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RESEARCH PAPER

Differences in How Trait Emotional Intelligence Predicts Life Satisfaction: The Role of Affect Balance Versus Social Support in India and Germany

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Abstract In this study, we assessed cross-cultural differences in the extent to which general emotional intelligence is linked to life satisfaction and analyzed mediators of this relationship. We used data from an individualistic culture (Germany) and a collectivistic culture (India) and had university students respond to self-report measures of life satisfaction, positive and negative affect, emotional intelligence, perceived social support, and independent and interdependent self-construals. In line with our hypotheses, we found that Indian students reported less subjective well-being and emotional intelligence than German students. Emotional intelligence was associated with life satisfaction to a higher degree in Germany than in India. In Germany, independent but not interdependent self-construal was related to emotional intelligence; in India, both independent and interdependent self-construals were significantly associated with emotional intelligence. Results of structural equation modeling provided support for our hypotheses regarding mediational models in that the effect of emotional intelligence on life satisfaction was fully mediated by affect balance in Germany and by perceived social support in India.

Keywords Life satisfaction · Emotional intelligence · Affect balance · Subjective well-being · Cross-cultural differences

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1 Introduction

Feeling good about one's life is a fundamental concern for most people (Diener 1998). Subjective well-being, which is characterized by the coexistence of satisfaction with life with a balance between positive and negative affect (Diener et al. 1999), has without a doubt been the most frequently used conceptualization of the ways in which people positively evaluate their lives.

Experiencing more pleasant than unpleasant emotions and achieving well-being are universally desirable in most cultures; however, some cultural differences have been noted. For instance, people in individualistic countries report higher life satisfaction and more positive affect than their counterparts in collectivistic countries (Diener et al. 1995; Kitayama and Markus 2000). Besides, internal factors such as emotional states and personality are the primary determinants of life satisfaction in individualistic cultures, whereas in more collectivistic cultures, well-being depends not only on internal, but also on external factors such as interpersonal relationships and relationship harmony (Diener et al. 1995; 1999; Kwan et al. 1997; Suh et al. 1998). Thus, the ways in which people make well-being judgments are partly shaped by the broader social context and cultural norms. Apparently, these norms affect the emphasis that is placed on the specific criteria used to evaluate one's well-being (Kitayama and Markus 2000; Suh 2000; Uchida et al. 2004).

One psychological construct that has recently attracted considerable attention in well-being research is emotional intelligence (EI). There is a controversy regarding whether EI is a set of mental abilities related to how well people can reason about, process, and regulate emotions—a conceptualization that can best be assessed on the basis of performance measures (Mayer and Salovey 1997; Mayer et al. 2004), or whether it is a mix of emotion-related dispositions located at the lower levels of personality hierarchies—a conceptualization that should be assessed on the basis of questionnaires (Bar-On 2000; Petrides and Furnham 2003). As these two conceptualizations are complementary rather than oppositional, they can both be used to understand an individual's emotional functioning. In this study, we followed the trait approach and used a self-report measure to assess EI. A number of self-report instruments have been developed with the purpose of assessing emotional intelligence and its related constructs (e.g., Bar-On 2000; Salovey and Mayer 1990; Schutte et al. 1998). In this study, we employed one of the most widely used self-report measures: the Schutte Self-Report Emotional Intelligence Scale (SSREI; Schutte et al. 1998). Schutte and her colleagues have reported that the scale is especially appropriate when the purpose of research is to assess characteristic adaptive emotional functioning in daily life (Schutte et al. 2002, 2009).

Whether based on the ability or the trait approach, research has documented that emotional intelligence is linked to life satisfaction, which can be defined as the cognitive component of subjective well-being (e.g., Extremera and Fernández-Berrocal 2005; Gallagher and Vella-Brodrick 2008; Martinez-Pons 1997; Palmer et al. 2002). One plausible explanation as to the positive relation between emotional intelligence and life satisfaction is that individuals with high emotional intelligence—who can more accurately perceive and manage emotions than others—tend to experience lower levels of distress and negative affect, and that the capacity to perceive and regulate emotions is likely to lead to the experience of positive affect (Salovey and Mayer 1990). Indeed, previous research has shown that adaptive emotional functioning is associated with the experience of pleasant emotions (Furnham and Petrides 2003; Schutte et al. 2002). Besides, theorists have asserted that emotional abilities help people to acquire social competence, and thus to achieve richer social relationships, which in turn are related to well-being (Salovey et al.

