



A longitudinal-experimental test of the panculturality of self-enhancement: Self-enhancement promotes psychological well-being both in the west and the east

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ABSTRACT

Intensely debated is whether the self-enhancement motive is culturally relative or universal. The universalist perspective predicts that satisfaction of the motive panculturally promotes psychological well-being. The relativistic perspective predicts that such promotive effects are restricted to Western culture. A longitudinal-randomized-experiment conducted in China and the US tested the competing predictions. Participants completed measures of psychological well-being in an initial session. A week later participants listed a personally important attribute, described (via random assignment) how that attribute is more (*self-enhancement*) or less (*self-effacement*) descriptive of self than others, and again reported their psychological well-being. Consistent with the universalist perspective, self-enhancement significantly increased psychological well-being from baseline in the US and China; self-effacement yielded no change in psychological well-being in either culture.

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1. Introduction

Whether the need for positive self-regard (i.e., self-enhancement motive) is culturally relative or universal is a topic of intense debate. We address this issue with a longitudinal randomized experiment that tests the causal effect of self-enhancement on psychological well-being in Eastern and Western cultures. Theorists have argued that a defining criterion for a motive is its association with psychological well-being (Baumeister & Leary, 1995; Sheldon, Elliot, Kim, & Kasser, 2001). Therefore, satisfaction of the enhancement motive should panculturally promote psychological well-being, if self-enhancement is a universal motive.

1.1. The self-enhancement motive: culturally relative or a human universal?

Grounded in social constructionist accounts of selfhood (Markus & Kitayama, 1991; Triandis, 1989), the relativist perspective suggests that the cognitive, emotional, and motivational elements of the self develop and orchestrate in regard to internalized

cultural mandates. The self-enhancement motive develops in Western culture as an ensuing product of the mandate for individualism (i.e., agency, independence), but is absent in Eastern culture because of the motive's incongruence with the mandate for collectivism (i.e., communion, interdependence). Instead, the latter mandate fosters a self-effacement (i.e., self-criticism) motive, which Kitayama, Markus, Matsumoto, and Norasakkunkit (1997) define as an orientation "in the direction of attending, elaborating, and emphasizing negatively valenced aspects of the self" (p. 1260). Self-effacement serves to promote and maintain social connections among self and others rather than positively distinguish self from others (Heine & Lehman, 1995; Heine, Lehman, Markus, & Kitayama, 1999; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). Empirical support for the relativist perspective is provided, in part, by the (a) greater positive skew and mean level of explicit self-esteem in Western than Eastern cultures (Heine et al., 1999) and (b) apparently limited, if not lacking, self-favoring social comparisons among Easterners (Falk, Heine, Yuki, & Takemura, 2009; Heine & Hamamura, 2007; Heine, Kitayama, & Hamamura, 2007).

Grounded in evolutionary (Sedikides & Skowronski, 2000) and existential (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004) accounts, the universalist perspective suggests that self-enhancement is a basic human motive whose expression is sensitive to contextual considerations (Brown, 2010; Gaertner, Sedikides, Cai, & Brown, 2010; Sedikides & Strube, 1997). For example, self-enhancement is not expressed invariantly, even in Western culture, because blatant self-aggrandizement generates

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social disdain (Bond, Leung, & Wan, 1982; Hoorens, 2011; Leary, Bednarski, Hammon, & Duncan, 1997; Sedikides, Gregg, & Hart, 2007). Instead, self-enhancement is achieved tactically such as by ennobling the self on important, but not on unimportant, attributes (Alicke, 1985; Brown & Kobayashi, 2002; Dunning, 1995). Thus, the universalist perspective anticipates cultural variation in the expression of the self-enhancement motive, and a valid test of this perspective requires a nuanced approach capable of tracking the motive's tactical and contextual manifestations.

The latter point warrants elaboration. The distinction between a motive and its outward manifestation entails that an observed cultural difference does not necessarily refute the universalist perspective. For example, a lower mean level of explicit self-esteem in Eastern culture is not inconsistent with the universalist perspective, given the pervasive modesty norm that constrains explicit self-reports (Kurman, 2003). Indeed, cultural differences occur on reports of cognitive, not affective, self-evaluation, and – as the universalist perspective predicts – these differences vanish when modesty is controlled (Cai, Brown, Deng, & Oakes, 2007) or when self-esteem is assessed with implicit measures that circumvent modesty concerns (Yamaguchi et al., 2007).

