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RESEARCH PAPER

Self-Related and Other-Related Pathways to Subjective Well-Being in Japan and the United States

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Abstract Cross-cultural comparisons demonstrate that subjective well-being (SWB) is rated lower among East Asian than Western individuals. Regardless of such cultural differences, however, factors that predict SWB among people from various cultures may be similar. In the current study we demonstrate the universality of two potential pathways to SWB: those which are more *self-related* (e.g., independent self-construal; personal expression of emotions), and those which are more *other-related* (e.g., interdependent self-construal; giving social support to others). Using the MIDUS II and the MIDJA datasets, we find that even though American older adults (N = 1,248) report higher levels of SWB, emotional expression, and social support provision than their Japanese counterparts (N = 1,010), there are similar influences of both self and other-related pathways on SWB. Specifically, emotional expression and social support provision contribute equally to SWB in both groups. Moreover, structural equation models revealed that in both cultural groups, independent self-construal has a direct positive effect on SWB, but also indirectly predicts SWB via increased emotional expression and giving support to others. Interdependent self-construal also has a positive effect on SWB. However, it indirectly has both a positive effect (through giving more support to others) and a negative effect (through less emotional expression) on SWB. These findings were nearly identical across cultures, except that Americans showed a stronger positive relationship between independent self-construal and emotional expression, and Japanese showed a stronger positive relation between independence and giving social support. Implications and directions for future research are discussed.

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1 Introduction

The American actress Mae West once said "*You only live once, but if you do it right once is enough.*" Unfortunately, there is no clear-cut universal recipe outlining the "right things to do" for a happy, fulfilling, satisfactory, and high quality life. Moreover, it is possible that pathways to happiness and well-being vary across cultural groups. In the current study we examine some self-related versus other-related pathways to subjective well-being in two cultural groups that differ on fundamental self- and other-orientations.

Past research has shown that individuals in East Asian cultures systematically rate their subjective well-being, or their cognitive and affective evaluations of their life, lower than individuals in Western cultures do, and that the factors contributing to higher well-being can differ across societies and cultures (Oishi and Diener 2001; Park and Huebner 2005). For example, emotional *experiences* contribute to subjective well-being more in individualistic-oriented than in collectivistic-oriented societies, whereas emotional *norms* contribute to subjective well-being more in collectivistic-oriented societies (Suh et al. 1998). Although most prior research on this topic assumes that cultural variations in predictors of well-being are driven by people's *self-construals*, or how the self in relation to others is viewed (as independent or interdependent), this has rarely been directly tested, and it should not be assumed.

In the present study, we go beyond simple cultural-group comparisons by examining the contribution of a self-related factor (emotional expression) and an other-related factor (giving social support) to subjective well-being, taking into account individual differences in self-construal (independent, interdependent) that may underlie such effects. We focus on two distinct cultural groups (i.e., Japanese, American), because these are commonly contrasted in the literature as having different paths to subjective well-being (e.g., Oishi and Diener 2001; Schimmack et al. 2002). We aim to examine whether independent and interdependent self-construals play different roles in the pathways to subjective well-being (SWB) across these two cultural groups.

1.1 Cultural Variations in Predictions of Well-Being

During the past few decades, research examining cross-cultural predictors in SWB has flourished. At the *societal* level, factors such as improved human rights (e.g., civil and political rights), more equality (e.g., equality of income and educational access for both sexes), higher incomes, and individualism rather than collectivism (orientation towards personal vs. group goals and desires) affect people's ability to reach goals, and thus predict a higher SWB across nations (Diener et al. 1995; Oishi et al. 1999a). However, at the *individual* level, there are less straightforward and less consistent patterns with respect to which psychological factors best predict SWB (e.g., Kuppens et al. 2008; Oishi and Diener 2001; Park and Huebner 2005). The *value-congruent satisfaction model* proposes that factors that are highly valued by individuals are also salient factors for their SWB. In contrast, factors that are less valued by individuals are less likely, or can even negatively influence, individuals' well-being (Oishi et al. 1999b). The model provides a useful

framework for understanding cultural differences in factors that predict SWB by suggesting that cultural differences in SWB depend on the value attached to these factors by individuals within a culture.

For example, people from individualistic-oriented cultures (e.g., many Western cultures) are relatively self-oriented and highly value internal features, such as subjective thoughts and emotions. These features determine an important part of their identity and are used as important pieces of information to make evaluative judgments (Markus and Kitayama 1991; Triandis 1995). Individuals from collectivistic-oriented cultures (e.g., many East Asian cultures), in contrast, may be more other-oriented and thus less likely to perceive internal features as part of who they are and to relate such features to their judgments. Instead, these individuals attend more to external features, such as the presence of others and social appearances, when making judgments (Markus and Kitayama 1991; Triandis 1995). With respect to the cultural groups in the present study, a meta-analysis has shown that European-Americans are typically more individualistic, but also slightly more collectivistic than their Japanese counterparts (Oyserman et al. 2002). This finding indicates that the cultural orientations individualism-collectivism are not necessarily the ends of one continuum, but can be two separate dimensions where one's score on each of these dimensions is independent of the other, making it possible to score high or low on both dimensions (Oyserman et al. 2002).

1.1.1 Culture, Emotion, and SWB

Various studies demonstrate cross-cultural differences in the role of emotions on SWB. With respect to specific emotional experiences, recent research indicates that emotions that enhance the self (positive emotions rather than negative emotions) are particularly meaningful for SWB in individualistic-oriented groups (e.g., Kuppens et al. 2008), whereas the absence of emotions that may disrupt social harmony and encourage inappropriate behavior in social settings are particularly meaningful for SWB for collectivistic-oriented groups (Wirtz et al. 2009). In their study, Wirtz and colleagues asked European-American and Asian-American college students to recall positive and negative emotions that they experienced during their vacation and during an event with a friend. Results showed that among European-Americans, students' recalled intensity of positive emotions was associated with both their desire to repeat the vacation and also with their satisfaction with the friendship. However, for Asian-Americans both the presence of positive emotions *and* the absence of negative emotions were predictive of these positive outcomes.