2000). Supporting evidence has come from research using performance measures of EI as well as research using self-report measures. For example, people with good emotional abilities are likely to have more positive interactions with others (Lopes et al. 2004; Lopes et al. 2011) and to report fewer negative interactions with close friends (Lopes et al. 2003); whereas those who score high on emotional intelligence tend to perceive more social support (Gallagher and Vella-Brodrick 2008) and to report high satisfaction in relationships (Schröder-Abe and Schütz 2011). In addition, research has documented that people who perceive themselves as having strong social networks and good social support report better mental health and positive affect (Lu and Lin 1998; Sarason et al. 2001). Thus, emotional intelligence is likely to be associated with greater life satisfaction by means of the experiences of both positive affective states and greater social rewards.

Although emotional intelligence has attracted growing interest from researchers, a cross-cultural focus on this construct has been neglected. Emotions are embedded in larger social and cultural contexts and many aspects of an individual's emotional experiences are shaped by culturally sanctioned values (Cross and Madson 1997; Mesquita and Frijda 1992). Accordingly, emotional experiences and behaviors that fit with a particular culture are likely to be reinforced by that culture. Indeed, research has reported that cultural differences exist in relation to the perception, expression, and regulation of emotions (e.g., Gross et al. 2006; Tsai and Chentsova-Dutton 2003). One widely recognized dimension of culture that is known to differentiate societies is individualism-collectivism. Typical individualistic cultures foster and encourage emotional expression and self-assertion through emotions, both of which are associated with more effective functioning (Kitayama et al. 2000). Besides, in these cultures, people seem to put more emphasis on affective states in evaluating life satisfaction (Schimmack et al. 2002; Suh et al. 1998). On the other hand, in relatively collectivistic cultures, social networks and the support provided by family and close acquaintances are valued to a greater degree than in individualistic ones (Sinha and Verma 1994). Social factors such as relationships and maintaining harmony in these relationships are important to the well-being of individuals in collectivistic cultures (Goodwin and Plaza 2000; Kwan et al. 1997; Mesquite 2001). Following this cultural perspective, we propose that in different cultures, the relation between emotional intelligence and well-being may display patterns that operate as a function of different mechanisms. Specifically, we propose that in individualistic cultures, adaptive emotional functioning may lead people to achieve a balance in positive and negative emotions, which may result in greater life satisfaction. On the other hand, in collectivistic cultures, emotional intelligence and well-being may be associated by means of support from others.

In this cross-cultural study, we selected samples from two cultures that are known to represent different cultural orientations, namely, Germany and India. Germany is a typical individualistic culture in which values such as individual autonomy, independence, and emotional expression are highly encouraged (Schwartz 2004). India, on the other hand, is a typical collectivistic culture that predominantly emphasizes values such as construing the self as related to others and the environment, being embedded in in-groups, and strong emotional dependence on family (Mishra et al. 2006; Misra 2001). In the Indian culture, there is great importance attached to loyalty to groups, especially to the family, and to complying with group obligations and duties (Lewis 1999). Indians are also known to place low emphasis on inner dispositions for their self-conceptions as well as on their well-being (Suh et al. 1998). Considering these differences between Germany and India, this study was specifically aimed at (a) examining cross-cultural differences in terms of well-being and trait emotional intelligence; (b) examining the predictive value of trait emotional intelligence on life satisfaction across cultures, as well as the predictive value of the

variables that are proposed to account for this relation, namely, affect balance and social support; and (c) testing the mediating effect of affect balance and social support on the relation between emotional intelligence in the two cultures.

It has been argued that in cross-cultural research, it is necessary to take cultural orientations into account rather than assuming that samples selected from certain countries in general represent individualistic or collectivistic outlooks (Matsumoto and Yoo 2006). In this study, we assessed whether the samples from the two countries actually differed in cultural orientations by means of self-construals, which refer to the ways people define themselves either in relation to others (interdependent self-construal) or as distinct from others (independent self-construal; Markus and Kitayama 1991). Although independent and interdependent self-construals are individual-level self-conceptions, they are, in general, perceived as the dominant constructions of the self in individualistic and collectivistic cultures, respectively (Triandis 1995). Thus, to a certain extent, they can pinpoint cultural self-orientations that are dominant in the society.

First, based on previous research findings (Diener et al. 1995; Kitayama and Markus 2000), we hypothesized that participants in Germany (an individualistic country) would score higher on life satisfaction and affect balance than those in India (a collectivistic country). Second, given the emphasis on emotional functioning as well as better emotional abilities in individualistic cultures (Gross and John 2003; Karim and Weisz 2010), we hypothesized that German participants would report higher emotional intelligence than those in India, and that emotional intelligence would be a better predictor of life satisfaction in Germany than in India. Because people in collectivistic cultures are more relationship oriented, they might use their emotional abilities to receive more social support and enrich their social networks; whereas in individualistic cultures, people can be expected to use their emotional abilities to achieve affect balance, which would consequently lead to greater life satisfaction. In other words, in each culture, emotional intelligence is used to achieve a highly valued cultural good. Thus, lastly, we hypothesized that the effect of emotional intelligence on life satisfaction would be mediated by affect balance in Germany, but not in India. On the other hand, in India, emotional intelligence was proposed to predict life satisfaction via perceived social support.

