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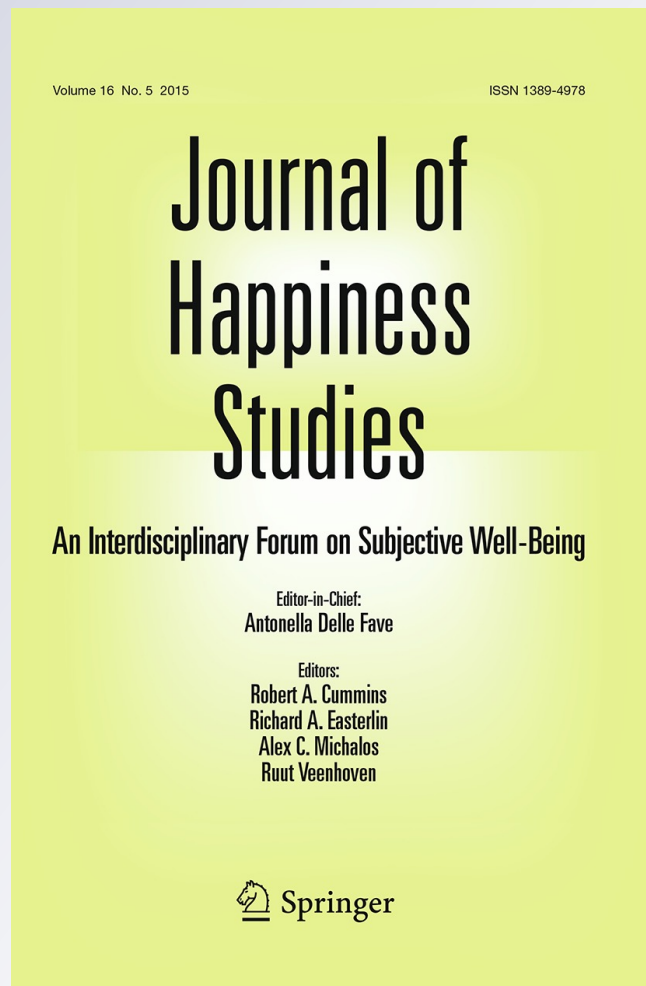
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Abstract The belief that happiness is fragile—that it is fleeting and may easily turn into less favourable states—is common across individuals and cultures. However, not much is known about this belief domain and its structure and correlates. In the present study, we use multigroup confirmatory factor analysis and multilevel modelling to investigate the measurement invariance, cross-level isomorphism, predictive validity, and nomological network of the fragility of happiness scale across 15 nations. The results show that this scale has good statistical properties at both individual and cultural levels, and is associated with relevant psycho-social concepts in expected directions. The importance of the results, limitations, and potential directions for future research are discussed.

The contribution of authors other than the corresponding author was equal and thus the second to last names are ordered alphabetically.

Happiness is like trying to hold water in your hands.

Michelangelo Antonioni.

Happiness is like a butterfly which appears and delights us for one brief moment.

Anna Pavlova.

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Keywords Fragility of happiness · Happiness · Well-being · Culture · Fear of happiness

1 Introduction

Despite thousands of research papers published on happiness (Diener 2013), very little has been published on how the concept of happiness is understood (Joshanloo 2014; Oishi 2010; Wierzbicka 2004), and much less has been published on the idea that happiness is fragile (but see Joshanloo 2013a; Lyubomirsky 2000). The belief that happiness is fragile can best be understood as belief in the idea that feelings of happiness are fleeting and may easily turn into less favourable states and feelings. Most of the evidence points towards belief in the fragility of happiness being a widespread phenomenon. From ancient to modern times, people around the world have believed that all worldly phenomena, including human happiness, are largely governed by luck, fate, or the Gods. And, since these governors of happiness are believed to be both capricious and outside of human control, a popular and sometimes irresistible conclusion about happiness is that it is fleeting and can easily change into less pleasant states.

To what extent do people believe that happiness is fragile? And is the belief that happiness is fragile a culturally specific phenomenon? What are the predictors and consequences of holding such a belief about happiness? To provide preliminary responses to these questions, the present paper elucidates the concept of fragility of happiness in two ways. First, the historical, cultural, and empirical evidence for the belief that happiness is fragile is reviewed. Second, the fragility of happiness scale (Joshanloo 2013a), is used to investigate this belief across a wide range of cultures.

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1.1 Historical and Cultural Evidence

Although human agency plays some role in our happiness, lasting happiness requires good luck (Bellioiti 2004). Our genetic endowments and many of the external conditions that contribute to our happiness are out of our control. As such, nothing that we do can guarantee happiness will follow. Furthermore, as it is impossible to be impervious to all potential misfortunes, no state of happiness is everlasting. This notion dates back to the dawn of history. Our distant forebears believed that “happiness is what happens to us, and over that we have no control” (McMahon 2006, p. 19). This idea made ancient Greeks regard happiness as largely beyond human agency, something to be left to the Gods, luck, or blind fate to decide (McMahon 2008).

Likewise, ancient Asian traditions recognized that life circumstances are impermanent and outside of our control. Indian religious views hold that

the physical reality is fluid, temporary, and of transitory nature. It is in a constant flux. Submitting to this kind of reality is constraining and oppressive as it is contingent on immediate and changing circumstances. It reflects a momentary phase within a larger cosmic existence. In this sense there is no possibility of possession and accumulation of happiness. (Misra 2009, p. 86)

Buddhism recognizes the constant changeability of the phenomenal world. This doctrine posits that even if one is happy, “there is a disquieting uncertainty to be endured regarding what the next moment will bring. This uncertainty gives rise to unsteadiness and uneasiness...” (Kwee 2012, p. 265). Similarly, in Taoism, all things in the world are seen to be in a state of constant change. When happiness reaches the limit, misery comes around. Everything has the seed of its opposite within itself, and so eventually reverts to its opposite (Chen 2006; Peng et al. 2006). What follows is that happiness and unhappiness constantly take turns, and a reversal of happiness should always be expected.

Given the well-established heritage of these ideas, it is not surprising that evidence of fragility of happiness beliefs can also be found in many individuals and cultures today. For example, many contemporary religious traditions emphasize these ideas, including the impermanent, transient, and constantly changing nature of the phenomenal world. And, given the assumption of universal impermanence, these religious traditions are essentially doubtful about the possibility of finding lasting and true happiness in the material world. As these religious traditions include many of the most influential on contemporary culture, including Christianity (Charry 2011; Strawn 2012), Islam (Izutsu 1971), Hinduism (Menon 2013), Taoism (Chen 2006) and Buddhism (Kwee 2012), it is not surprising that the notion of fragility of happiness is still commonly endorsed in the modern world. The popularity of this idea in the contemporary world is confirmed in Oishi et al. (2013) study, which found that the use of the word happiness to convey luck, fate, or fortune was present in 80 % of a sample of current dictionary definitions of happiness in about 30 nations.

