019). The negative impact of inflexibility of happiness on well-being reported in this study can be reduced with an ACT-based approach which aims to improve psychological flexibility.

This study could significantly contribute to the literature for several reasons. First, the translation of IHS in Turkish culture could promote studies on lay conceptions of happiness. Having such adaptation studies would allow researchers to compare their research outcomes across cultures and it can be a fruitful measurement tool to understand lay conceptions of happiness among participants from Turkey. Second, considering that positive psychology aims to gain insight into well-being and offers productive ways to improve the well-being of individuals.

Table 5. Incremental value of IHS beyond personality traits

Variable	Purpose in life				Personal growth				Positive relations			
	B	β	t	p	B	β	t	p	B	β	t	p
Step 1												
Extraversion	-.05	-.08	-1.5	.122	.08	.14	3.02	.003	.13	.18	4.08	.000
Agreeableness	.12	.12	2.4	.013	.13	.14	3.19	.002	.44	.37	8.85	.000
Conscientious	.20	.21	3.8	.000	.23	.25	5.33	.000	.17	.16	3.47	.001
Emotional S	-.03	-.04	-.92	.357	.04	.06	1.45	.146	.01	.01	.43	.663
Openness	-.01	-.01	-.01	.987	.14	.16	3.53	.000	.08	.08	1.78	.076
Step 2												
IHS	-.07	-.15	-3.20	.001	-.08	-.19	-4.67	.000	-.06	-.13	-3.19	.002
Variable	Environmental mastery				Self-acceptance				Autonomy			
	B	β	t	p	B	β	t	p	B	β	t	p
Step 1												
Extraversion	.11	.18	4.07	.000	.26	6.24	.01	.003	.02	.03	.73	.465
Agreeableness	-.01	-.01	-.02	.984	.13	3.40	.01	.002	-.18	-.20	-4.18	.000
Conscientious	.31	.34	7.27	.000	.37	8.75	.01	.000	.15	.18	3.41	.001
Emotional S	.20	.26	6.14	.000	.16	4.17	.000	.14	.11	.15	3.15	.002
Openness	-.01	-.01	-.41	.678	.04	1.05	.292	.01	.09	.11	2.27	.024
Step 2												
IHS	-.01	-.01	-.36	.717	-.01	-.03	-.945	.34	-.02	-.05	-1.03	.300

Note. Conscientious= Conscientiousness, Emotional S=Emotional stability, IHS= Inflexibility of Happiness

Table 4. Intercorrelations between study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Infexibilit of happiness	1														
2.Externality of happiness	.44**	1													
3.Extraversion	-.20**	-.26**	1												
4.Agreeableness	-.13**	-.20**	.20**	1											
5.Conscientiousness	-.19**	-.42**	.32**	.32**	1										
6.Emotional stability	-.06	-.21**	.10*	.17**	.36**	1									
7.Openness to experiences	-.28**	-.26**	.45**	.18**	.32**	.17**	1								
8.Negative affect	.10*	.32**	-.26**	-.29**	-.49**	-.42**	-.23**	1							
9.Positive affect	-.06	-.22**	.34**	.15**	.45**	.36**	.28**	-.30**	1						
10.Autonomy	-.10*	-.11*	.13**	-.08	.22**	.21**	.19**	-.21**	.24**	1					
11.Purpose in life	-.18**	-.21**	.03	.17**	.21**	.04	.04	-.07	.06	.02	1				
12.Environmental mastery	-.13**	-.38**	.31**	.19**	.49**	.40**	.22**	-.35**	.41**	.26**	.05	1			
13.Personal growth	-.33**	-.37**	.34**	.29**	.43**	.23**	.35**	-.30**	.37**	.18**	.36**	.40**	1		
14.Positive relations	-.26**	-.30**	.35**	.48**	.38**	.17**	.29**	-.30**	.21**	.01	.20**	.30**	.45**	1	
15.Self-acceptance	-.20**	-.35**	.44**	.34**	.57**	.35**	.33**	-.38**	.45**	.23**	.13**	.54**	.51**	.42**	1

Note. **p. ≤0.01 level. *p. ≤0.05.