With respect to emotional expressions, much research shows that individuals from collectivistic-oriented cultures are less likely to express (negative) emotions that focus on the self and may disrupt social harmony, and are more cautious when expressing them, compared to individuals from individualistic-oriented cultures (Bainbridge-Frymier et al. 1990; Fernández et al. 2000; Matsumoto et al. 1988; Novin et al. 2009). Although expressing one's emotions has been found to be associated with better mental and physical health outcomes in individualistic-oriented cultures (e.g., lower depression, lower hypertension: De Gennaro et al. 2004; Esterling et al. 1999; Gortner et al. 2006; Honkalampi et al. 2000; Jula et al. 1999), it has not yet been studied in relation to people's SWB specifically. In one study, Elliot et al. (2001) found that avoidance-oriented goals predicted lower levels of SWB in the United States, but not in Korea. Considering this and prior work on emotional experiences, it is possible that the expression of emotions (regardless of valence) will be a stronger predictor of high SWB for individualistic-oriented groups.

1.1.2 Culture, Social Support, and SWB

Where self-related factors such as emotional expression may be related to higher levels of SWB for individualistic–oriented groups, other-related factors such as social support may be related to higher levels of SWB for collectivistic-oriented groups. For example, one study demonstrated that collectivistic values are associated with more support received from family members, which in turn is associated with increased life satisfaction (Goodwin and Hernandez-Plaza 2000). In another study, more perceived social support strongly predicted increased SWB among Asian-Americans, whereas this effect was weak and non-significant among European-Americans, especially when controlling for self-esteem (Uchida et al. 2008). With respect to *providing* social support, research in Western samples shows that providing social support is consistently and robustly positively related to measures of well-being (e.g., Brown et al. 2003; Krause et al. 1992; Poulin et al. 2010; Schwartz 2007; Thomas 2010). These studies, however, do not take possible cultural differences into account. In the current study, we can test for the cross-cultural generalizability of such effects.

Building on cross-cultural work focusing on receiving and perceiving social support, it is possible that providing social support to others might be a stronger predictor to SWB in collectivistic-oriented than in individualistic-oriented groups. That is, providing social support might be more congruent with the values and norms that stress mutual support and loyalty to ingroup members in collectivistic-oriented groups, and less congruent with the values and norms that stress independence and autonomy within individualistic-oriented groups (e.g., see value-congruent satisfaction model; Oishi et al. 1999b). In line with this reasoning, a recent study demonstrates that when providing social support, Japanese participants were more concerned with achieving closeness with the support recipient than North American participants, who in turn were more concerned with making the other feel good about him or herself (Chen et al. 2012).

1.1.3 Self-Construal and SWB

As discussed above, the cross-cultural differences found in prior studies indicate that emotional expression and social support provision are likely to contribute differently to SWB across different cultural groups, depending on their levels of individualism and collectivism. However, while they are valuable, between-nation comparisons do not test the *underlying mechanisms* that explain why cultural groups vary in factors that contribute to their SWB. Individual differences in self-construal are assumed to differ between purportedly more individualistic-oriented versus more collectivistic-oriented cultural groups, thus, these may help to explain different pathways to SWB across cultures.

Self-construal refers to how individuals view themselves, which in turn is likely to influence evaluative judgments and values about themselves and their lives. An independent self-construal is the dispositional propensity to see the self as separate and unique from others, whereas an interdependent self-construal is the propensity to see oneself as embedded within larger social contexts (Markus and Kitayama 1991; Singelis 1994). People with more independent self-construals prioritize their personal goals, feelings, and desires, while people with more interdependent self-construals place a premium on their group members' needs and goals. Self-construals vary across cultures, with people from individualistic cultures typically scoring higher on independence and those from collectivistic cultures typically scoring higher on interdependence (Markus and Kitayama 1991; Singelis 1994). However, self-construals are not fixed cultural characteristics, but can also

vary on an individual level, making it possible, for example, for people from individualistic cultures to score high on interdependence, low on independence, or any other combination of those two variables (e.g., Kim and Sharkey 1995; Markus and Kitayama 1991; Oetzel 1998; Oyserman et al. 2002; Singelis 1994).

In line with the value-congruent model, we would predict that the more independent people are in their self-construals, the more they should experience higher SWB from self-related factors such as emotional expression, *regardless of their cultural background*. Additionally, the more interdependent people are in their self-construals, the more they should experience higher SWB from other-related factors such as providing support to others. These expectations are supported by prior work demonstrating that a self-related trait (i.e., self-esteem) fully mediated the effect of independent self-construal on life satisfaction, and an other-related trait (i.e., relationship harmony) fully mediated the effect of interdependent self-construal on life satisfaction (Kwan et al. 1997). These relations were similar regardless of participants' cultural background (i.e., Hong Kong or North America).

In another study, European-American and Korean college students were asked to either think about themselves in terms of being connected to others (interdependent prime) or to think about themselves in terms of being different from others (independent prime). Regardless of cultural background, for individuals who were primed with interdependence, social appraisal (how they thought others evaluated their lives) had a stronger association with life satisfaction compared to those primed with independence. In addition, for individuals who were primed with independence, life satisfaction was more strongly based on their personal emotional experiences compared to those primed with interdependence (Suh et al. 2008). This study illustrates that self-construal can predict SWB through both an other-related factor (social appraisals) and a more self-related factor (personal emotional experience), but that this effect depends on the congruence of such factors to people's self-construals. In the present study we posit two additional self versus other-related pathways in nationally representative samples within the US and Japan, and thus, we extend prior research on this topic.

1.2 The Present Study

In the current study, data were drawn from the second wave of the National Survey of Midlife Development in the United States (MIDUS) and Japan (MIDJA) conducted in 2004–2006 (Brim et al. 2003; Kan et al. 2012; Ryff et al. 2006). First, we examined cross-cultural differences in self-reported self-construal, emotional expression, provided social support, and SWB. Building on prior research, we expected that American adults would report higher levels of independent self-construal, emotional expression, and SWB than Japanese adults. Japanese adults in turn, were expected to report higher levels of giving social support. It was unclear whether we should expect differences between American adults and Japanese adults on interdependent self-construal though, because prior research has found only minor differences between these two cultures in levels of interdependence (Oyserman et al. 2002).