2 Method

2.1 Participants

Two undergraduate university student samples were used in this study. Students in Germany (62 males, 108 females) were selected from a large Eastern university. All students had German roots. In India, students (75 males, 157 females) were selected from a large Southern university. Although data in India were collected from 300 students in the first place, due to the heterogeneous nature of the sample in terms of socioeconomic status and caste hierarchy, we used the data of the participants who reported representing the middle and higher casts and the Hindu religion only. Participants' ages ranged from 18 to 32 ($M = 21.50$, $SD = 3.65$) and 18 to 27 ($M = 20.47$, $SD = 1.33$) in Germany and India, respectively.

2.2 Instruments and Procedures

The participants in India completed the original English versions of the scales, whereas participants in Germany responded to standardized German versions. Participation in

Germany was conducted online. In India, students filled out the study measures during regular class hours. For their participation, students in Germany received course credit, and students in India were compensated with money.

2.2.1 Emotional Intelligence

The Schutte Self-Report Emotional Intelligence Scale (SSREI; Schutte et al. 1998) was used to assess emotional intelligence. The SSREI measures the extent to which individuals identify, understand, regulate, and harness emotions both in the self and others. It has 33 items rated on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include "I can tell how other people are feeling by listening to their tone of voice" and "When I experience a positive emotion, I know how to make it last." Schutte et al. developed the scale based on Salovey and Mayer's (1990) four-factor model of emotional intelligence: perception of emotions, managing one's own emotions, managing others' emotions, and utilization of emotions. They reported that items supported a strong first factor; later studies (e.g., Gignac et al. 2005; Petrides and Furnham 2000) yielded four-factor solutions, although slight differences were reported regarding the items that loaded on each factor. Based on an extensive review of the studies that examined the factor structure of their scale, Schutte et al. (2009) reported that the four-factor solution (perception of emotions, managing one's own emotions, managing others' emotions, and utilization of emotions) was supported. In their validation study of the scale for German and Indian cultures, Sharma et al. (2009) also found that the four-factor solution was verified in both cultures. However, some of the items loaded on different factors in Germany and India, a finding that might partly be interpreted as a lack of structural equivalence. Given these differences, in the current study, the measurement model was tested using the original four-factor structure and using the items identified in the recent review by Schutte et al. (2009). Using an overall score of EI provided a better fit. The alpha reliability coefficients for the overall score in Germany and in India were .86 each.

2.2.2 Affect Balance

The balance between positive and negative emotions was assessed using the Positive Affect and Negative Affect Schedule (PANAS; Watson et al. 1988). The PANAS has 10 items for positive emotions (e.g., enthusiastic, proud, active) and 10 items for negative emotions (e.g., upset, angry, nervous). Respondents were asked to indicate how they had been feeling for the last 2 weeks on each item from 1 (*very slightly or not at all*) to 5 (*extremely*). The affect balance (AB) score was computed by subtracting the negative affect score from the positive affect score. In this study, German participants responded to the German version by Krohne et al. (1996). The alpha reliabilities for PA, NA, and AB were .82, .80, and .80 in Germany and .80, .84, and .82 in India, respectively.

2.2.3 Life Satisfaction

The Satisfaction with Life Scale (SWLS; Diener et al. 1985) is a commonly used measure of global life satisfaction. It consists of five items (e.g., "In most ways my life is close to ideal") rated on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Items are summed to form a general score of life satisfaction (LS). The German version of the SWLS was adapted by Schumacher (2003). The alpha reliability coefficients for the current study were .76 in Germany and .81 in India.

2.2.4 Perceived Social Support

We used the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al. 1988) to assess perceived support from others. The MSPSS has 12 items rated on a 7-point Likert scale ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). Higher scores indicate greater perceived social support. Sample items include "I get the emotional help and support I need from my family," "I can talk about my problems with my friends," and "There is a special person who is around when I am in need." Three separate scores, namely Family, Friends, and Significant Other can be obtained as well as a total support score. Given that our hypotheses were based on general perceived social support, we used the total perceived social support score (SS) for the analyses. The scale was translated into German by the third author. The alpha reliabilities for SS were .94 and .86 for Germany and India, respectively.