Although beliefs in the external influences on happiness and its fragility are commonly espoused in modern times, it is also important to note that the progression to contemporary times has seen an increasing emphasis on human agency and control in obtaining and preserving happiness (Oishi et al. 2013). As reflected by nearly every book in the ever-expanding self-help sections of bookstores, the idea here is that happiness is not fragile if you exercise your autonomy in the right way. Indeed, modern people seem to give more credibility to the belief that sustained happiness is achievable, and should be actively pursued by proactively taking control of our lives (Oishi 2012). This shift in perspective is to be expected in view of the advancements in technology, medicine, legislation, and social

welfare that contribute to longer life expectancy and a sense of security in modern life. These developments in recent centuries have contributed to the idea that sustained happiness is not an unrealistic ideal but an achievable goal, and possibly even a natural right (Tatarkiewicz 1976).

Whereas the emphasis on human control over one's happiness seems to have risen worldwide, it is believed to be more strongly endorsed in western individualistic cultures (Joshanloo 2014). Ever since the Enlightenment, increasing numbers of westerners started to believe that happiness is not only attainable but also a legitimate and worthwhile goal of human life (McMahon 2006). Rising individualism in western nations has led many individuals to imagine that they can completely control their fate (Becker and Marecek 2008). In these cultures, happiness is imagined to be boundless and attainable for everybody if sought (Uchida and Kitayama 2009). Due to the emphasis on human control, autonomy, and rationality accompanying the Enlightenment, westerners have started to feel more in control of their life affairs, including their happiness.

In contrast, non-western constructions of reality recognize many external constraints (e.g., human, natural, and spiritual) that restrict the influence of human individual efforts. Eastern conceptions of happiness place a great emphasis on social and interpersonal aspects of well-being, highlighting the influence of uncontrollable external factors as an inherent part of the experience of well-being (Joshanloo 2014). Therefore, it seems that the more autonomy and personal agency are emphasised in a culture, the more happiness is seen as under one's personal control and thereby subject to stabilization through intentional action. In contrast, cultures in which belief in external loci of control is more prevalent are likely to engender beliefs that many human affairs, including happiness, are out of one's control and thereby fragile.

In sum, from ancient to modern times, people around the world have believed that happiness is fragile because it is not completely within our control, and many external circumstances can cause our happiness to quickly decrease and even be replaced with unhappiness. However, in recent centuries, the emphasis on internal and controllable aspects of the self and happiness seems to be growing. Yet, this emphasis seems to be currently stronger in western individualistic cultures, which stress more heavily the importance of achieving and controlling happiness.

1.2 Empirical Evidence

There is a dearth of research directly targeting beliefs regarding the fragility of happiness and their consequences. However, relevant evidence is obtainable. Labroo and Mukhopadhyay's (2009) series of experiments revealed that there were individual differences in the lay beliefs that emotional states (including happiness) are fleeting versus lasting, and that these beliefs had some consequences for affect regulation. In a direct study of beliefs about the fragility of happiness, Lyubomirsky (2000) found that Americans (relative to Russians) reported that happiness was more achievable and stable. In an experimental study, Ji et al. (2001) presented linear and nonlinear trends to their American and Chinese participants, and asked them to select the trend that best represented their happiness through their lifetime, from the beginning to the end. It turned out that the Chinese endorsed nonlinear choices more than Americans, suggesting that Chinese people are more likely than Americans to predict a reversal in their happiness status, which is consistent with regarding happiness as fragile.

A number of qualitative studies support the argument that non-westerners see happiness as more easily influenced by external conditions. For example, Lu et al. (Lu 2001; Lu and

Gilmour 2004) asked Taiwanese and American students to give their opinions about what happiness is. Some of the participants in both groups generated responses pointing to the importance of autonomy and self-agency. However, such responses were more dominant in the American sample. Furthermore, the American participants emphasized controlling one's own destiny and freedom to be oneself, whereas the Taiwanese participants emphasized accepting one's fate, being governed by moral principles, and coming to terms with one's environment. In another qualitative study, Salvadorians were found to stress more the external sources of happiness (e.g., socio-environmental conditions), whereas Americans and Canadians stressed more personal and internal sources of happiness (e.g., personal strengths) (Chiasson et al. 1996). Finally, in another qualitative study, researchers asked participants to write different aspects, features, or effects of happiness. The results showed that Japanese participants generated more responses associated with fragility of happiness (e.g., not lasting long, elusive) than Americans (Uchida and Kitayama 2009).

Previous cross-cultural research has produced a large body of evidence that is consistent with the idea that westerners have a more agentic and internal view of various life domains, including happiness, whereas non-westerners give more credit to external factors, such as luck, fate, and other people. It has been shown that values mastery and autonomy are more strongly endorsed in western nations than in nonwestern ones (Schwartz 2009). Research shows that non-westerners score higher on scales of external locus of control compared to westerners (Smith et al. 1995). Prior research has also found that cultures vary with respect to their endorsement of a belief domain called *fate control*, which refers to the idea that life events are predetermined (Leung and Bond 2008). The results of a large-scale survey showed that generally non-western nations scored higher than western nations on this belief domain (Bond et al. 2004; Leung and Bond 2008).

Another relevant psychological construct with potentially important consequences for one's sense of mastery over one's happiness is personal sense of control. Empirical evidence suggests that western cultures generally endorse primary control (involving striving to shape one's life through influencing the environment), whereas non-western cultures tend to endorse secondary control more strongly (Heine 2007; Joshanloo 2014; Rothbaum et al. 1982). Secondary control involves aligning oneself with the external environment, and leaving the external realities unchanged. Thus, primary control is consistent with regarding happiness as more subject to human agency, and secondary control is consistent with regarding happiness as the ability to successfully accommodate to environmental effects.

These cultural differences affect the ways in which cultures construe happiness. For instance, Lu and Gilmour (2006) found that their Chinese participants were more socially-oriented (emphasizing the effect of others and the importance of fulfilling social duties) in their understanding of happiness than the Americans, whereas the Americans were more individually oriented. For example, Americans endorsed more strongly the beliefs that happiness is a born right, that happiness is personal successes, and that happiness should be actively pursued. Taken together, the cultural considerations and empirical evidence reviewed so far indicate that westerners value mastery, autonomy, and primary control more than easterners do. The western autonomy-oriented approach is more consistent with regarding happiness as a matter of personal choice, which is more or less under an individual's control. In contrast, easterners are more likely to acknowledge the importance of external factors on one's happiness, and thus are more likely to view happiness as an evanescent, fleeting phenomenon, than westerners.

1.3 Predictions of the Present Study

The goal of this paper is to assess the statistical properties of the fragility of happiness scale (Joshanloo 2013a) in a wide range of cultures. This scale measures the extent to which people regard happiness as something that is fleeting and can easily change into unhappiness. In other words, belief in the fragility of happiness means belief that happiness quickly diminishes and is often immediately replaced with negative states.

To investigate the cross-cultural validity of the fragility of happiness scale, we test the measurement invariance of this scale. Measurement invariance refers to the idea that “an assessment tool and resultant latent variable representation provide equivalent measurement information across different groups” (Selig et al. 2008, p. 94). Establishing measurement invariance is necessary for a meaningful cross-group comparison, as it shows whether the fragility of happiness scale can be applied across a wide range of cultures, and the results in various cultures can be meaningfully compared. We also establish cross-level isomorphism of the fragility of happiness scale. For a concept to be considered a culture-level (or collective) construct, it is necessary to establish that the structure of the concept holds at the cultural level. If the structure that characterizes individuals can also be applied to cultures, multilevel isomorphism is established (Adamopoulos 2008; Fontaine 2008).