Second, we used structural equation modeling (SEM) to examine a theory-driven model incorporating the direct and indirect effects of self-construal on SWB in a nationally representative random sample of American and Japanese adults. We focused on a self-related and an other-related factor as possible mediators: emotional expression and providing support to others. Neither of these factors has previously been examined as potential contributors to SWB via self-construal pathways. We simultaneously tested the following hypotheses in our SEM model: With respect to emotional expression and social support provision, we expected that (#1) Emotional expression would be negatively associated with

giving support to others and positively associated with SWB (*cf.* Gross and John 2003), especially in the American group and (#2) Providing support to others would be associated with enhanced SWB (Konrath and Brown 2012), especially in the Japanese group. With respect to self-construal, we expected that (#3) Both independence and interdependence would have a positive association with SWB; (#4) As has been found in previous studies, independence would have a positive effect on emotion expression, whereas interdependence would be negatively associated with emotion expression (Konrath et al. 2011; Konrath et al. 2012); and (#5) Interdependence would be associated with giving more support to others while independence would be unrelated (or negatively related) to giving support. These latter three hypotheses were expected regardless of cultural group, as individual differences in self-construals were expected to underlie cultural differences.

2 Method

2.1 Sample

The American sample of the current study came from Project 4 of the second wave of the MIDUS (i.e., MIDUS II). MIDUS II is a longitudinal follow-up of a subsample (N = 1,255) of the respondents of the original MIDUS study (MIDUS I). We only use MIDUS II because MIDUS I did not include relevant measures. Seven respondents did not provide sufficient data for the variables included in this study and were thus excluded from the analyses. The final sample consisted of 541 males and 707 females, aged 34–84 years ($M = 54.5$, $SD = 11.7$).

The Japanese sample came from the parallel data set of the MIDUS, called the MIDJA (N = 1,027). After excluding 17 participants who did not provide responses on the relevant variables, the final sample consisted of 494 males and 516 females aged 30–79 years ($M = 54.3$, $SD = 14.1$).

2.2 Measures

The following specific self-report scales or items from the MIDUS II and the MIDJA were used in the current study. Items were identical across both cultural groups, but were presented in participants' first language (i.e., English or Japanese, respectively).

2.2.1 Subjective Well-Being

SWB was measured using the 8-item Subjective Well-being Scale included in the MIDUS II and MIDJA (USA: $\alpha = 0.87$; Japan: $\alpha = 0.90$). See "Appendix" for details.

2.2.2 Self-Construal

Items from the Singelis Self-construal Scale (Singelis 1994) were used. Since only 17 items out of the original 24 items were used in the MIDUS II and the MIDJA, the two subscales—independence and interdependence—were constructed using these available items (7 for independence, USA: $\alpha = 0.67$; Japan: $\alpha = 0.67$; 10 for interdependence, USA: $\alpha = 0.72$; Japan: $\alpha = 0.75$) for the present study. See "Appendix" for the specific items and coding scheme.

2.2.3 Emotional Expression

As there were no direct measures of general emotional expression available in the MIDUS and MIDJA study, we constructed an emotional expression index using face-valid items that were lifted from two included scales. Six items were taken from the Spielberger Anger Expression Scale (Spielberger 1996) and two items were taken from the Self-Control Scale (Gross and John 2003; see "Appendix"). Because the response scales of these two instruments differ in range (1–4 for the former, 1–7 for the latter), raw scores were transformed into standardized scores before further data operations (USA: $\alpha = 0.80$; Japan: $\alpha = 0.62$).

2.2.4 Providing Support to Others

Two items measured social support given to each of three different target groups (friends, family, and spouse/partner) were used in the present study (USA: $\alpha = 0.68$; Japan: $\alpha = 0.85$). These items were "How much can your [friends, family, or spouse/partner] rely on you for help if they have a serious problem?" and "How much can your [friends, family, or spouse/partner] open up to you if they need to talk about their worries?"[1]

2.3 Data Analysis Strategy

We first examined differences between the American and the Japanese group on self-construals, emotional expression, social support provision, and SWB. Next, we constructed a structural model specifying the relationships between these variables. We tested the model in a confirmatory structural equation modeling (SEM) analysis using the software EQS for Windows (Bentler 1995). The goodness of fit between the data and the model was evaluated using covariance matrix corresponding to the hypothesized regressions. As suggested by Raykov, Tomer, and Nesselroade (1991), the SEM results were evaluated using three goodness-of-fit indices—normed fit index (NFI), nonnormed fit index (NNFI), comparative fit index (CFI)—and one misfit measure, root-mean square-error of approximation (RMSEA). Fit indices over .95 and a RMSEA of .06 or less are considered good model fit (Bentler 1990; Bollen 1989; Hu and Bentler 1999). Indirect effects were then evaluated by the Sobel test (Sobel 1986).

3 Results

3.1 Cultural Differences in Key Variables

To test cultural differences in self-construal (independent, interdependent), a repeated measures ANCOVA with country (USA, Japan) and gender as between subjects variable and age as a covariate, revealed main effects of self-construal, $F(1, 2{,}253) = 4.07$,

[1] Two other items: "How much do you really care about your [friends/spouse/partner]?" and "How much do you understand the way your [friends/spouse/partner] feel about things?" were included in the Support Given to *Friends* Scale and the Support Given to *Spouse/Partner* Scale in MIDUS II. These two items were intended to be included in the Support Given to *Family* Scale as well, but they were accidentally dropped during the finalizing process of the MIDUS-II questionnaire. This omission was accidently carried forward to MIDJA. Therefore, in the present study, only the two items that are common across the three domains (friends, family, and spouse/partner) were used.