2.2.5 Self-Construals

Independent and interdependent self-construals were assessed using the Self-Construals Scale (SCS; Singelis 1994). The scale employs two subscales: independent and interdependent self-construal, each with 12 items. The independent self-construal subscale measures the degree to which the individual considers him/herself as separate from other people in a social context (e.g., "My personal identity independent of others is very important to me"). The interdependent self-construal subscale assesses the degree to which the individual emphasizes him or herself as being involved in a social context (e.g., "Even when I strongly disagree with group members, I avoid an argument"). Respondents rated themselves on each item on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In Germany, the German version by Friedlmeier et al. (2008) was used. The alpha reliabilities were .80 and .79 for the independent and interdependent self-construal scales in Germany, and .78 and .81 in India.

3 Results

3.1 Preliminary Analyses

We examined the differences in variables between country samples by a series of univariate analyses of variance using country as the independent variable. Means and standard deviations of study variables are displayed in Table 1. The alpha level was set to .005 to control for Type I errors. Partial eta squared (partial η^2) was used to determine the effect sizes (boundary values for small, medium, and large effect sizes are .01, .06, and .14; Cohen 1988). As expected, participants in India scored significantly higher on interdependent self-construal than those in Germany, with a high effect size. Although Germans reported higher independent self-construal than Indians, the difference was not significant, $p = .15$. Consistent with the hypotheses, participants in Germany reported significantly higher life satisfaction, higher affect balance, and higher emotional intelligence than those in India. The effect sizes were large for life satisfaction and affect balance and medium for emotional intelligence. Germans scored significantly higher than Indians on perceived support.

Although no related hypotheses were formulated, we also examined possible gender differences in study variables. The effect of gender on emotional intelligence was not

Table 1 Means and standard deviations of study measures and test of country differences

	Germany ($N = 170$)		India ($N = 232$)		F	Partial η^2
	M	*SD*	*M*	*SD*		
SWLS	26.94	3.33	22.63	4.51	110.83*	.20
AB	1.73	0.86	0.74	0.68	120.39*	.21
EI	128.25	13.32	121.48	16.29	19.94*	.06
SS	68.74	11.06	64.68	11.15	46.41*	.10
SC-independent	42.44	5.70	41.63	5.48	2.10	.00
SC-interdependent	40.12	4.55	45.65	7.43	73.64*	.15

SWLS satisfaction with life scale, *AB* affect balance, *EI* emotional intelligence, *SS* social support, *SC-independent* independent self-construal, *SC-interdependent* interdependent self-construal

* $p < .005$

significant, $F(1, 400) = 7.75$, $p = .02$. A significant gender effect was found for life satisfaction, $F(1, 400) = 12.87$, $p < .005$, with females reporting higher satisfaction with life than males. However, the effect size was small, partial $\eta^2 = .02$. For affect balance, no gender differences were observed, $F(1, 400) = 1.02$, $p = .32$. Based on these results, we did not include gender in the main analyses.

Bivariate correlations among study measures are displayed in Table 2, presented separately for each country sample. The differences between the correlations were tested using Fisher's z-transformations. In both countries, EI, AB, and SS were positively associated with SWLS, but AB was more highly correlated with SWLS in Germany than in India. This difference between the correlations for AB was significant ($z = 3.1$, $p < .05$).

3.2 Invariance of the Measurement Model

The measurement model posits the relations between the observed variables and their underlying constructs; these were allowed to intercorrelate freely. Four latent constructs were used in the present study: LS (life satisfaction), AB, EI, and SS. Given the cross-cultural nature of the study, we first compared the measurement model in which each latent variable was defined by the composite scores of original factors as observed variables

Table 2 Intercorrelations among study variables presented separately for Germany and India

Variable	1	2	3	4	5	6
SWLS	–	.18*	.24**	.35**	.16*	.22*
AB	.46**	–	.28**	.32**	.28**	.32**
EI	.30**	.46**	–	.55**	.48**	.66**
SS	.35**	.29**	.02	–	.30**	.56**
SC-independent	.01	.21*	.35**	.02	–	.39**
SC-interdepedendent	.02	.04	.09	.06	.06	–

Intercorrelations for the German sample ($N = 170$) are presented below the diagonal, and for the Indian sample (232) are above the diagonal

SWLS satisfaction with life scale, *AB* affect balance, *SSREI* emotional intelligence, *SS* social support, *SC-independent* independent self-construal, *SC-interdependent* interdependent self-construal

* $p < .005$; ** $p < .001$

(a priori) with the model in which three parcels for each construct were used as observed variables (a posteriori). The only exception was LS, which was defined using the items of the SWLS because it consisted of only five items. The a priori measurement model consisted of four factors for EI (perception of emotions, managing one's own emotions, managing others' emotions, utilization of emotions), three factors for SS (family support, friend support, other support), two factors for AB (positive affect and negative affect), and five items for LS. The a posteriori model consisted of three parcels for EI, AB, and SS, and five items for LS (Table 3).