1.3.1 *Nomological Network at the Individual Level*

Endorsing fragility of happiness beliefs may be associated with devaluing happiness. That is, regarding happiness as inherently fleeting can reduce the importance that one attaches to it in life relative to other ideals. Those who attach less importance to happiness as an ideal may actually experience it less frequently or less intensely (Diener et al. 2013). Therefore, we expect fragility of happiness to be associated with lower subjective well-being.

Fragility of happiness includes the notion that happiness is quickly replaced by less favourable states or unhappiness. This belief is conceptually associated with fear of happiness. Fear of happiness is the belief that happiness *causes* bad things to happen and, thus, should be avoided (Joshanloo 2013b; Joshanloo and Weijers 2014). Fear of happiness and fragility of happiness are related in that both involve the idea that happiness may be replaced by negative states. Therefore, we expect these two variables to be positively associated.

1.3.2 *Nomological Network at the National Level*

We expect belief in the fragility of happiness to be less prevalent in more individualistic nations. Individualism involves centralizing individual goals and achievements as well as personal control (Oyserman et al. 2002), which is consistent with regarding happiness as subject to human control, and contingent on personal effort. It seems that one aspect of individualism that reduces the attraction of fragility of happiness beliefs is the association of individualism with a more internal locus of control (Spector et al. 2001). Thus, we also predict that fragility of happiness will be less strongly supported in nations in which individuals de-emphasize the influence of fate in human life, and feel they have free choice and control over their lives.

As argued above, many religions regard happiness (at least happiness in this world, as opposed to happiness in the hereafter) as instable and unreliable (e.g., Charry 2011; Izutsu 1971; Menon 2013). Therefore, we expect national fragility of happiness to be positively related to various aspects of national religiosity, including religious value and involvement

in religious practice. In other words, we predict that fragility of happiness is more strongly endorsed in more religious nations.

We are also interested in examining whether the national level of fragility of happiness is influenced by the actual life conditions in different nations. We use the human development index (HDI) as a measure of socioeconomic development. Scores on this index reflect how well a nation does for the majority of its citizens in the domains of income, education, and health (Sortheix and Lönnqvist 2013). We predict that a low HDI score in a nation is associated with higher presence of instabilities, irregularities, insecurities, and uncertainties with regard to individuals' present and future lives, and thereby would lead to a stronger endorsement of fragility of happiness beliefs. This prediction was based on the notion that the level of instability that individuals experience in their daily lives may make views in support of the fragility of life affairs more attractive and even wiser to them, because these views may help to curtail the effects of unforeseen hardships. Therefore, we expect HDI to be negatively correlated with national fragility of happiness.

Finally, following the arguments provided earlier, we predict that fragility of happiness is negatively associated with subjective well-being and positively with fear of happiness at the national level. It makes sense to suggest that fragility of happiness is high in a national context in which people are not satisfied with their lives. Subjective well-being scores partly reflect socio-political freedom and basic need satisfaction within national contexts (Tay and Diener 2011; Tov and Diener 2008), such that low national subjective well-being scores can be seen as indicating a sense of uncertainty and fragility in individuals' life circumstances and happiness. Also, it seems likely that in a context in which happiness is construed as fragile and transient, people have more reasons to be afraid of it (Joshnloo and Weijers 2014). Therefore, we expect fragility of happiness to be positively associated with fear of happiness at the national level as well as being negatively associated with national subjective well-being.

1.3.3 Predictive Validity

To establish the predictive validity of the fragility of happiness scale across cultures, we examine whether fragility of happiness can predict life satisfaction over and above established individual-level and societal-level predictors. We included positive affect, negative affect, and personal growth initiative (Robitschek 1998) in the model. Positive and negative affect are recognized as two of the most robust predictors of life satisfaction, because they are a common source of information upon which people rely when making life satisfaction judgments (Busseri and Sadava 2011; Suh et al. 1998). That is why the magnitude of the correlation between affective scales and life satisfaction has reached up to 0.8 in prior studies (Schimmack 2008). Personal growth initiative is defined as "intentional involvement in changing and developing as a person" (Robitschek and Keyes 2009, p. 322); that is, a person's intentional involvement in the process of personal growth. Personal growth initiative has been found to be a strong predictor of various aspects of well-being, including life satisfaction (Joshnloo et al. 2014; Robitschek and Keyes 2009).

We also included the societal-level variable, individualism, as a predictor of life satisfaction. Individualistic cultures have been found to be generally happier than collectivistic ones (e.g., Diener et al. 1995), partly because they provide their members with more personal freedom and autonomy (Inglehart 2000). In sum, we control for positive and negative affect, personal growth initiative, and national individualism to examine if fragility of happiness contributes significantly in the prediction of life satisfaction.

2 Methods

2.1 Participants and Procedure

A total of 2,721 participants in 15 nations took part in this study. All participants were university students. Sample sizes ranged from 85 (Hong Kong) to 270 (Japan). The demographic characteristics of the samples are summarized in Table 1. Participants responded to the survey voluntarily or in exchange for course credit. Participants in eight nations responded to the English version of the questionnaire. However, participants in Iran, Japan, Korea, Taiwan, Russia, Brazil, and the Netherlands completed the survey in their own languages, namely, Persian, Japanese, Korean, Chinese, Russian, Portuguese, and Dutch. In these cultures, the items were translated from English using the method of back-translation.

2.2 Individual-Level Measures

2.2.1 Fragility of Happiness

This scale has four items (Joshanloo 2013a): “1—Something might happen at any time and we could easily lose our happiness”, “2—Happiness is fragile”, “3—It is likely that our happiness could be reduced to unhappiness with a simple accident”, and “4—There is only a thin line between happiness and unhappiness”. Each item is rated on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7).

2.2.2 Subjective Well-Being

Subjective well-being has three main components: life satisfaction, positive affect, and negative affect. The Satisfaction With Life Scale was used to measure life satisfaction. This scale is a widely used measure of global life satisfaction, consisting of five items (Diener et al. 1985; e.g., “The conditions of my life are excellent”). Each item is rated on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7). This scale was not included in Kuwait. Mroczek and Kolarz’s (1998) positive and negative affect scales were used to measure the affective components of subjective well-being. Respondents indicated how much of the time (*none of the time, a little, some, most, all*) during the past 30 days, they felt six positive affective states (e.g., “in good spirits”) and six negative affective states (e.g., “nervous”).

2.2.3 Fear of Happiness

The fear of happiness scale was used to assess the extent to which individuals believe that happiness may cause bad thing to happen (Joshanloo 2013b; Joshanloo et al. 2014). The five items are rated on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7) (e.g., “Having lots of joy and fun causes bad things to happen”).