$p = .044$, $d = 0.09$, and country, $F(1, 2{,}253) = 367.68$, $p < .001$, $d = 0.81$, which were qualified by the Country X Self-Construal interaction, $F(1, 2{,}253) = 10.86$, $p < .001$, $d = 0.14$. As shown in Table 1, participants overall had higher interdependent than independent scores. Additionally, the American group had higher independent, $F(1, 2{,}253) = 258.97$, $p < .001$, $d = 0.68$, and interdependent scores, $F(1, 2{,}253) = 226.15$, $p < .001$, $d = 0.63$, compared to the Japanese group. However, within the Japanese sample, participants had higher interdependent than independent scores, $t(1{,}009) = 3.39$, $p = .001$, $d = 0.15$. This difference did not exist in the American group, $t(1{,}247) = 1.18$, $p = .237$, $d = 0.05$. Additionally, a main effect of age was revealed, $F(1, 2{,}253) = 13.65$, $p < .001$, $d = 0.16$, which was qualified by Age X Self-Construal interaction, $F(1, 2{,}253) = 5.65$, $p = .018$, $d = 0.10$, indicating that age was positively related to self-construal scores, especially interdependent self-construal, $r = .10$, $p < .001$. The Gender X Self-Construal interaction, $F(1, 2{,}253) = 16.09$, $p < .001$, $d = 0.17$, indicates that males scored higher on independent self-construal than females (*Mean* (*SE*) = 5.01 (0.03) and 4.92 (0.02) respectively), $F(1, 2{,}253) = 11.89$, $p = .001$, $d = 0.15$, whereas no gender difference was revealed regarding interdependent self-construal (*Mean* (*SE*) = 4.95(0.02) and 5.00 (0.02) respectively), $F(1, 2{,}253) = 1.10$, $p = .295$, $d = 0.04$. Additionally, males had higher independent than interdependent scores, $t(1{,}034) = 2.02$, $p = .044$, $d = 0.10$, whereas this pattern was reversed for females who had higher independent scores, $t(1{,}222) = -3.12$, $p = .002$, $d = 0.14$.

Regarding emotional expression, a univariate ANCOVA with country and gender as between subjects variables and age as a covariate revealed main effects of country, $F(1, 2{,}253) = 55.59$, $p < .001$, $d = 0.31$, and gender, $F(1, 2{,}253) = 16.71$, $p < .001$, $d = 0.17$, which were qualified by a Country X Gender interaction, $F(1, 2{,}253) = 5.42$, $p = .020$, $d = 0.10$. In the American group, females reported expressing their emotions more than men (*Mean* (*SE*) = 4.64 (0.03) and 4.43 (0.03) respectively), $F(1, 1{,}245) = 19.02$, $p < .001$, $d = 0.25$, no such difference was found in the Japanese group (*Mean* (*SE*) = 4.32 (0.03) and 4.26 (0.04) respectively), $F(1, 1{,}007) = 1.88$, $p = .17$, $d = 0.09$. For both males, $F(1, 1{,}032) = 13.03$, $p < .001$, $d = 0.22$, and females, $F(1, 1{,}220) = 48.78$, $p < .001$, $d = 0.40$, Americans reported expressing their emotions more often than Japanese individuals.

Regarding social support provision, a univariate ANCOVA with country and gender as between subjects variables and age as a covariate revealed a main effect of country indicating that the American group reported providing more social support than the Japanese group, $F(1, 2{,}253) = 5{,}048.32$, $p < .001$, $d = 2.99$. Additionally, a main effect of gender indicated that females reported providing social support more often than men (*Mean* (*SE*) = 3.17 (0.01) and 3.07 (0.01) respectively), $F(1, 2{,}253) = 31.42$, $p < .001$, $d = 2.24$.

Table 1 Means (SEs) of self-construal, emotion expression, providing social support, and SWB as a function of country

	Independent self-construal	Interdependent self-construal	Emotion expressional	Providing social support	SWB
Japan	4.66^{1b} (0.03)	4.75^{1b} (0.02)	4.29^{1} (0.03)	2.48^{1} (0.01)	4.55^{1} (0.03)
US	5.20^{2a} (0.02)	5.17^{2a} (0.01)	4.55^{2} (0.02)	3.78^{2} (0.01)	5.16^{2} (0.03)
Total	4.93^{a} (0.02)	4.96^{b} (0.01)	4.42 (0.02)	3.13 (0.01)	4.85 (0.02)

Differences in superscript numbers indicate differences between countries

Differences in superscript letters indicate differences between self-construal orientations

Regarding SWB, a univariate ANCOVA with country and gender as a between subjects variable and age as a covariate revealed main effects of country, $F(1, 2{,}253) = 196.08$, $p < .001$, $d = 0.59$, and gender, $F(1, 2{,}253) = 19.27$, $p < .001$, $d = 0.18$, which were qualified by a Country X Gender interaction, $F(1, 2{,}253) = 9.53$, $p = .002$, $d = 0.13$. In the Japanese group, females reported higher levels of SWB than men (*Mean* (*SE*) = 4.71 (0.05) and 4.38 (0.05) respectively), $F(1, 1{,}007) = 25.47$, $p < .001$, $d = 0.32$, whereas no gender difference was revealed in the American group (*Mean* (*SE*) = 5.19 (0.04) and 5.13 (0.05) respectively), $F(1, 1{,}245) = 1.07$, $p = .301$, $d = 0.06$. For both males, $F(1, 1{,}032) = 130.20$, $p < .001$, $d = 0.71$, and females, $F(1, 1{,}220) = 66.72$, $p < .001$, $d = 0.47$, Americans reported higher levels of SWB than Japanese individuals. Additionally, a main effect of age was revealed, $F(1, 2{,}253) = 34.06$, $p < .001$, $d = 0.25$, indicating that age was positively related to higher levels of well-being, $r = .12$, $p < .001$.[2]

3.2 Self-Construal, Emotional Expression, Social Support Provision, and SWB

3.2.1 Measurement Model

Prior to evaluating the measurement model, items of each scale were parceled into 2–4 measure indicators (see "Appendix" for details of the specific items and algorithms forming the indicators of each scale). Inter-scale correlations among the measures for each of the US and Japan samples are displayed in Table 2.

To estimate the measurement model, we included covariances between each and every other latent variable in the model. The goodness-of-fit and misfit indices suggested that the estimated measurement model fit well to the data for both samples—*US*: $\chi^2(80, N = 1{,}248) = 371$, $p < .001$; NFI = .94, NNFI = .94, CFI = .96, and RMSEA = .054 (90 % CI .049–.060); *Japan*: $\chi^2(80, N = 1{,}010) = 299$, $p < .001$; NFI = .95, NNFI = .95, CFI = .96, and RMSEA = .052 (90 % CI .046–.058).