Before invariance tests, the proposed measurement models were tested for each country to understand the fit of the data to the models. The test of the a priori model in the German sample resulted in a poor fit: $\chi^2(71, N = 170) = 241.54, p < .001$; GFI = .83; CFI = .81; IFI = .82; RMSEA = .119 (90% CI = .10–.14). The results of the a priori measurement model in the Indian sample indicated a good fit: $\chi^2(71, N = 232) = 104.53, p < .01$; GFI = .94; CFI = .98; IFI = .98; RMSEA = .045 (90% CI = .025–.063). However, the a posteriori model resulted in acceptable goodness of fit statistics for both the German, $\chi^2(71, N = 170) = 132.71, p < .01$; GFI = .90; CFI = .94; IFI = .95; RMSEA = .072 (90% CI = .053–.090), and the Indian samples, $\chi^2(71, N = 232) = 80.19, p > .05$; GFI = .95; CFI = .99; IFI = .99; RMSEA = .024 (90% CI = .000–.046). It should be noted that the last item of the SWLS was omitted from the following analyses because it did not have a significant factor loading in the Indian sample in either model.

Measurement invariance between the groups was tested using a set of nested models with different constraints on the measured parameters. In the first model, all parameters were constrained to be equal in both groups. The results indicated that the model did not fit the data well: $\chi^2(150, N = 402) = 516.86, p < .01$; GFI = .89; CFI = .83; IFI = .83; RMSEA = .111 (90% CI = .10–.12). We proceeded with the unconstrained model in which factor loadings of the observed variables were assumed to be different in the two countries. Although this model improved the model fit, it was still not acceptable with the following goodness of fit statistics: $\chi^2(141, N = 402) = 530.19, p < .01$; GFI = .88; CFI = .84; IFI = .85; RMSEA = .118 (90 % CI = .11–.13). Finally, we tested the measurement model in which only the error variances of the observed variables were freely estimated in both cultures, which produced an acceptable fit to the data: $\chi^2(137, N = 402) = 261.96, p < .01$; GFI = .93; CFI = .95; IFI = .95; RMSEA = .068 (90% CI = .055–.080).

All results showed that the main differences between the groups were due to the error variances of the measured variables, which indicated partial invariance (Kline 2005). Given that the measurement model was considered to be partially equal in both groups, we tested the full multigroup structural model in the next step.

3.3 Invariance of the Structural Model

3.3.1 Multigroup Path Analysis

Before multigroup path analysis, the structural model in Fig. 1 was tested in each sample. Results showed that the model fit the data in both the German, $\chi^2(59, N = 170) = 98.31, p < .01$; GFI = .92; CFI = .96; IFI = .96; RMSEA = .063 (90% CI = .040–.084), and Indian samples, $\chi^2(59, N = 232) = 76.86, p > .05$; GFI = .95; CFI = .99; IFI = .99; RMSEA = .036 (90% CI = .00–.057).

The equivalence of the structural model between the two cultures was accomplished by testing a set of nested models in which each of the constraints for paths in the proposed

Table 3 Bivariate correlations among observed variables for German and Indian samples

	EIP1	IEP2	EIP3	ABP1	ABP2	ABP3	SSP1	SSP2	SSP3	LSI1	LSI2	LSI3	LSI4
EIP1	–	.72**	.71**	.19**	.28**	.17**	.43**	.48**	.51**	.15*	.20**	.18**	.21**
EIP2	.68**	–	.71**	.18**	.31**	.20**	.37**	.37**	.46**	.10	.10	.13	.17**
EIP3	.72**	.61**	–	.08	.27**	.14*	.40**	.43**	.51**	.24**	.13	.16*	.18**
ABP1	.28**	.36**	.31**	–	.48**	.38**	.19**	.26**	.23**	.14*	.07	.11	.04
ABP2	.26**	.24**	.17*	.56**	–	.51**	.23**	.29**	.28**	.08	.18**	.06	.02
ABP3	.30**	.32**	.21**	.56**	.69**	–	.18**	.23**	.24**	.12	.18**	.09	.12
SSP1	.03	.15	.08	.08	.28**	.27**	–	.75**	.72**	.16*	.29**	.30**	.29**
SSP2	.01	.09	.05	.18*	.30**	.31**	.90**	–	.72**	.09	.26**	.28**	.31**
SSP3	.01	.12	.06	.15	.29**	.31**	.91**	.92**	–	.15*	.25**	.30**	.34**
LSI1	.31**	.19*	.20**	.22**	.28**	.25**	.13	.08	.19*	–	.22**	.11	.07
LSI2	.09	.08	.09	.13	.23**	.17*	.21*	.21**	.20**	.29**	–	.33**	.30**
LSI3	.22	.32**	.15	.47**	.39**	.36**	.22**	.26**	.25**	.39**	.23**	–	.33**
LSI4	.09	.20**	.04	.32**	.30**	.26**	.26**	.33**	.35**	.16*	.09	.46**	–