Acquiring knowledge about different perceptions around happiness or well-being would be useful to broadly understand and improve human happiness. Thus, it is necessary to collect evidence with a reliable and valid instrument tool that informs applied research.

Limitations

In the present study, there are some areas that need improvement in future research. First, this study investigated only two negative conceptions of happiness (IHS and externality of happiness) and their relationships with several components of subjective and psychological well-being. Future research should consider other lay conceptions of happiness (irrational happiness beliefs, fear of happiness, the fragility of happiness and valuing happiness) to fully examine how negative conceptions of happiness are related to well-being. In this study, all data were collected via self-report questionnaires. Given the restrictions pertaining to self-report format, future research should also extend the data collection technique using different data collection tools such as peer feedback. Second, the participants of this study comprised of participants from 18 to 38 years old ($M =$ 21.50, $SD = 2.13$), an age period that did not entirely represent the whole population. Subsequent studies can consider evaluating the psychometric properties of the IHS in different age groups such as adolescents and elderly people. Third, the present findings cannot be generalized to entire Turkey due to the cultural diversity which may require particular attention. The city where

the study was conducted is the fourth-largest metropolitan city in Turkey and hosts more than 3 million of people from all over the country. The demographic characteristics of the population in the city are much more diverse than those central, eastern, northern or more rural areas of Turkey. Thus, the conclusions drawn from the current results may only hold true for the students in the western metropolitan areas of Turkey. There is a need to replicate the emergent findings to obtain a better understanding of the link between IHS and well-being indicators but enhance the generalizability of the findings by sampling participants with a broader age range from all parts of Turkey. Future research should address these limitations to improve the reliability and validity of the scale.

Future Studies and Implications

An important task for future studies is to investigate whether inflexibility of happiness reduces well-being, or whether individuals low in well-being tend to hold more inflexibility of happiness beliefs, or both. In a similar vein, it is unclear whether people with adaptive personality traits hold less belief about inflexibility of happiness, or whether people who have high levels of inflexibility of happiness hold more maladaptive personality traits. Thus, such aspects should be illuminated in future research. In terms of practical implications, the findings of the current study suggest that individuals' belief regarding the inflexible nature of happiness is associated with decreased levels of well-

being. Given that the ACT-based approach can improve mental health (Bond & Bunce, 2000), interventions grounding on the ACT model might be instilled to reduce dysfunctional happiness-related beliefs of those who have high levels of inflexibility of happiness, which in turn may improve their subjective and psychological well-being.

In conclusion, this study indicated that the IHS is a reliable and valid instrument in measuring overall beliefs that one's level of happiness is fixed and unchangeable. We found that the Turkish IHS has a good structural, criterion-related and incremental validity with a satisfactory level of internal consistency reliability. The scale can be confidently used for research and practical purposes.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

ORCID

Hacer Belen https://orcid.org/0000-0001-9065-3504
Murat Yildirim https://orcid.org/0000-0003-1089-1380

References

Agbo, A. A., & Ngwu, C. N. (2017). Aversion to happiness and the experience of happiness: The moderating roles of personality. *Personality and Individual Differences*, *111*, 227-231.

Atak, H., Kapçi, E. G., & Çok, F. (2013). Evaluation of the Turkish version of the multi-measure agentic personality scale. *The Journal of Psychiatry and Neurological Sciences*, *26*(3), 36-45.

Bond, F. W., & Bunce, D. (2000). Mediators of change in emotion-focused and problem-focused worksite stress management interventions. *Journal of Occupational Health Psychology, 5*, 156–163 doi: 10.1037//1076-8998.5.1.156

Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, *1*(1), 55-86.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*, (2nd ed). Hillsdale, NJ: Erlbaum.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*(2), 276-302.

Eilenberg, T., Hoffmann, D., Jensen, J. S., & Frostholm, L. (2017). Intervening variables in group-based acceptance & commitment therapy for severe health anxiety. *Behaviour Research and Therapy*, *92*, 24-31.

Gençöz, T. (2000). Positive and Negative Affect Schedule: A study of validity and reliability. *Türk Psikoloji Dergisi*, 15 (46), 19-26.