3.2.2 Structural Model

The results of the analyses to test the final structural model and estimates of its parameters for both samples are shown in Fig. 1. Most of the hypothesized paths were significant in the expected direction. However, incidentally, the results of Lagrange test on the initial model for both samples suggested that adding a parameter between independence and interdependence would significantly improve the model fit. Although independence and interdependence are considered and demonstrated by many to be orthogonal constructs (e.g., Kim and Sharkey 1995; Markus and Kitayama 1991; Oetzel 1998; Singelis 1994), positive correlations between the two constructs have been reported in some populations (e.g., Bresnahan et al. 2004; Kwan et al. 1997). Since our samples were significantly older than those of many other studies that consisted of mostly college students, the positive correlation between independence and interdependence found in this study might be reflecting developmentally appropriate changes in self-construal as people age. We thus added this correlation to the final structural model.

As hypothesized (#1 and #2), both emotional expression (US: $\beta = 0.21$, $p < .001$; Japan: $\beta = 0.21$, $p < .001$) and social support provision (US: $\beta = 0.13$, $p < .001$; Japan: $\beta = 0.24$, $p < .001$) were positively related to SWB. Contrary to our expectations (#1),

[2] Adding independent and interdependent self-construal as covariates in the ANCOVAs, shows that country remains a significant main effect, but that both self-construals have a significant additional effect as well.

Table 2 Correlations between the key (latent) variables: independence, interdependence, emotional expression, providing social, and subjective well-being

Sample/variable	Independence	Interdependence	Emotional expression	Providing social support	Subjective well-being
Japan (N = 1,010)/US (N = 1,248)					
Independence	–	.59	.08[a]	.33	.39
Interdependence	.37	–	−.23	.31	.39
Emotional expression	.40	−.09	–	.01[a]	.15
Providing support to others	.37	.39	.19	–	.37
Subjective well-being	.39	.42	.26	.36	–

Correlations above the diagonal represent correlations for the Japanese sample, correlations below the diagonal represent those of the US sample. All correlations are significant at alpha level of .05, except those marked with superscript a

however, emotional expression and social support provision were positively related to each other among Americans (US: $\beta = 0.14$, $p = .001$; Japan: $\beta = 0.04$, $p > .05$). Overall, as hypothesized, self-construal had direct effects on SWB and indirect effects through emotional expression and giving support to others (see Table 3). All of the hypothesized paths (except one in the Japanese sample) were significant in the expected directions. Specifically, the model indicates that interdependence was associated with a direct increase in SWB (#3) (US: $\beta = 0.34$, $p < .001$; Japan: $\beta = 0.30$, $p < .001$), as well as an indirect effect through more social support provision (#5) (US: $\beta = 0.05$, $p = .002$; Japan: $\beta = 0.05$, $p = .002$); the total effect of interdependence on SWB was $\beta = 0.32$ for US and $\beta = 0.26$ for Japan. However, at the same time interdependence was indirectly associated with *decreased* SWB through less emotional expression (#4) (US: $\beta = -0.06$, $p < .001$; Japan: $\beta = 0.09$, $p < .001$).

The hypothesis #4 that independence would be positively associated with SWB was supported (US total effect: $\beta = 0.27$; Japan total effect: $\beta = 0.23$), both directly (US: $\beta = 0.13$, $p = .003$; Japan: $\beta = 0.11$, $p < .05$) and indirectly through more emotional expression (US: $\beta = 0.11$, $p < .001$; Japan: $\beta = 0.07$, $p = .002$). Additionally, independence had a positive effect on SWB indirectly through more social support provision (US: $\beta = 0.03$, $p = .01$; Japan: $\beta = 0.05$, $p = .002$) (#5).

3.2.3 Cultural Differences in Structural Model

Since previous cross-cultural studies generally indicate differences between individualistic and collectivistic groups in SWB judgments, emotional expression, and the amount social support provided, the relations between these variables might differ between the American and Japanese sample. We tested this by examining the model fit with imposed equality constraints on all factor loadings and structural coefficients between the American and Japanese samples. The model with equality constraints on all parameters showed an acceptable fit: $\chi^2(182,\ N = 1{,}248,\ 1{,}010) = 915,\ p < .001$; NFI = .93, NNFI = .93, CFI = .94, and RMSEA = .060 (90 % CI .056–.064). This suggested that in general, the American and Japanese samples showed similar relationships between the key variables.

However, statistically significant cultural differences were observed for three structural coefficients: the correlation between independence and interdependence (larger in Japan),