Intercorrelations for the German sample ($N = 170$) are below the diagonal, and for the Indian sample (232) are above the diagonal; EIP1-EIP3 = three parcels of the SSREI for the construct of emotional intelligence, ABP1-ABP3 = three parcels of the PANAS for the construct of affect balance, SSP1-SSP3 = three parcels of the MSPSS for the construct of social support, LSI1-LSI4 = Four items of the SWLS for the construct of life satisfaction

* $p < .05$; ** $p < .01$

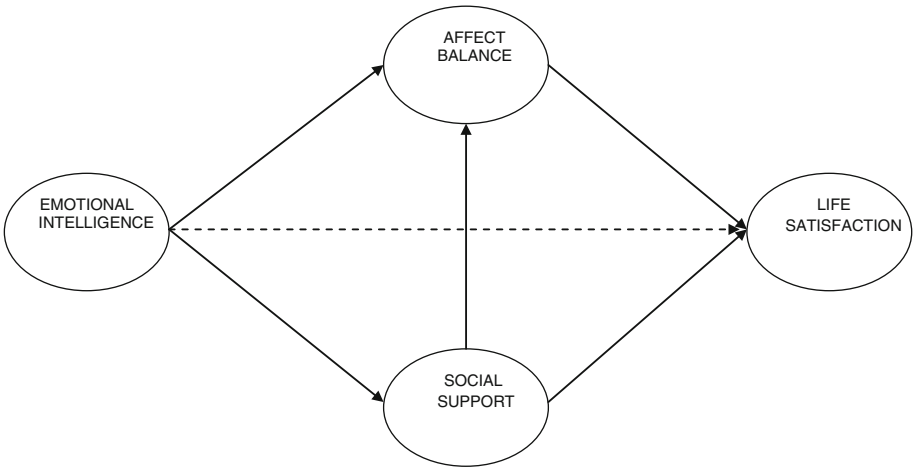

Fig. 1 The hypothesized model concerning the mediator roles of affect balance and social support on the relationship of emotional intelligence with life satisfaction

model (Fig. 1) was dropped compared to the model in which all paths were constrained to be equal across groups. When comparing these unconstrained models, the ones that did not produce a significant Chi-square value were ignored in the next comparison. The model in which all paths were constrained produced an acceptable fit to the data with the following statistics: $\chi^2(137,\ N = 402) = 261.96,\ p < .01$; GFI = .93; CFI = .95; IFI = .95; RMSEA = .068 (90% CI = .055–.080). Dropping the constraint for the path from EI to LS produced nearly the same goodness of fit statistics: $\chi^2(136,\ N = 402) = 261.71$, $p < .01$; GFI = .93; CFI = .95; IFI = .95; RMSEA = .068 (90% CI = .055–.080). The Chi-square difference test (2.94, $df = 1$, $p > .05$) showed that the decrease in Chi-square was not statistically significant, which means that there was no difference between the countries concerning the path.

In a second step, the path from SS to LS was estimated in both countries to test the effect of a difference across countries regarding the model fit. This model produced a better fit, $\chi^2(136,\ N = 402) = 253.55,\ p < .01$; GFI = .93; CFI = .96; IFI = .96; RMSEA = .066 (90% CI = .053–.078, which was confirmed by the Chi-square difference test (8.41, $df = 1$, $p < .01$).

The third step was accomplished by dropping the constraint for the path from AB to LS, which resulted in the following goodness of fit statistics: $\chi^2(135,\ N = 402) = 246.09$, $p < .01$; GFI = .93; CFI = .96; IFI = .96; RMSEA = .064 (90% CI = .051–.077). The Chi-square difference test (7.46, $df = 1$, $p < .01$) showed that dropping the constraint resulted in a better model.

In a fourth step, the path from SS to AB was freely estimated in both countries. The goodness of fit statistics were as follows: $\chi^2(134, N = 402) = 242.85, p < .01$; GFI = .93; CFI = .96; IFI = .96; RMSEA = .064 (90% CI = .051–.076). The Chi-square difference test (3.24, $df = 1, p > .05$) showed that dropping the constraint did not produce a better fit, indicating that the path could be considered to be equal between the countries.