2.2.4 Personal Growth Initiative

The personal growth initiative scale (Robitschek 1998) was used to assess individuals’ intentional involvement in the process of personal growth (e.g., “I know what I need to do

Table 1 Demographic details of the samples and internal consistencies of individual-level variables

	N	M age	SD age	% of females	Questionnaire language	α					
						Fragility	FHS	SWLS	Paffect	Naffect	PGI
New Zealand	169	22.03	5.54	63.3	English	0.72	0.79	0.88	0.86	0.82	0.89
Iran	220	23.18	4.15	54.5	Persian	0.80	0.88	0.87	0.85	0.86	0.87
Singapore	221	21.51	1.48	50.7	English	0.69	0.79	0.86	0.87	0.77	0.88
Hong Kong	85	21.48	1.16	62.4	English	0.66	0.76	0.79	0.81	0.84	0.77
Malaysia	219	19.44	2.36	44.3	English	0.70	0.79	0.84	0.88	0.80	0.89
Japan	270	19.31	0.67	41.9	Japanese	0.72	0.79	0.83	0.84	0.67	0.86
Korea	150	22.05	2.82	39.3	Korean	0.67	0.85	0.83	0.88	0.87	0.87
Taiwan	207	20.48	2.32	63.8	Chinese	0.73	0.74	0.80	0.83	0.81	0.84
India	150	20.42	1.73	58.7	English	0.42	0.51	0.71	0.75	0.64	0.76
Russia	150	20.28	3.01	67.3	Russian	0.74	0.77	0.88	0.85	0.81	0.85
Brazil	136	30.40	10.16	64.0	Portuguese	0.75	0.79	0.83	0.90	0.82	0.86
Pakistan	208	21.93	2.58	57.2	English	0.70	0.74	0.75	0.83	0.76	0.87
Kuwait ^a	104	28.00	7.69	58.7	English	0.65	0.73	–	0.81	0.65	0.86
Netherlands	178	20.98	3.66	56.7	Dutch	0.66	0.80	0.86	0.84	0.80	0.80
USA	254	18.79	3.14	83.1	English	0.70	0.84	0.87	0.90	0.81	0.91
Total	2,721	21.58	4.797	57.4	–	0.69	0.77	0.82	0.84	0.78	0.85

FHS fear of happiness scale, SWLS satisfaction with life scale, Paffect positive affect scale, Naffect negative affect scale, PGI personal growth initiative scale

^a The SWLS was not included in Kuwait

to get started toward reaching my goals”). The nine items are rated on a 6-point scale ranging from *definitely disagree* (1) to *definitely agree* (6).

2.3 National-Level Measures

2.3.1 Individualism

We used national individualism scores provided by Hofstede and Hofstede (2005), who define individualism as a concern for oneself and one’s immediate family, and an emphasis on personal autonomy, self-fulfilment, and personal achievements.

2.3.2 Socio-Economic Development

We used HDI (UNDP 2012) to measure national development. HDI is a composite HDI consisting of measures of life expectancy, educational attainment, and income.

2.3.3 Religiosity

We used two national indicators of religiosity: religious attendance and religious value. Religious attendance tracks the frequency of participants’ attendance at religious services. For this, we used the combined data from the World Values Survey and European Values Study, related to all waves from 1999 to 2010 (EVS 2011; WVS 2009). The national score for each nation was calculated by averaging responses to the item “Apart from weddings, funerals and christenings, about how often do you attend religious services these days?” in that nation. This item is rated on an 8-point scale ranging from 1 = *more than once a week* to 8 = *never, practically never*. The responses were reverse-coded so that higher scores indicated a higher frequency of religious attendance. The national religiosity scores provided by Diener et al. (2011) were also used to assess religious value. This index captures the average self-reported importance of religion in individuals’ daily lives for each nation based on the data provided by the Gallup World Poll from 2005 to 2009.

2.3.4 Internal Control

Three national indicators were used to capture various aspects of individuals’ sense of control over their lives: fate control, personal control, and personal freedom. Fate control indicates “the degree to which important outcomes in life are believed to be fated, but are predictable and alterable” (Leung and Bond 2004, p. 119). The fate control scores were obtained from Leung and Bond (2004). To measure the level of personal control, we used data related to an item in the WVS and EVS which asks participants to indicate how much freedom of choice and control they feel they have over their way of life. This item is rated on a 10-point scale ranging from 1 = *No choice at all* to 10 = *A great deal of choice*. To calculate national scores, the combined data from the WVS and EVS related to all waves from 1999 to 2010 were used (EVS 2011; WVS 2009). Finally, national scores of personal freedom provided by the Legatum institute (Legatum Institute 2012) were used to measure the prevalence of an individual sense of autonomy in each nation. This index measures the levels of freedom of expression, personal autonomy, and social tolerance.

2.3.5 Subjective Well-Being

The life satisfaction index from the World Database of Happiness was used (Veenhoven 2013) to measure national subjective well-being. The life satisfaction score for each nation indicates the average extent to which people are satisfied with their life as a whole on a scale ranging from 0 to 10 (2000 to 2009).

2.3.6 Fear of Happiness

National fear of happiness scores were obtained from Joshanloo et al. (2014).

2.4 Statistical Analysis

We used multi-group confirmatory factor analysis (MGCFA) to test measurement invariance. This method is the most frequently used (Chen 2008), and has been recognized as “the most powerful and versatile approach” (Steenkamp and Baumgartner 1998, p. 78) for establishing measurement invariance in cross-cultural research. For testing measurement invariance in MGCFA, first, each group is individually tested for the goodness-of-fit. Then a series of increasingly restrictive measurement invariance tests is performed. Configural, metric, and scalar invariance are considered the most relevant types of invariance in research across cultures (e.g., Chen 2008; Cheung and Rensvold 2002). The tests for metric and scalar invariance are calculated by imposing equality constraints on factor loadings and intercepts of the baseline model. When a large number of groups are involved (as is the case with the present study), the procedure generally used to establish invariance is to evaluate the fit of the more constrained model as a stand-alone model (e.g., Davidov et al. 2008; Joshanloo et al. 2014; Owe et al. 2013). If the more constrained model fits the data well, invariance is supported. We used Mplus 6 and maximum likelihood estimation to conduct the MGCFA.

To examine cross-level isomorphism, a multi-level confirmatory factor analysis is run in which the baseline model (i.e., in our study, one latent factor with four indicators) is specified at both the individual and national levels. A good model fit would indicate that the four items are good indicators of fragility of happiness at the national level and, thus, they can be reliably used to measure the concept across the levels. In the present study, the WLSMV estimator in Mplus was used to estimate the model. Finally, in order to examine the predictive validity of fragility of happiness, given that in the present study the data structure is hierarchical (i.e., individuals are nested within nations), hierarchical linear modeling was used. This method simultaneously considers within-group and between-group variability, which is preferred when analysing nested data. Moreover, this method allows having predictors both at the individual and group levels. When fragility of happiness is entered with other covariates to predict an outcome, a significant coefficient for fragility of happiness would demonstrate that this variable contributes additional variance over and above other covariates, which indicates predictive validity. Hierarchical linear modeling was conducted using IBM SPSS 19. The individual-level variables were group-mean centred, and the national-level variables were grand-mean centred (Bryk and Raudenbush 1992; Nezlek 2011).