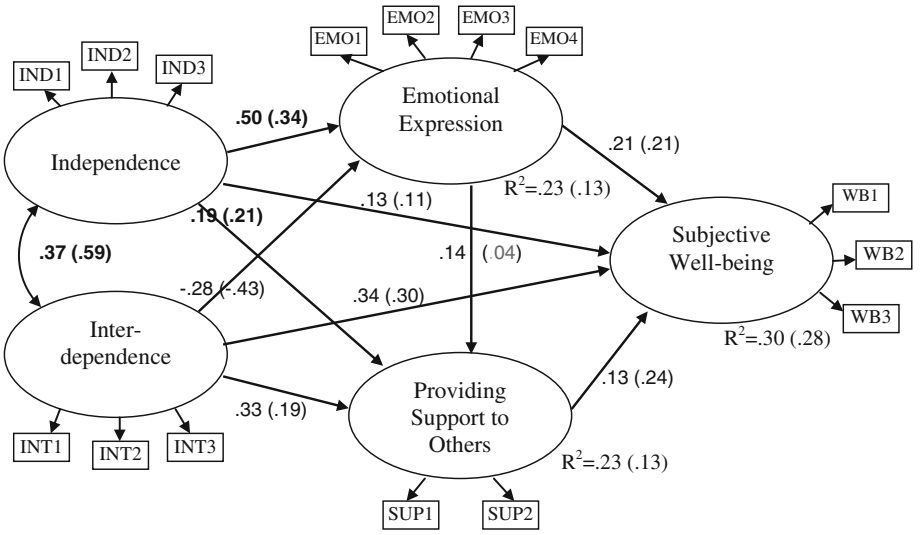

Fig. 1 Structural equation model of effects of self-construal on emotional inhibition, giving support to others, and subjective well-being in the American and Japanese sample (coefficients in parentheses). *Note* US: $\chi^2(80, N = 1{,}248) = 371$, $p < .001$; NFI = .94, NNFI = .94, CFI = .96, and RMSEA = .054 (90 % CI .049–.060). Japan: $\chi^2(80, N = 1{,}010) = 299$, $p < .001$; NFI = .95, NNFI = .95, CFI = .96, and RMSEA = .052 (90 % CI .046–.058). *Large ellipses* represent latent constructs. *Small rectangles* represent observed indicators. *Curved double-arrows* represent correlations. *Straight arrows* represent paths. Numbers next to the paths represent standardized coefficients (beta). All paths or correlations were significant at alpha level of .05, unless otherwise specified. The number in *grey* indicates statistically non-significant coefficient. Coefficients in *bold* indicate statistically significantly different strengths between the two samples. After releasing the equality constraints on these parameters, the fit indices for the multi-group simultaneous analysis were: $\chi^2(179, N = 1{,}248, 1{,}010) = 866$, $p < .001$; NFI = .93, NNFI = .93, CFI = .94, and RMSEA = .058 (90 % CI .054–.062)

the path from independence to emotional expression (larger in the United States), and the path from independence to providing social support (larger in Japan). After releasing the equality constraints on these three parameters, the model fit slightly improved: $\chi^2(179, N = 1{,}248, 1{,}010) = 866$, $p < .001$; NFI = .93, NNFI = .93, CFI = .94, and RMSEA = .058 (90 % CI .054–.062).

4 Discussion

Consistent with past research, Japanese adults reported lower levels of SWB than their American counterparts. However, the main aim of our study was to shed light on the *pathways* to a happy and satisfactory life for American and Japanese adults. Our results show that although cultural differences were found on the key variables, the pathways to SWB are actually remarkably similar across the two distinct cultural groups. First, an other-related factor, providing social support, and a self-related factor, expressing emotions, contributed positively to SWB in both the Japanese and the American group (#1 and #2). Second, when considering self-construal, we demonstrate that for both American and Japanese adults, independent self-construals were positively associated with SWB, via a direct path (#3), and also via an indirect path through more emotional expression and

Table 3 Direct, indirect, and total effects of self-construal on subjective well-being in the US and Japan samples

	β	B	*SE*	*p*
US				
Direct effects				
IND → SWB	0.13	0.19	0.06	.003
INT → SWB	0.34	0.45	0.06	<.001
Indirect effects				
IND → EMO → SWB	0.11	0.15	0.03	<.001
IND → SUP → SWB	0.03	0.04	0.02	.01
IND → EMO → SUP → SWB[a]	0.01	0.01		<.05
INT → EMO → SWB	−0.06	−0.08	0.02	<.001
INT → SUP → SWB	0.05	0.06	0.02	.002
INT → EMO → SUP → SWB[a]	−0.01	−0.01		<.05
Total effects				
IND on SWB	0.27	0.39		
INT on SWB	0.32	0.42		
Japan				
Direct effects				
IND → SWB	0.11	0.22	0.11	<.05
INT → SWB	0.30	0.52	0.09	<.001
Indirect effects				
IND → EMO → SWB	0.07	0.14	0.05	.002
IND → SUP → SWB	0.05	0.10	0.03	.002
IND → EMO → SUP → SWB[a]	0.00	0.01		<.05
INT → EMO → SWB	−0.09	−0.16	0.05	<.001
INT → SUP → SWB	0.05	0.08	0.03	.002
INT → EMO → SUP → SWB[a]	−0.00	−0.01		>.05
Total effects				
IND on SWB	0.23	0.47		
INT on SWB	0.26	0.44		

IND independence, *INT* interdependence, *EMO* emotion expression, *SUP* providing support to others, *SWB* subjective well-being

[a] The authors are unaware of a hand-calculable test of the statistical significance of indirect effects through two mediators, and adopted the rule proposed by Cohen and Cohen (1983) that the entire indirect effect can be taken as statistically significant at the alpha level of .05 if all the component unstandardized path coefficients are statistically significant at the same alpha level

giving more support to others (#4 and #5). Interdependent self-construals had also a positive direct effect on SWB (#3). However, its indirect effect on SWB was more complex: interdependence had a positive indirect effect through providing social support and a negative indirect effect through reduced emotional expression (#4 and #5).

The present study highlights the need to investigate pathways in cross-cultural research in addition to simple group comparisons to understand mental well-being across cultural groups. Results of the current study show that American participants not only rated their SWB higher than Japanese counterparts, but also reported higher levels of independence, interdependence, emotional expression, and social support provision. Interestingly, these

differences between the two cultural groups regarding SWB, emotional expression, and social support provision remained, even when we controlled for independence and interdependence. This finding indicates that other factors other than self-construal underlie the differences between cultural groups, which future research should take into account.

Although we expected Americans to rate their self-construals and emotional expressions higher given prior work (e.g., Novin et al. 2009; Oyserman et al. 2002; Singelis 1994), this was unexpected for social support provision. One possibility for this unexpected finding is that for older American adults more than for older Japanese adults, providing social support is an expression of independence, reflecting one's ability to provide care to others rather than needing it oneself. Comparisons between younger American and Japanese adults might elicit a reverse pattern, such that the younger Japanese adults would report providing social support more often. It would be interesting for future research to take different age groups into account. Another possibility is that older Japanese adults in general are more conservative in their questionnaire responses than their American counterparts (Chen et al. 1995). As a result, comparing cultural groups on their raw scores is not very helpful. It is more useful to examine which factors predict SWB within each cultural group, and to compare these associations, as we do in the current study.