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*(6), 504-528.

Hayes, S. C. (2010). *The ACT model and approach [DVD 3].* United States: Premier Education Solutions.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). New York, NY: The Guilford Press.

Hu, L. T., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55.

Joshanloo, M. (2013). The influence of fear of happiness beliefs on responses to the satisfaction with life scale. *Personality and Individual Differences, 54*, 647–651.

Joshanloo, M. (2017). Mediators of the relationship between externality of happiness and subjective well-being. *Personality and Individual Differences*, *119*, 147-151.

Joshanloo, M. (2018). Fear and fragility of happiness as mediators of the relationship between insecure attachment and subjective well-being. *Personality and Individual Differences*, *123*, 115-118.

Joshanloo, M. (2019). Lay Conceptions of Happiness: Associations with Reported Well-Being, Personality Traits, and Materialism. *Frontiers in Psychology, 10*, 2377.

Levin, M. E., Hildebrandt, M. J., Lillis, J., & Hayes, S. C. (2012). The impact of treatment components suggested by the psychological flexibility model: A meta-analysis of laboratory-based component studies. *Behavior Therapy*, *43*(4), 741-756.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness

lead to success? *Psychological Bulletin, 131*(6), 803-855.

Mardia, K. V. (1974). Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. *Sankhyā: The Indian Journal of Statistics, Series B*, 115-128.

Marshall, E. J., & Brockman, R. N. (2016). The relationships between psychological flexibility, self-compassion, and emotional well-being. *Journal of Cognitive Psychotherapy*, *30*(1), 60-72.

Mauss, I. B., Tamir, M., Anderson, C. L., and Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion* 11, 807-815. doi: 10.1037/a0022010

McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112-127.

Ruiz, F. J., & Odriozola-González, P. (2017). The Predictive and moderating role of psychological flexibility in the development of job burnout. *Universitas Psychologica*, *16*(4), 282-289.

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.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*, 719–727.

Tanhan, A. (2019). Acceptance and commitment therapy with ecological systems theory: Addressing Muslim mental health issues and wellbeing. *Journal of Positive Psychology and Wellbeing*, *3*(2), 197-219.

Telef, B. B. (2013). Psikolojik iyi oluş ölçeği: Türkçeye uyarlama, geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *28*(28-3), 374-384.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology,54*(6), 1063.

West, S. G., Finch, J. F., & Curran, P. J. (1995). *Structural equation models with non-normal variables: Problems and remedies.* In R. H. Hoyle (Ed.), Structural equation modeling: Concepts, issues, and applications (pp. 56–75). Thousand Oaks, CA: Sage.

Woodruff, S. C., Glass, C. R., Arnkoff, D. B., Crowley, K. J., Hindman, R. K., & Hirschhorn, E. W. (2014). Comparing self-compassion, mindfulness, and psychological inflexibility as predictors of psychological health. *Mindfulness, 5*(4), 410-421.

Yıldırım, M. (2019). *Irrational Happiness Beliefs: Conceptualization, Measurement and Its Relationship with Well-being, Personality, Coping Strategies, and Arousal,* (Unpublished Doctoral Dissertation). University of Leicester, Leicester, UK

Yildirim, M. (2019). Mediating role of resilience in the relationships between fear of happiness and affect balance, satisfaction with life, and flourishing. *Europe's Journal of Psychology*, *15*(2), 183-198.

Yildirim, M., & Aziz, I. A. (2017). Psychometric properties of Turkish form of the Fear of Happiness Scale. *The Journal of Happiness & Well-Being*, *5*(2), 187-195.

Yildirim, M., Barmanpek, U., & Farag, A. A. (2018). Reliability and validity studies of Externality of Happiness Scale among Turkish Adults. *European Scientific Journal*, *14*(14), 1-17.

Yildirim, M., & Belen, H. (2019). The role of resilience in the relationships between externality of happiness and subjective well-being and flourishing: A structural equation model approach. *Journal of Positive Psychology and Wellbeing*, *3*(1), 62-76.