3 Results

The internal consistencies of all the individual-level scales are shown in Table 1. Reliabilities for the fragility of happiness scale were ≥ 0.65 in all nations except in India (with an average of about 0.71, excluding India), which is acceptable given the short length of the scale. Reliabilities for other individual-level scales were also acceptable. The scores for national-level variables are shown in Table 2. In general, East Asian nations such as Malaysia and Singapore, as well as Islamic nations such as Pakistan, scored higher on fragility of happiness, than Brazil and other western nations did.

3.1 Measurement Invariance

3.1.1 Single-Group Confirmatory Factor Analyses

We first tested a single-factor model separately in each nation. In this model, all four items were specified to load on the latent variable of fragility of happiness. The results are summarized in Table 3. The fit of the model to the data was excellent in Iran, Singapore, Hong Kong, Malaysia, Japan, Pakistan, Taiwan, and the Netherlands. In New Zealand, Brazil, and Kuwait, the baseline model yielded excellent fit, after specifying an item residual covariance in each nation. Although the RMSEA values for Korea, Russia, and the USA were not acceptable, given that the CFI and SRMR values in these nations indicated excellent fit, we did not modify the baseline model in these nations. Finally, because the baseline model did not converge in India, and due to a very low Cronbach's alpha coefficient in this nation (see Table 1), we excluded India from all the analyses reported in this paper. Therefore, we continued the analyses with 14 nations.

3.1.2 Measurement Invariance

A model with no equality constraint on factor loadings and item intercepts was simultaneously tested across all groups to examine configural invariance. As can be seen in Table 4 (M1), this model fitted the data very well, indicating that configural invariance is supported. Next, equality constraints were imposed on all the factor loadings to test metric invariance. As shown in Table 4 (M2), the model fitted the data very well, indicating full metric invariance. Imposing equality constraints on the intercepts of all the items resulted in a model with poor goodness-of-fit indices (M3), indicating that full scalar invariance is not supported. Inspection of the modification indexes suggested that freeing the constraints on the intercepts of items 2 and 4 would improve the fit of the model substantially. As can be seen in Table 4 (M4), the fit was acceptable after doing so, indicating partial scalar invariance.

3.2 Individual-Level Correlations

Individual-level correlations are presented in Table 5. As expected, higher fragility of happiness was significantly correlated both with higher fear of happiness and negative affect, as well as lower life satisfaction and positive affect. However, the effect sizes were different, with a moderately high correlation produced with fear of happiness, and smaller correlations with other scales.

Table 2 National scores

	Fragility	FOH	Individualism	Fate control	Personal control	Personal freedom	HDI	Religious value	Religious attendance	Life satisfaction
Brazil	4.31	1.98	38	2.49	7.73	2.03	0.73	0.88	5.43	7.5
Russia	4.35	2.84	39	2.97	6.30	-1.80	0.79	0.32	2.92	5.5
South Korea	4.41	2.65	18	2.98	6.96	0.40	0.91	0.42	4.32	6.0
Hong Kong	4.42	3.75	25	2.69	6.32	2.29	0.91	0.23	2.41	6.6
Netherlands	4.44	2.12	80	2.56	6.60	3.39	0.92	0.33	3.12	7.6
United States	4.44	2.54	91	2.46	7.83	2.93	0.94	0.66	4.88	7.4
Iran	4.44	2.48	41	2.85	6.85	-2.26	0.74	0.81	5.21	5.9
New Zealand	4.50	2.39	79	2.34	7.91	3.91	0.92	0.35	2.79	7.5
Kuwait	4.69	3.56	25	-	-	-0.10	0.79	0.89	-	6.6
Taiwan	5.01	3.76	17	3.01	7.40	1.91	-	0.44	2.86	6.2
Japan	5.04	3.17	46	2.59	6.03	0.81	0.91	0.26	3.91	6.5
Pakistan	5.10	3.81	14	3.15	4.68	-2.73	0.52	0.97	7.09	5.0
Singapore	5.13	3.39	20	2.52	7.25	0.41	0.90	0.60	5.34	6.9
Malaysia	5.15	3.33	26	2.96	7.31	-1.42	0.77	0.89	-	6.5

FOH fear of happiness, HDI human development index

Table 3 Single-group confirmatory factor analyses

Error terms allowed to covary		χ^2	<i>df</i> (<i>p</i>)	CFI	SRMR	RMSEA
New Zealand	Item 1 with Item 3	0.020	1 (0.88)	1.000	0.002	0.000
Iran		1.262	2 (0.53)	1.000	0.011	0.000
Singapore		3.786	2 (0.15)	0.988	0.024	0.064
Hong Kong		2.738	2 (0.25)	0.985	0.035	0.066
Malaysia		1.891	2 (0.38)	1.000	0.017	0.000
Japan		1.911	2 (0.38)	1.000	0.013	0.000
Korea		7.023	2 (0.029)	0.953	0.040	0.129
Russia		5.987	2 (0.05)	0.969	0.031	0.115
Brazil	Item 3 with Item 4	0.016	1 (0.89)	1.000	0.002	0.000
Pakistan		0.252	2 (0.88)	1.000	0.006	0.000
Taiwan		1.474	2 (0.47)	1.000	0.013	0.000
Kuwait	Item 2 with Item 3	0.133	1 (0.71)	1.000	0.007	0.000
Netherlands		0.617	2 (0.73)	1.000	0.012	0.000
USA		7.989	2 (0.018)	0.965	0.033	0.109

The model did not converge in India

CFI comparative fit index, *SRMR* standardized root mean square residual, *RMSEA* root mean square error of approximation

Table 4 Testing for measurement invariance

	χ^2	<i>df</i> (<i>p</i>)	CFI	SRMR	RMSEA	90 % CI for RMSEA	
						LL	UL
M1. Configural invariance	35.101	25 (0.08)	0.995	0.021	0.047	0.000	0.081
M2. Full metric invariance	111.940	64 (0.0002)	0.976	0.070	0.064	0.044	0.084
M3. Full scalar invariance	512.033	103 (0.0000)	0.799	0.128	0.148	0.136	0.161
M4. Partial scalar invariance	182.852	77 (0.0000)	0.948	0.080	0.087	0.071	0.104

M model, *CFI* comparative fit index, *SRMR* standardized root mean square residual, *RMSEA* root mean square error of approximation, *CI* confidence interval, *LL* lower limit, *UL* upper limit

Table 5 Intercorrelations at the individual level

	1	2	3	4	5
1. Fragility	1				
2. FHS	0.47	1			
3. SWLS	-0.23	-0.21	1		
4. Positive affect	-0.20	-0.14	0.59	1	
5. Negative affect	0.27	0.36	-0.31	-0.37	1
6. PGI	-0.13	-0.11	0.49	0.39	-0.13

All correlations are significant at *p* < 0.01

FHS fear of happiness scale, *SWLS* satisfaction with life scale, *PGI* personal growth initiative scale

3.3 Cross-Level Isomorphism

We ran a multi-level confirmatory factor analysis, specifying the single-factor model at both the individual and national levels. The resulting fit indices are shown in Table 6. As can be seen in the table (M1), the fit of this model was excellent, indicating that the unidimensional structure of fragility of happiness at the individual level was replicated at the cultural level. We then constrained the factor loadings to be equal across levels (M2). The resulting model fitted the data very well, showing that the relationship between the indicators and the latent variables is largely identical across the levels. These results indicate that multi-level isomorphism holds for the fragility of happiness scale.