By doing so, we found that emotional expression as well as social support provision contributed equally to higher SWB in both the American and the Japanese group. This contributes to existing literature in several ways. First, it indicates that in Western cultures expressing emotions is not only beneficial for specific health outcomes such as depression and hypertension (e.g., De Gennaro et al. 2004; Gortner et al. 2006), but also to one's overall judgment of well-being, and that this seems to be the case for middle-aged Japanese adults as well. Future research should examine whether this similarity is due to age, where expressing one's emotions might be more appropriate and respected for older compared to younger Japanese individuals, who may have to conform more to other-oriented norms of emotional expression. An alternative is that expressing emotions is universally beneficial for one's SWB, even though sociocultural expectations and socialization processes shape differences in it. Second, in addition to perceiving and receiving social support (Uchida et al. 2008; Yeung and Fung 2007) now *providing* social support seems to be important for one's well-being across cultures. This adds to existing literature showing this positive association in Western populations (e.g., Brown et al. 2003; Krause et al. 1992; Poulin et al. 2010; Schwartz 2007; Thomas 2010).

Our findings further indicate that individual variability in self-construal *within* cultural groups matter for the pathways to SWB—even more so than variability *between* cultural groups. With respect to self-construal patterns, Japanese participants reported higher levels of interdependent than independent self-construals, whereas American participants did not differ in their level of independent and interdependent self-construal. This sample is comprised of middle-aged Americans, and perhaps this age group is more concerned with their ingroup (e.g., their family), compared to younger Americans, while at the same time still valuing independence. Nevertheless, the two forms of self-construal both had direct positive effects on SWB, which were mediated by self-related (emotional expression) and other-related (social support provision) behaviors.

Specifically, in line with the value-congruent satisfaction model (Oishi et al. 1999b), the results show that for individuals who are more independent in their self-views, SWB is increased by more emotional expression. In contrast, for individuals with more interdependent self-views, SWB decreases via less emotional expression. This indicates that although expressing emotions is beneficial for both Japanese and American adults in terms

of SWB, it is less beneficial for individuals with interdependent self-views, both in Japan and in the US.

As expected, higher levels of interdependent self-construal is related to increased SWB through social support provision. Contrary to our expectations, higher levels of independent self-construal is also related to increased SWB through social support provision. One possibility for this unexpected relation is that providing social support also includes a self-related component, such that providing social support is an expression of personal agency, reflecting a sense of efficacy in relationships (Lu et al. 2001). Especially among older adults, it is likely that one's ability to care for and support significant others is a sign of independence rather than interdependence. Future research could test this hypothesis by comparing the model with a younger adult population.

The high similarity found between our American and Japanese group in the models stresses the need to go beyond simple cross-national comparisons, and to instead examine underlying factors that might explain cultural differences in levels of subjective well-being. As proposed by the culture-as-situated-cognition perspective (Oyserman 2011), cultural differences are not fixed, but instead malleable and subject to what is salient in the immediate moment. In other words, people's judgments about their lives are dependent upon how they see themselves in relation to others, how much they tend to express emotion, and how often they give support to others, and these predictors are consistent across two quite different cultural contexts.

Only minor differences between the American and Japanese group were found in the pathways to SWB. First, the relationship between independent and interdependent self-construal was stronger in the Japanese compared to the American group. Prior work is inconsistent in the strength of relationship between the self-construal types in various cultures, with some reporting similar correlations in an East Asian and an American group (e.g., Bresnahan et al. 2004; Yum 2004), and others reporting a stronger association in an East Asian compared to an American group (Polyorat and Alden 2005). One possibility for the strong relation between independent and interdependent self-construals is that Japan has traditionally a collectivistic society, but is westernized at the same time. Independent and interdependent self-views may be more likely to converge in Japanese than American individuals, especially as they age.

Second, independent self-construal is associated with giving more support in Japan compared to in the US. This suggests that providing social support has a larger component of personal agency in the Japanese than the American group. Compared to the US, older adults in Japan are more likely to be taken care of by their children rather than they themselves being support providers (Arai et al. 2002). Thus, it is possible that independence in Japan is associated with providing support. Third, independent self-construal shows a stronger association with emotional expression in the American than in the Japanese sample. Our finding suggests that in the American sample, expressing feelings to others may be seen more as an expression of independence, or as a privilege of being a unique person. In Japan, other situational factors might more strongly contribute to emotional expression.

There are several implications of the current study. Theoretically, this study can serve to increase our understanding of factors that feed into SWB across different cultural contexts. Specifically, it suggests that predictive models of SWB must take into account individuals' self-construals because these self-views are clues to other values and behaviors that feed into happiness. Practically, the findings indicate that within each of the cultural groups, independent and interdependent self-construals have unique pathways to SWB. As both these self-construals are not culture-dependent but rather universal, and moreover, can be

elicited by subtle cues in the environment (Oyserman 2011), the findings can have implications for how to increase SWB. In our lab we are currently manipulating self-construal and examining whether it affects participants' emotional expressions and stress reactivity. We see this as a first step to a better understanding of such practical implications.

4.1 Limitations and Conclusion

Although the MIDUS and MIDJA datasets allow us to examine our research questions, they relied on self-report data for our key measures. Behavioral measures are recommended in a future study, especially because the reliability of measurement scales often differs between cultural groups. In the current study the reliability of the emotion expression scale was good in the American sample, but moderate in the Japanese sample. One possibility is for Japanese individuals emotion expression is more dependent on the specific emotion and situation, whereas for American individuals the frequency of emotion expression is more consistent across emotions and situations (e.g., Wallbott and Scherer 1988). On a related note, our outcome, SWB, relied on a questionnaire that highly reflects a Western, individualistic perspective of the construct. That is, the measurement of subjective well-being was solely centered around one's own happiness, satisfaction, and quality of life rather than acknowledging that these life aspects of close others are also likely to influence one's SWB, at least for those who are highly other-focused. Including both individualistic and collectivistic perspectives in measurements of subjective well-being in future research will provide a more nuanced picture of pathways to subjective well-being across cultures.