Similarly, limited evidence of self-enhancing social comparison in Eastern culture is not inconsistent with the universalist perspective, provided that the evidence derives from studies that lack assessment of the tactical expression of the motive (Heine & Hamamura, 2007; Heine et al., 2007). Research sensitive to such tactical expression indicates that Easterners more strongly self-enhance (i.e., rate self as superior to peers) on attributes relevant to collectivism, whereas Westerners more strongly self-enhance on attributes relevant to individualism (Sedikides, Gaertner, & Toghuchi, 2003; Sedikides, Gaertner, & Vevea, 2005, 2007a, 2007b). Notably, those disparate expressions are produced by the same underlying process of self-enhancing on important attributes (Brown, 2010). As the universalist perspective predicts, both Westerners and Easterners self-enhance to the extent to which the domain of enhancement is personally important (Sedikides et al., 2003, 2005, 2007a, 2007b). Indeed, when evaluating the self on personally important domains Westerners and Easterners alike desire self-enhancing feedback more than either no-feedback or self-effacing feedback (Gaertner, Sedikides, & Cai, in press).

Skeptics of the universalist perspective argue that much of the supporting evidence has accrued with the better-than-average paradigm (Hamamura, Heine, & Takemoto, 2007). The argument is that a cognitive (rather than motivational) process underlies the tendency for Easterners (and Westerners) to judge themselves as superior to others. The argument is derived from work by Klar and colleagues (Giladi & Klar, 2002; Klar, 2002; Klar & Giladi, 1997) suggesting that greater emphasis is placed on consideration of the singular target (e.g., self) than the generalized comparative target (e.g., average peer), which yields a more extreme judgment of the singular target. However, two points are in order. *First*, support for the universalist perspective is also provided by paradigms unrelated to the above-average-effect, such as with self ratings of academic performance controlled against actual performance (Kurman, 2003; Kurman & Siram, 1997), self-serving attributions (Anderson, 1999), implicit processes (Hoorens, Nuttin, Erdelyi-Herman, & Pavakanun, 1990; Kitayama & Karasawa, 1997; Yamaguchi et al., 2007), and self-evaluative feedback preferences (Gaertner et al., in press). *Second*, a substantial body of research, which cannot be explained by a cognitive account, attests to the motivational underpinning of the above average effect (for detailed reviews see Guenther & Alicke, 2010; Sedikides & Alicke, 2011). For example, the above average effect (a) persists when self is judged in contrast to another singular target (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995; Alicke, Vredenburg, Hiatt, & Govorun, 2001; Brown, 2011, Study 2) and (b) remains under conditions that

minimize cognitive influences (e.g., cognitive load; Alicke et al., 1995, Study 7). Furthermore, as is expected of a motivated effect, the magnitude of the above average effect (a) varies with motivationally relevant factors such as the valence (Alicke, 1985), importance (Brown & Kobayashi, 2002; Dunning, 1995), and verifiability (Allison, Messick, & Goethals, 1989) of the comparison dimension, (b) is stronger under conditions that amplify self-enhancement concerns (e.g., threats to self; Brown, 2011, Study 4) and (c) is weaker under conditions that assuage self-enhancement concerns (e.g., self-affirmation; Guenther, 2011).

The current research advances the debate using a paradigm that is immune to existing criticism. Rather than measuring self-enhancement as an outcome, we manipulate it to assess whether self-enhancement has the same (or disparate) functional effect on the psychological well-being of members of Western and Eastern cultures. As we subsequently elaborate, the relativist and universalist perspectives offer competing predictions.