3.4 National-Level Correlations

The findings related to national-level correlations should be interpreted with caution considering that the sample size is so small (ranging from 11 to 14). With these sample sizes, it is most appropriate to evaluate the correlations in terms of size and direction rather than significance (Joshi et al. 2014; Owe et al. 2013). Culture-level correlations are presented in Table 7. As expected, fragility of happiness was positively correlated with fear of happiness, fate control, and religious variables. Fragility of happiness was negatively correlated with individualism, indicators of internal locus of control, HDI, and life satisfaction. The strongest correlates of fragility of happiness at the national level are fear of happiness and individualism. The positive correlation with fear of happiness and the negative correlation with life satisfaction were consistent with the findings at the individual level (see Table 5).

3.5 Predictive Validity

Hierarchical linear modeling was used to examine whether the fragility of happiness could contribute to the prediction of life satisfaction over and above a set of recognized predictors of life satisfaction. Individual-level predictors included positive affect, negative affect, personal growth initiative, and fragility of happiness. The only national-level predictor was individualism. In addition to India, Kuwait was also excluded from this analysis because life satisfaction scores for Kuwaiti participants were not available. Considering that none of the slopes of the individual-level predictors were significantly variable across the nations, we proceeded with a random intercepts model excluding random slopes.

We first tested a null model, excluding all the predictors. The results of this analysis reveal the proportion of variability in life satisfaction that exists at the individual and cultural levels before adding covariates. The results showed that there was statistically significant variability both at the individual [$b = 38.10$, Wald $Z = 34.47$, p (one-sided) < 0.001] and cultural levels [$b = 4.09$, Wald $Z = 2.33$, p (one-sided) < 0.05]. Therefore, it

Table 6 Multi-level analyses

	χ^2	df (p)	CFI	RMSEA
M1. Baseline model	21.704	4 (0.0002)	0.994	0.042
M2. Baseline model with cross-level constraints on factor loadings	18.341	7 (0.0105)	0.996	0.025

CFI comparative fit index, RMSEA root mean square error of approximation

Table 7 Intercorrelations at the national level

	1	2	3	4	5	6	7	8	9
1. Fragility	1								
2. FOH	0.69** (14)	1							
3. Individualism	-0.46 (14)	-0.68** (14)	1						
4. Fate control	0.31 (13)	0.53 (13)	-0.70** (13)	1					
5. Personal choice	-0.28 (13)	-0.48 (13)	0.39 (13)	-0.55* (13)	1				
6. Personal freedom	-0.34 (14)	-0.37 (14)	0.61* (14)	-0.75** (13)	0.56* (13)	1			
7. HDI	-0.29 (13)	-0.29 (13)	0.50 (13)	-0.65* (12)	0.55 (12)	0.73** (13)	1		
8. Religious value	0.26 (14)	0.07 (14)	-0.27 (14)	0.26 (13)	-0.01 (13)	-0.50 (14)	-0.73** (13)	1	
9. Religious attendance	0.33 (12)	0.02 (12)	-0.25 (12)	0.19 (12)	-0.28 (12)	-0.54 (12)	-0.70* (11)	0.90** (12)	1
10. Life satisfaction	-0.29 (14)	-0.54* (14)	0.66* (14)	-0.89** (13)	0.71** (13)	0.84** (14)	0.63* (13)	-0.17 (14)	-0.28 (12)

Numbers in parentheses indicate sample size

* $p < 0.05$, ** $p < 0.01$

Table 8 Hierarchical linear modelling predicting life satisfaction

Predictors	<i>b</i>	SE	<i>t</i>	<i>p</i>
Model 2				
Intercept	21.73	0.50	43.29	0.00
Fragility	-0.31	0.08	-3.68	0.00
Positive affect	0.59	0.02	22.69	0.00
Negative affect	-0.14	0.02	-5.87	0.00
Personal growth initiative	0.22	0.01	15.01	0.00
Individualism	0.04	0.01	2.34	0.03
Model 3				
Intercept	21.80	0.46	46.44	0.00
Fragility	-0.285	0.08	-3.22	0.00
Positive affect	0.610	0.02	22.21	0.00
Negative affect	-0.15	0.02	-6.07	0.00
Personal growth initiative	0.21	0.01	13.97	0.00
Individualism	0.06	0.02	3.05	0.01
Human development index	-9.30	4.51	-2.06	0.06

is justifiable to add predictors to the model to explain the existing unexplained variance at both levels.

In a second model (Model 2), we added the five predictors (fragility of happiness, positive affect, negative affect, personal growth initiative, and national-level individualism). The results are shown in Table 8. As can be seen in the table, all the predictors contributed a significant amount of variance. The strongest predictor is positive affect, and the weakest is national individualism. Most importantly, fragility of happiness was found to contribute a significant amount of variance over and above the other covariates.

Comparing the covariance parameters of the current model with those of the null model yields useful information about the reduction in unexplained variance as a result of adding the covariates. Adding these covariates to the model reduced the unexplained within-culture variability by $(38.10-22.21=)$ 15.89, which is significantly different from zero [$b = 22.21$, Wald $Z = 33.82$, p (one-sided) <0.001]. When compared with the null model, the reduction is about 42 %. Adding these predictors to the model reduced the unexplained between-culture variability by $(4.09-3.13=)$ 0.96 (about 23 %). A small but significant amount of variance remains to be explained by additional covariates ($b = 3.13$, Wald $Z = 2.26$, p (one-sided) <0.05).

Given that quality of life and socio-economic development has been found to predict life satisfaction (Diener et al. 2013; Vemuri and Costanza 2006), in a separate model (Model 3, Table 8), we also added grand-mean centred HDI as a national-level covariate. Taiwan was excluded from this analysis as a comparative HDI score is not available for this nation. The results showed that HDI was not a significant predictor of life satisfaction beyond other predictors. Most importantly, fragility of happiness remained a significant predictor in this model. These results support the predictive validity of the fragility of happiness construct over a relatively comprehensive set of recognized predictors of life satisfaction.

4 Discussion

Researchers have extensively investigated predictors and levels of mental well-being across nations over the past four decades. However, people's conceptions of happiness have received scant research attention (Joshanloo 2014; Oishi 2010; Wierzbicka 2004). To contribute to the cross-cultural study of concepts of happiness, the present study investigated various aspects of the understudied concept of fragility of happiness across 15 national groups. The one-factor model with four items fitted with the data very well in all the nations studied, except India, which was excluded from the analyses.

We established configural and full metric invariance of the scale as well as partial scalar invariance in 14 nations. The findings regarding configural invariance indicate that, in all 14 nations included in the analyses, the concept of fragility of happiness can be assessed using these four items, and these four items can be best represented by a single latent factor. Therefore, fragility of happiness as conceptualized and assessed in this study can be understood as having a uniform meaning in these 14 cultures. Furthermore, the results pertaining to metric invariance showed that all items displayed similar factor loadings across cultures, indicating that the items are interpreted and responded to similarly.