Further, the current study tested a model of the extent to which self-construal underlies paths to SWB. Although the model is theory-driven and results are consistent with what should be expected based on prior research, the tested model is correlational and therefore one should be cautious in drawing conclusions about the causal relations between self-construal, emotional expression, providing social support, and SWB. A follow-up study could experimentally manipulate self-construals in both cultural groups and examine the behavioral (emotional expression, providing social support) and cognitive (SWB judgments) effects. Additionally, a longitudinal study would provide insight in the direction of the relationships. Another possible limitation is the focus on middle-age to older American and Japanese adults. Without further replication among younger adults or people from other cultures, we cannot be certain about whether the pathways to SWB we uncovered in the present paper are universal.

In sum, the present study provides some insight of "the right things to do" in order to have a happy and satisfactory life. The pathways to SWB do not necessarily differ across cultural groups, but they depend on an individual factor that is not culturally fixed, namely how people see themselves in relation to others. These self-construal types are both directly and indirectly related to SWB, through self-related or other-related behaviors.

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Appendix: Subjective Well-Being

Instructions: The next questions are about your evaluations of your life overall. Please circle the number that corresponds to how much you agree or disagree with the following.

1. Compared to most of my peers, I consider myself to be more happy.
2. In most ways my life is close to my ideal.
3. The conditions of my life are excellent.
4. I am satisfied with my life.
5. So far I have gotten the important things I want in life.
6. If I could live my life over, I would change almost nothing.
7. I have so much in life to be thankful for.
8. I am grateful to a wide variety of people.

Coding scheme: 1 = Strongly Disagree; 2 = Disagree; 3 = Slightly Disagree; 4 = Neutral; 5 = Slightly Agree; 6 = Agree; 7 = Strongly Agree.

Item parceling: Indicator 1 = items 1, 4, and 7; Indicator 2 = items 2, 5, and 8; Indicator 3 = items 2 and 6. For each indicator, data must be available for at least one item; if data for more than one items were available, the mean of the available items was used.

Sources:

Item 1

Lyubomirsky, S., & Ross, L. (1997). Hedonic consequences of social comparison: A contrast of happy and unhappy people. *Journal of Personality and Social Psychology*, *73*(6), 1141–1157.

Items 2–6

Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, *5*(2), 164–172.

Items 7–8

McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, *82*(1), 112–127.

Self-Construal

Instructions: "The following questions are about the ways you generally interact with others, including your sense of obligation towards others. Please circle the number that corresponds to how much you agree or disagree with the following statements."

Independence Subscale

1. I'd rather say "NO" directly, than risk being misunderstood.
2. Speaking up is not a problem for me.
3. Having a lively imagination is important to me.
4. I am comfortable with being singled out for praise or rewards.
5. I am the same person at home that I am at work or in other social settings.
6. I prefer to be direct and forthright when dealing with people I've just met.
7. It is important to have my own ideas.

Coding scheme: 1 = Strongly Disagree; 2 = Disagree; 3 = Slightly Disagree; 4 = Neutral; 5 = Slightly Agree; 6 = Agree; 7 = Strongly Agree.

Item parceling: Indicator 1 = items 1 and 4; Indicator 2 = items 2 and 5; and Indicator 3 = items 3, 6, and 7. For each indicator, data must be available for at least one item; if data for one item or less was missing, the mean of the available items was used.

Interdependence Subscale

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony or smooth relationships with my group.
3. I respect people who are modest about themselves.
4. I will sacrifice my self-interest for the benefit of the group I am in.
5. I should take into consideration others' advice when making work or family plans.
6. It is important to me to respect decisions made by the group.
7. I will stay in a group if they need me, even when I'm not happy with the group.
8. If people in my family fail, I feel responsible.
9. Even when I strongly disagree with group members, I avoid an argument.
10. It is important to listen to others' opinions.

Coding scheme: 1 = Strongly Disagree; 2 = Disagree; 3 = Slightly Disagree; 4 = Neutral; 5 = Slightly Agree; 6 = Agree; 7 = Strongly Agree.

Item parceling: Indicator 1 = items 1, 4, 7, and 10; Indicator 2 = items 2, 5, and 8; Indicator 3 = items 3, 6, and 9. For each indicator, data must be available for at least one item; if data for more than one items were available, the mean of the available items was used.

Source:

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, *20*, 580–591.

Emotional Expression

1. I am angrier than I'm willing to admit. (R)
2. I boil inside, but don't show it. (R)
3. I keep things in. (R)
4. I am irritated more than others are aware. (R)
5. I express my anger.
6. If someone annoys me I tell them how I feel.
7. I keep my emotions to myself. (R)
8. When I am feeling negative emotions (such as sadness or anger), I make sure not to express them. (R)

Coding scheme (items 1–6): 1 = Almost never; 2 = Sometimes; 3 = Often; 4 = Almost Always. "R" indicates item was reverse coded.

Coding scheme (items 7–8): 1 = Strongly Disagree; 2 = Disagree; 3 = Slightly Disagree; 4 = Neutral; 5 = Slightly Agree; 6 = Agree; 7 = Strongly Agree.

Item parceling: Indicator 1 = z scores of items 1 and 5; Indicator 2 = z scores of items 2 and 7; Indicator 3 = z scores of items 3 and 6; Indicator 4 = z scores of items 4 and 8. For each indicator, data must be available for at least one item; if data for more than one items were available, the mean of the available items was used.

Sources:

Items 1–6

Spielberger, C. D. (1996). *State-Trait Anger Expression Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Items 7–8
Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348–362.

Giving Support to Others

Support Given to Friends

1. How much can your friends rely on you for help if they have a serious problem?
2. How much can your friends open up to you if they need to talk about their worries?

Support Given to Family

1. How much can your family (not including your spouse or partner) rely on you for help if they have a serious problem?
2. How much can your family open up to you if they need to talk about their worries?

Support Given to Spouse/Partner

1. How much can your spouse/partner rely on you for help if he/she has a serious problem?
2. How much can your spouse/partner open up to you if he/she need to talk about their worries?

Coding scheme: 1 = A Lot; 2 = Some; 3 = A Little; 4 = Not At All. All items were reverse coded.

Item parceling: Indicator 1 = items 1, 3, and 5; Indicator 2 = items 2, 4, and 6. For each indicator, data must be available for at least one item; if data for more than one items were available, the mean of the available items was used.

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