1.2. Psychological well-being: distinguishing the relativist and universalist perspectives

In their challenge of the longstanding view of mental health, Taylor and Brown (1988) proposed that self-enhancement is a component of normal human functioning that promotes psychological well-being. Research that assesses subjective feeling-states, such as depression and satisfaction with life, is consistent with this promotive effect of self-enhancement in Western culture (Taylor, Lerner, Sherman, Sage, & McDowell, 2003). Although much of the research is limited inferentially due to correlational and cross-sectional designs, longitudinal studies suggest that self-enhancement promotes subsequent psychological well-being (Zuckerman & O'Loughlin, 2006). Indeed, only one study reports a negative association between self-enhancement and subjective feeling-states in Western culture (Robins & Beer, 2001, Study 2). That study, however, employed a questionable assessment of self-enhancement: it measured exaggeration of academic ability using an aggregate of self-reported estimates of ongoing performance (e.g., "Compared to the average UC Berkeley student, how would you rate your academic ability?") and past performance (e.g., "Compared to the average student in your high school, how would you rate your academic ability?") relative to actual past performance (i.e., high school grade point average and Scholastic Achievement Test score). Unlike exaggeration of ongoing performance, which reflects motivated self-enhancement, exaggeration of past performance reflects self-presentational tendencies and, thus, would not necessarily be expected to promote well-being (Gramzow & Willard, 2006).

Of course, we do not suggest that self-enhancement invariably yields positive consequences. As mentioned previously, self-enhancement entails a social cost in the eyes of others such that the self-enhancer may be perceived as arrogant or narcissistic (Leary et al., 1997). Likewise, favorably distorting life-problems through rose colored lenses can prove harmful (Dunning, 2005). In terms of subjective feeling-states, however, the literature indicates that self-enhancement functionally promotes psychological well-being.

The relativist and universalist perspectives offer competing hypotheses regarding the effect of self-enhancement on psychological well-being in Eastern and Western cultures. The universalist perspective predicts that satisfaction of the self-enhancement motive promotes psychological well-being regardless of culture. That is, self-enhancement will decrease experiences such as depression and will increase experiences such as satisfaction with life. The relativist perspective, in contrast, predicts that the promotive effect of self-enhancement will be limited to Western culture in which self-enhancement is a relevant motive. Because the self-system that develops in Eastern culture is not orchestrated to pursue positive

self-regard, self-enhancing in Eastern culture will be inconsequential, if not antagonistic, to the self-system and will thus not promote psychological well-being. As Heine and Lehman (1995) suggest for Eastern cultures (Japan, in particular), “self-enhancement (e.g., distinguishing oneself as better than others) might actually be in opposition to the well-being of Japanese” (p. 596). Indeed, Kitayama et al. (1997) maintain that psychological benefits accrue in Eastern cultures from engaging in self-effacement such that in a “cultural system that is rooted in the importance of maintaining, affirming, and becoming part of significant social relationships, this sensitivity to negative self-relevant information is not an indication of low self-esteem or something to be avoided or overcome; rather it has positive social and psychological consequences” (p. 1246).

Emerging evidence in Eastern culture is congruent with the universalist perspective. For example, self-enhancing social comparisons, self-serving attributions, perceptions of self-efficacy, and optimism are negatively associated with depression and perceived stress and are positively associated with self-esteem, life satisfaction, and subjective well-being in many Eastern cultures (Brown, 2010; Cai, Wu, & Brown, 2009; Gaertner, Sedikides, & Chang, 2008; but see Kim, Chiu, & Zou, 2010). Moving beyond the issue of motivated self-enhancement, broader support for the universalist position is provided by research on correlates of subjective-feeling states such as subjective well-being and life satisfaction. For example, satisfaction of needs relevant to individualism (e.g., needs of autonomy, mastery, and respect) and collectivism (e.g. relational needs such as support and love) universally predict subjective well-being across a sample of 123 countries (Tay & Diener, 2011). Similarly, life-satisfaction in both Eastern and Western cultures is positively associated with both self-esteem (Diener & Diener, 1995; Kwan, Bond, & Singelis, 1997; Oishi, Diener, Lucas, & Suh, 1999) and relationship harmony (Kwan et al., 1997). That the association between self-esteem and life satisfaction is even stronger in countries that value individualism (e.g., Diener & Diener, 1995; Kwan et al., 1997; Oishi, Diener, Lucas, & Suh, 1999) is further consistent with the proposition that the outward manifestation of a universal process is sensitive to contextual influences (Brown, 2010; Gaertner et al., 2010; Sedikides & Strube, 1997). Although these emerging data patterns in Eastern cultures are congruent with the universalist perspective, they share in common with much of the Western data the inferential limitation of being correlational.