Our analyses, however, failed to establish full scalar invariance for the scale. Partial scalar invariance was established by relaxing the equality constraints on the intercepts of two of the items. Many researchers believe that full measurement invariance is scientifically unrealistic, in particular when the number of groups exceeds two, and the groups are from highly diverse national backgrounds (De Beuckelaer and Swinnen 2011; Joshanloo et al. 2014; Torsheim et al. 2012). Moreover, when the instrument is translated into several languages, full measurement invariance is even more unlikely (Schmitt and Kuljanin 2008; Lvina et al. 2012). Given these commonly faced difficulties in practical research, the invariance literature has recently agreed that partial invariance "is a more realistic and sufficient condition" (Steinmetz 2011, p. 89). Because the present study used a very diverse multinational sample, from various regions with different ideological, linguistic, social, political, and economic backgrounds, partial scalar invariance is impressive.

We also investigated the hierarchical structure of the concept of fragility of happiness across the individual and cultural levels. The specified multi-level model fitted the data very well, indicating that the fragility of happiness scale is isomorphic across the two levels (Adamopoulos 2008; Fontaine 2008). In other words, the same measurement model of the scale holds across the individual and cultural levels. These results indicate that this scale can be used to study cultures and individuals, and more importantly, that it has an invariant factor structure whether it is used to assess individuals or cultures. We also constrained the factor loadings to be equal across the levels, and found this model to be consistent with the data. The latter finding indicates that the items function similarly across the levels. In sum, the results of the statistical analyses were promising. Accordingly, we moved on to investigate the nomological network of the concept at the individual and cultural levels.

4.1 Individual-Level Correlates

The individual-level intercorrelations, shown in Table 5, are consistent with our hypotheses. The variable with the strongest association with fragility of happiness is fear of happiness. In addition to the idea that happiness is fleeting, fragility of happiness includes the notion that happiness may be quickly replaced by negative states. This latter belief is related to the fear of happiness concept, which involves the belief that happiness leads to

adverse consequences (Joshanloo 2013b). It makes sense that someone who believes that happiness can be easily replaced with negative states is more likely to believe that happiness leads to negative consequences. In fact, some of the historical and cultural reasons for believing that happiness can easily change to unhappiness also give reason to think that happiness leads to negative consequences. For example, given that losing happiness can be seen as worse than not feeling happy in the first place (Isen and Means 1983), the Taoist belief that every phenomenon contains the seed of its opposite (Chen 2006; Peng et al. 2006), gives reason to believe that happiness is fleeting, and also that it should be avoided because it will inevitably lead to unhappiness.

Fragility of happiness is negatively correlated with subjective well-being (i.e., satisfaction with life, positive affect, and the absence of negative affect). This indicates that individuals who believe that happiness is fleeting, and can be easily replaced with unhappiness, are less likely to report experiencing positive emotions and being satisfied with their lives compared to those who think happiness is not fragile. Individuals who believe that happiness is fragile might put less effort into trying to achieve happiness because they value achieving happiness less than people who think that happiness can easily be sustained for long periods of time. And, putting less effort into achieving happiness is likely to lead to fewer positive experiences and less satisfaction with life (Sheldon and Lyubomirsky 2006). We also found that fragility of happiness was negatively correlated with PGI at the individual level (see Table 5), a finding that is consistent with this argument. This negative correlation indicates that people who conceive of happiness as fragile are less likely to be actively involved in the process of personal growth. Investigating this possible pathway from fragility of happiness to lowered subjective well-being is a fruitful avenue for future studies. Taken together, these results suggest that someone who believes that happiness is fragile is likely to believe that happiness leads to negative consequences, and they are also likely to report lower levels of subjective well-being.

4.2 National-Level Correlates

The national-level intercorrelations also confirm our hypotheses. As with the individual-level findings, the variable most strongly correlated with fragility of happiness was fear of happiness. In addition to the explanation given above, these two variables might be correlated because instable conditions in a nation could increase the objective incidence of happiness being closely followed by less favourable states and feelings, making it more likely that people believe that happiness is fragile and should be avoided because it often leads to (the much worse state of) unhappiness.

As expected, fragility of happiness was negatively associated with individualism. Individualistic nations tend to harbour cultural norms in support of people being highly concerned with, and proactively controlling, their own destiny (Oyserman et al. 2002; Spector et al. 2001), including their personal happiness. A related line of reasoning can explain why fragility of happiness is negatively correlated with personal choice, personal freedom, and positively correlated with fate control. In nations with more extensive freedoms and less cultural support for the idea that our circumstances are out of our control, people are more likely to believe that they can control their own lives and their own happiness. Fragility of happiness was also negatively correlated with national HDI scores. It makes sense that in nations with higher levels of income, health care, and education, there are likely to be more extensive buffers to all kinds of unforeseen hardships, including unemployment, natural disasters, and illnesses. Furthermore, widespread

availability of these buffers would likely result in less people believing strongly the claims that chance events can take away happiness and easily change happiness into unhappiness.

It also might be the case that fragility of happiness beliefs are psychologically adaptive for people who live in poorly developed nations. If part of the adverse effects of unforeseen hardships is due to their surprising nature, then expectations that any happiness will not last long may help to mitigate the effects of the loss when happiness inevitably goes. Another way in which fragility of happiness beliefs might be psychologically adaptive in low HDI nations depends on beliefs that people might hold about other emotions. Ōmura (2006), for example, notes that “happiness is seen as an ephemeral thing that slips out of your hand as soon as you try to grasp it, just like a dream... unhappiness is tinged with inevitability whereas happiness has a hint of accidentalness” (p. 149). If people in a poorly developed nation thought that happiness is fragile but that unhappiness was not, then they might be better off focusing their efforts on protecting themselves from negative events instead of taking risks to attain high levels of happiness that are unlikely to be sustained and will probably lead quickly to unhappiness. This latter speculation is consistent with the results of a growing body of cross-cultural findings showing that an avoidance focus (e.g., avoiding unhappiness) dominates in collectivistic cultures, whereas an approach focus (e.g., acquiring happiness) is more common in individualistic cultures (Hamamura and Heine 2008).

Fragility of happiness was positively correlated with both measures of religiosity (to a similar extent). Given that people tend to turn to religion in times of hardship and uncertainty (Inglehart 2000), and that belief in the fragility of happiness should increase with negative experiences and perceived uncertainty (as discussed above), fragility of happiness should be expected to be positively correlated with religiosity. The hardship and uncertainty that prevails in some nations causes levels of belief in the fragility of happiness and in religious involvement to increase. Moreover, as discussed above, many religious traditions espouse claims about the fragility of life on earth and earthly happiness (e.g., Charry 2011; Izutsu 1971; Menon 2013), which would further strengthen the association between religiosity and fragility of happiness.

We also found that fragility of happiness was negatively correlated with life satisfaction. In addition to the explanation offered for this correlation at the individual level, many of the foregoing national-level correlations could help explain this result. For example, HDI is positively correlated with life satisfaction and negatively with fragility of happiness, and could plausibly also cause increases in life satisfaction and decreases in fragility of happiness. As a nation develops its economy and healthcare and education systems from a low to a moderately high level, it is likely that people will become more satisfied with their lives. Furthermore, as the developments in their nation begin to buffer citizens from unforeseen hardships, they will be less likely to believe that happiness is fragile. Furthermore, we argued above that national conditions conducive to personal freedom tend to engender beliefs that individuals can control their personal happiness (and thereby depress beliefs that happiness is fragile). Since, national conditions conducive to personal freedom also increase satisfaction with life (Inglehart 2010; Tay and Diener 2011; Tov and Diener 2008), part of the negative association between fragility of happiness and life satisfaction could be explained by the effects of personal freedom on each of these variables.