In a fifth step, the constraint for the path from EI and SS was dropped, which produced better goodness of fit statistics: $\chi^2(134,\ N = 402) = 227.77,\ p < .01$; GFI = .94; CFI = .96; IFI = .96; RMSEA = .059 (90% CI = .046–.072). The Chi-square difference

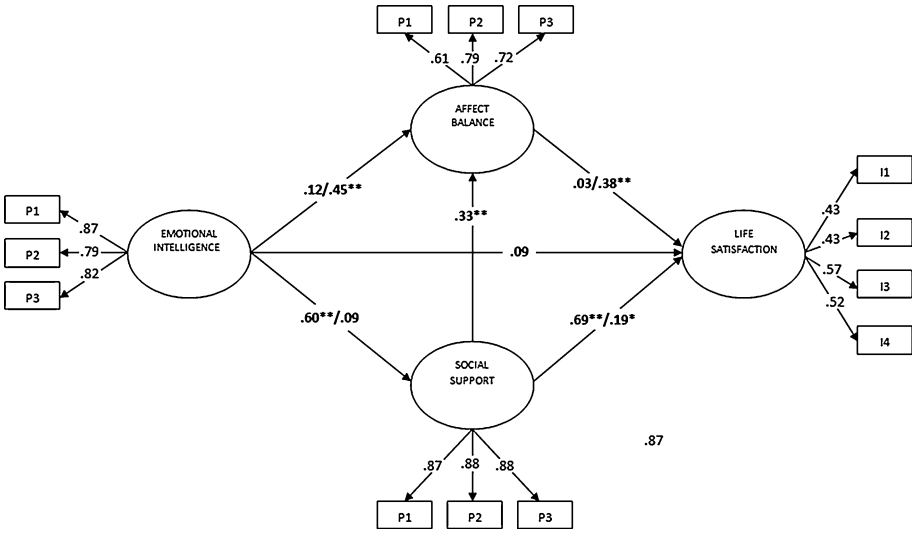

Fig. 2 Standardized parameter estimates of the structural models for both countries. N = 170 for the German sample, and N = 232 for the Indian sample; Ps, parcels for three latent variables; ls, items of the SWLS; equivalent paths are represented by one coefficient; for nonequivalent paths, the coefficients for the Indian sample are represented before the slash

test (18.32, $df = 1$, $p < .01$) showed that the increase in Chi-square was statistically significant, which indicated that the path should be considered to be different across countries.

Finally, the path from EI to AB was freely estimated in both samples and resulted in better goodness of fit statistics: $\chi^2(133,\ N = 402) = 223.90,\ p < .01$; GFI = .94; CFI = .97; IFI = .97; RMSEA = .058 (90% CI = .045–.072). The increase was found to be statistically significant by a Chi-square difference test (4.13, $df = 1$, $p < .05$). The final model with standardized parameter estimates is displayed in Fig. 2. These results fully supported our hypotheses. According to the coefficients in Fig. 2, the relation between EI and LS was fully mediated by AB and SS. The roles of these mediators, however, differed across cultures as expected. That is, only AB mediated the relation in the German sample, whereas in the Indian sample, SS was the only mediator of this relation. Twenty-nine percent of the variance in AB was accounted for by EI and SS in the German sample, but only 19% was explained by these variables in the Indian sample. On the other hand, in the German sample, none of the variance in SS was accounted for by EI, whereas the amount was 31% in the Indian sample. Finally, 36% of the variance in LS was accounted for by the model in the Indian sample, but that percentage was 56% in the German sample.

4 Discussion

We aimed to fill the gap in cultural differences in the relation between emotional intelligence and well-being. Specifically, we tested the assumptions that different variables would account for these relations in different cultures.

Based on previous research, which showed that Indians score higher on collectivism than do people from typical individualistic cultures such as the USA (Radhakrishnan and Chan

1997), we based the study hypotheses on the assumptions that India would represent a typical collectivist and Germany a typical individualistic culture. In this study, participants in Germany reported higher independent and lower interdependent self-construal than Indian participants. Although we used an individual-level cultural self-conception measure and did not assess individualism-collectivism at the country level, this result provides support for the cultural differences between the two countries. In line with our hypothesis, in Germany, an individualistic culture, higher cognitive and affective well-being was reported than in India. This is in line with existing research on cultural differences in well-being (Diener et al. 1999; Kitayama and Markus 2000). In addition, as expected, German participants reported higher emotional intelligence than those in India. Although not much has been published on cultural differences in emotional intelligence, there is evidence that individualism is associated with the more adaptive use of emotions (Matsumoto et al. 2008), and people from individualistic cultures are better at perceiving, expressing, and regulating emotions (e.g., Karim and Weisz 2010; Matsumoto et al. 2008), which matches our findings. Although we did not formulate any hypotheses regarding mean differences in social support between the two countries, we found that German participants scored higher on perceived social support. In general, people in collectivistic cultures are known to have richer social networks and to perceive more support from others (e.g., Kim et al. 1994; Triandis 1995), which seems to contradict the findings of our study. However, these studies also emphasized that the differences are evident specifically for the support from in-group members such as the family. In the current study, we reported the differences in the total perceived support score. However, in analyses not reported in this paper, when the dimensions of the MSPSS were used, the difference between Germany and India in family support was nonsignificant, whereas the differences in friend and significant other support were significant. Thus, it may be possible that the groups in which the support is perceived do make a difference, and it may be important to take them into account, especially in cross-cultural studies.