To differentiate the relativist and universalist perspectives and overcome inferential limitations of existing research, we employed a longitudinal randomized experiment that manipulated whether Westerners (students in the US) and Easterners (students in China) engaged in a self-enhancing or self-effacing social comparison. Participants completed measures of psychological well-being a week before and, again, immediately after enhancing or effacing. Thus, and crucially, each participant's initial psychological well-being served as her/his own control and enabled us to test whether random assignment to self-enhancement versus self-effacement increased or decreased psychological well-being from baseline. To avoid confusion regarding the nature of our methodology, we briefly discuss its significance before turning to the study proper.

1.3. Three methodological aspects

To ensure that participants would engage in an important and self-relevant issue, we had them list an attribute they deem personally important. We then randomly assigned participants to self-enhance or self-efface. In the *self-enhancing condition*, participants thought and wrote about instances that demonstrate how the important attribute is *more* descriptive of themselves than of their peers. In the *self-effacing condition*, participants thought and

wrote about instances that demonstrate how the important attribute is *less* descriptive of themselves than of their peers. In other words, we randomly assigned participants to engage actively in a self-enhancing or self-effacing mode of thought. Three aspects of our method warrant discussion.

First, a critic might argue that all we have done is turn the above-average-effect into an experimental manipulation. Although, strictly speaking, this argument has merit, it nevertheless misses a vital point. The issue of contention with the above-average effect is, as discussed previously, whether an above-average judgment is a product of a cognitive process and not a motivated self-enhancing effect. Notably, such an argument is moot with the current method. The cognitive critique offers an alternative account as to what renders an above-average judgment. In the current paradigm, however, we are not assessing the judgment as an outcome. Instead, we randomly assign participants to engage in a self-enhancing judgment to assess its ensuing consequence on psychological well-being. The cognitive account offers no explanation as to why engaging in a self-enhancing judgment would improve or degrade well-being. On the other hand, as we have discussed, a motivational account offers a ready explanation. Satisfaction of the enhancement motive promotes well-being; and, perhaps, well-being is differentially affected in Western and Eastern culture by self-enhancement and self-effacement, respectively.

Second, premeasuring psychological well-being affords an essential inferential function. Without the premeasure, our design could only speak to a potential relative difference between self-enhancement and self-effacement on ensuing well-being. We could not infer whether an observed relative difference is driven by self-enhancement increasing well-being, self-effacement decreasing well-being, both of the latter, or any other pattern (e.g., enhancement decreasing well-being). However, with the premeasure, each participant serves as his/her own control and, in addition to testing for a relative difference between enhancement and effacement, we can assess empirically whether enhancement and effacement, respectively, increase or decrease well-being (Cohen, Cohen, West, & Aiken, 2003). Furthermore, the cross-cultural samples enable us to test whether culture moderates any observed patterns.

Third, to our knowledge this is the first study to manipulate (rather than measure) self-enhancement. Other studies have certainly manipulated with random assignment the reception of positive versus negative feedback (Heine et al., 2001; Kim et al., 2010). The reception of feedback, however, does not constitute self-enhancement. Instead, self-enhancement might follow as an outcome the reception of such feedback in terms of how the feedback is processed, interpreted, or rejected/embraced. Our manipulation is the first to randomly assign participants to think like a self-enhancer or a self-effacer. Now, let us examine the psychological consequences of the manipulation.

2. Method

One-hundred and one undergraduates (49 females) at the University of Tennessee, USA, and 131 undergraduates (110 females) at Sun Yat-Sen University, China, took part in the study. US participants received partial course-credit and Chinese participants received 20 RMB (\cong \$3US). Participants received and completed all materials in their native language, with materials translated and back-translated by a “committee” of bilingual speakers (Brislin, 1980).

Participants completed five measures of psychological well-being in an initial testing session (Time 1). Each measure was previously validated in the US and China. We re-scored each measure so that higher scores indicate better psychological well-being: (a)

21-item Beck Depression Inventory (BDI; Beck & Steer, 1987) scored 0–3; (b) 14-item Hospital Anxiety and Depression Scale (HAD; Zigmond & Snaith, 1982) scored 1–4; (c) 10-item Perceived Stress Scale (PS; Cohen, Kamarck, & Mermelstein, 1983) scored 1–5; (d) 12-item Subjective Well Being Scale (SWB; Sevastos, Smith, & Cordery, 1992) scored 1–6; (e) 5-item Satisfaction with Life Scale (SWL; Pavot & Diener, 1993) scored 1–6.