Taken together, these results suggest that higher levels of belief that happiness is fragile can be found in nations that are more religious, and in cultures in which many people believe that happiness is largely outside of our control and leads to negative consequences. Furthermore, lower levels of fragility of happiness beliefs can be found in nations that are

happier and support cultural beliefs that sustained personal happiness is a worthy goal, and one that is achievable through individual effort.

4.3 Predictive Validity

As expected, fragility of happiness is a significant predictor of life satisfaction even when several other well-established predictors were included in the multi-level models, namely positive affect, negative affect, and personal growth initiative, as well as national individualism and HDI. These results indicate that fragility of happiness contributes extra variance over already established predictors, and thus adds to the understanding of the experience of life satisfaction across cultures. Belief that the internal and external conditions of a life, including happiness, are fragile might make someone put in less effort to attain personal happiness and other personal goals. As a result, such people might not achieve happiness, or as many of their other goals, and thereby end up less satisfied with their lives. Indeed, this could occur even against a cultural backdrop of valuing personal happiness highly because valuable things might not be worth pursuing if they will not last.

5 Limitations, Future Research, and Concluding Remarks

Although the findings are promising, the present study inevitably had limitations. The study was exploratory in nature and provided preliminary findings on the concept of fragility of happiness. Some regions of the world are underrepresented in the present study, such as Africa. Moreover, all samples consisted of young adults, and caution should be applied in generalizing these findings to national populations. Some samples were also different from the general populations from which they were drawn in other ways. For example, in our Malaysian sample, only 7.8 % of the participants were Muslims, whereas Muslims make up 60.4 % of the population of Malaysia (Central Intelligence Agency 2012). Moreover, the sample size in some countries (e.g., Hong Kong) was relatively small. Larger and more heterogeneous samples from diverse areas of the world are needed to draw firmer conclusions.

The successful cross-cultural validation of the fragility of happiness scale in this paper opens the door to a host of interesting directions for future study. Individual differences in views of fragility of happiness can be partly explained by individuals' personality dispositions. Therefore, one potential area of inquiry is whether fragility of happiness beliefs are associated with particular personality traits. Fragility of happiness beliefs seem to sit most naturally with neuroticism, among the Big Five traits. High neuroticism is associated with frequent worrying, and being temperamental, emotional, and vulnerable (McCrae and Costa 2003), a collection of characteristics that seems to be consistent with regarding one's mood and life as changeable, and one's happiness as fragile.

Another important antecedent of fragility of happiness beliefs seems to be an individuals' religious affiliation, which was not addressed in the present study. In the introduction, we mentioned that many traditional religions tend to regard happiness in the material world as more fragile than stable. However, it seems that not all forms of religiosity are similarly related to fragility of happiness beliefs in the contemporary world. For example, Protestantism puts stronger emphasis on the pursuit and achievability of happiness in the material world than many other traditional religions do (McMahon 2006). McMahon argues that the modern emphasis on the pursuit of happiness in the West stems in part from these Protestant ideas. Therefore, it would be fruitful for future research to empirically investigate

the influence of various religious affiliations and beliefs on people's endorsement of fragility of happiness beliefs.

Given the unpredictability of the physical and social environment that we live in, it seems that the view that happiness is fragile is more realistic than the view that happiness is stable and under one's control. However, our results showed that viewing happiness as less fragile is associated with positive outcomes. Therefore, fragility of happiness might be a phenomenon about which it is prudentially better to have false beliefs. This conclusion would fit with prior research on unrealistic optimism, which demonstrates that self-enhancing attitudes and having certain *positive illusions* are more advantageous than realistic pessimism (Taylor and Brown 1988). Indeed, our findings seem to be in line with Suh's (2007) conclusion that "a certain dose of positive illusions about the self and future, as long as they are not extreme, could be beneficial for happiness" (p. 1329), if we accept that happiness is in fact more fragile than stable.

It might be the case that individuals' beliefs that happiness is fragile fluctuate considerably based on the current moods and circumstances of their lives. Indeed, although we have shown that fragility of happiness is a powerful predictor of life satisfaction, it could also be the case that one of the most important predictors of fragility of happiness is the variance in individuals' subjective well-being over time. Likewise, it would also be interesting to investigate whether particular life circumstances are more likely to elicit fragility of happiness beliefs than others. For example, parents and people with close friends and relatives with terminal or potentially terminal illnesses seem likely to endorse fragility of happiness beliefs more strongly than people not in those circumstances, because they would be more cognizant of the fact that death could take away an important source of their happiness.

Finally, we predicted and found that higher income and other socio-economic factors at the national level should depress fragility of happiness beliefs. We argued that this effect results from the fact that these socio-economic factors protect citizens in wealthy nations from many unforeseen hardships. In the present study, however, we did not include individual-level wealth and socio-economic status (SES) as potential predictors of fragility of happiness. Therefore, it would be interesting to assess whether wealth and SES are negatively associated with fragility of happiness beliefs at the individual level.

Before closing, it is important to note that in the present article we assume that happiness is a state of mind that includes feeling good, not feeling bad, and judging one's life to be satisfactory. Such an understanding of happiness, which regards change to be inherent to the concept of happiness, makes the study of the concept of fragility of happiness much relevant and necessary. Throughout history, however, happiness has been understood in many different ways (McMahon 2006). Today is no different (Joshanloo 2014), and certain contemporary cultures and individuals would judge some of these other understandings of happiness to be more correct or more important than the one in use in the present study. For example, happiness might be understood by certain individuals and cultures as a more durable state that should be preserved in the face of unpleasant life events (e.g., Dambrun et al. 2012; Delle Fave et al. 2011; Kjell 2011). Such understandings of happiness as something that tends to be durable are less apt for the present investigation because they are by nature less fragile. Therefore, we recognize that there are some conceptualizations of happiness that are essentially less fragile. However, happiness as feeling good, not feeling bad, and judging one's life to be satisfactory is a recognisable kind of happiness for most contemporary people and cultures around the world (Diener et al. 2013), and is rising in popularity, making it an interesting concept to study.

In sum, in the present study, we investigated various aspects of the concept of fragility of happiness across a wide range of nations. The results confirmed acceptable statistical properties of the fragility of happiness scale at both individual and cultural levels. Therefore, the scale seems to be a promising instrument to be used in future studies to further investigate the concept of fragility of happiness. The present study can be considered the first earnest attempt at conceptualizing the fragility of happiness concept, and elucidating the place of the concept among other important individual- and national-level variables. Therefore, it is hoped that the output of this study will make it easier for future scholars to incorporate fragility of happiness into their research. Taken together, the findings presented here demonstrate that research on conceptions of happiness (e.g., belief in fragility of happiness) can be fruitful in its own right as well as being useful for better understanding individual and cross-cultural levels of happiness.

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