In line with our expectations, emotional intelligence was a better predictor of life satisfaction in Germany than in India. This is in accordance with studies that have noted that internal attributes are the primary sources of life satisfaction judgments in individualistic cultures (e.g., Diener et al. 1995; Kwan et al. 1997; Schimmack et al. 2002). The importance of adaptive emotional functioning for life satisfaction has been revealed in several studies (e.g., Gallagher and Vella-Brodrick 2008; Martinez-Pons 1997); however, the current study extended these findings by documenting evidence in two cultures and by showing that emotional intelligence had a stronger relation to life satisfaction in an individualistic as compared to a more collectivistic culture. At the same time, we provided the first evidence that affect balance was an important factor in life satisfaction judgments in Germany but not in India. On the other hand, social support was a predictor of life satisfaction both in India and in Germany. The role of good social support and social networks for aspects of well-being seems universally important, which has also been documented by previous research (e.g., Lu and Lin 1998; Sarason et al. 2001). This also matches evidence that people who place a high importance on social relationships report greater happiness when they are more satisfied with their social interactions (Oishi et al. 1999). However, apparently, people in India rely on social relationships in making life satisfaction judgments, but they do not rely on affective experiences.

Although emotional abilities were positively associated with life satisfaction in two cultural samples, as expected, the pathways were different. We found that emotional intelligence predicted life satisfaction through the mediating effect of affect balance in Germany, but through the mediating effect of social support in India. This supported our first assumption, which proposed that in individualistic cultures, people would use their

emotional abilities to reach favorable emotional states, which again would be relevant to well-being. This finding converges with evidence on the importance of concepts such as emotional expression and inner psychological states in individualistic cultures (Schimmack et al. 2002; Suh 2000), and is also consistent with previous findings that positive affect acts as a mediator between the perception of emotions in one's self and life satisfaction (Palomera and Brackett 2006). Our second assumption was that because collectivistic cultures place an emphasis on the social aspects of information such as social relationships (Lee et al. 2000), the role of social support would be important in the relation between emotional intelligence and life satisfaction in a more collectivistic culture. This assumption was highly supported given that social support fully mediated the effect of emotional intelligence on life satisfaction. Evidently, emotional intelligence influences life satisfaction to the extent that it leads people to experience affective balance in Germany, and to the extent that it enables people to perceive more support from others in India. In fact, the correlations among variables showed that in Germany, independent, but not interdependent self-construal was related to emotional intelligence and affect; however, in India, both independent and interdependent self-construals were significantly associated with well-being, emotional intelligence, and social support. Thus, these findings provide further support for the importance of defining the self in individualistic terms for well-being in individualistic cultures, and in both individualistic and relational terms in collectivistic cultures (Nezlek et al. 2008; Sinha and Verma 1994).

One limitation of our study was that the samples represented only certain parts of the populations. We recommend that future studies examine larger and more representative samples and integrate multiple assessment methods in addition to self-reports to provide further evidence for the findings of this study. Especially in countries like India, marked differences in cultural value orientations and well-being are evident in different segments of the society. Therefore, the present study findings should be interpreted with caution and should not be generalized to the general population. Besides, although student well-being is an indicator of well-being in young adulthood, and students can contribute valuable and accurate judgments about their well-being, it is important to validate the findings with adult samples as well. Finally, we did not include any control variables in this study. Controlling for possible demographic variables such as socioeconomic status that could have an effect on the well-being of individuals—especially across cultures—could increase the validity of the findings.

Despite these limitations, we believe that the current study provides insight into the mechanisms by which emotional functioning is associated with life satisfaction judgments in different cultures. The study further suggests that despite the cultural differences by which the relationships are formed, emotional intelligence is universally important for a person's life satisfaction. Considering the strong link between emotional intelligence and emotional well-being in the German sample, it may be important to work on strategies for enhancing emotional intelligence in university students; whereas for the Indian students, maintaining or enriching their existing social support may be more relevant than enriching their emotional well-being (i.e., affect balance).

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