One week later, participants attended the experimental session (Time 2) with all of the Chinese participants returning and 85% (N = 86, 43 females) of the US participants returning (attrition was unrelated to Time 1 psychological well-being). Participants first listed an attribute that they deemed personally important. We then randomly assigned them to write about how their experiences over the previous week demonstrate that the important attribute is either more (*self-enhancement condition*) or less (*self-effacement condition*) characteristic of themselves than of their peers. Instructions for the self-enhancement (self-effacement) condition read as follows:

Think back over the past 7 days – replay in your mind the things you have done and experienced. In as much detail as possible describe how the things that you have done and experienced demonstrate how that most important trait you listed above is (not) descriptive of whom you are as a person. That is, explain, with examples from the past 7 days, how that most important trait is more (less) characteristic of you than it is of other college students.

Table 1 provides examples of participant responses. Two independent judges within each culture read the responses from their respective culture and coded (yes or no) whether participants followed instructions and wrote about how the trait was more (or less) descriptive of self than others. The judges approached unanimity and confirmed that participants did indeed follow the manipulation as instructed (with inter-rater agreements rates of 96% in the US and 94% in China and the few disagreements resolved via discussion). This manipulation directly models the

manner in which a self-enhancing social comparison is typically assessed via self-report (Alicke, 1985; Sedikides et al., 2003) and capitalizes on the tendency for the association between self-enhancement and psychological well-being to be stronger among attributes of higher (but not lower) importance (Gaertner et al., 2008). However, the current method circumvents the inferential limitations of the self-report procedure by randomly assigning participants to self-enhance or self-efface. Participants concluded the session by again completing the five measures of psychological well-being initially assessed at Time 1.

3. Results

3.1. Preliminary analysis: well-being at Times 1 and 2

As Table 2 details, the psychological well-being measures were internally consistent and correlated as expected in both cultures. Table 3 presents the mean of each well-being measure for each culture at each time point within the self-enhancement and self-effacement conditions. For a preliminary understanding of the data, we standardized the responses to the well-being measures at each time point and regressed responses (separately for Times 1 and 2) onto a factorial crossing of Condition (self-enhance, self-efface), Culture (USA, China), Sex (male, female), and Measure (BDI, HAD, PS, SWB, SWL) using SAS Proc Mixed. We used an unstructured variance-covariance matrix to control the within-subject nature of Measure, tested and allowed for heterogeneity of variance as a function of Culture × Sex × Condition, and used Kenward–Rogers degrees of freedom.

At Time 1 there was a culture effect, such that Americans reported greater well-being ($M = 0.43, SE = .09$) than did Chinese ($M = -0.23, SE = .08$), $F(1,91.2) = 32.49, p < .0001, \eta^2 = 0.26$. Likewise, there was a sex effect, $F(1,91.2) = 5.81, p < .0179$, such that men reported greater well-being ($M = 0.24, SE = .09$) than did

Table 1
Example responses in the self-enhancing and self-effacing conditions for Americans (US) and Chinese (CN).

Culture	Trait	Statement
<i>Self-enhancing</i>		
US	Honest	On Saturday I went hiking with a friend and he needed some advice. He told me what other people had been telling him and I said what I really thought (which was completely different). Most people would avoid the truth and not be honest to avoid certain situations
CN	Patient	Even in an irritable mood, I kept my temper, especially with my roommates. I try to be patient when they asked me questions, which is unlike other classmates, who tend to blow up if annoyed
<i>Self-effacing</i>		
US	Loyal	I flirted with another guy when I was drunk despite my boyfriend. I complained about my best friends habits to other friends. She sleeps too much, flirts too much, and makes stuff up. She doesn't appreciate her mom. Most students wouldn't say those things
CN	Optimistic	I'm in the decision of which research domain to focus. It's too hard for me to choose among three options, and this upsets me a lot. The choice seems very important for my future research, but I'm in confusion as incapable of having all the information. However, many students seem optimistic about this, feeling that it's not a big deal to decide. Moreover, I'm very indecisive about which adviser to choose, thinking it over and over again, whereas other students think it's unimportant. All makes me feel my future is gloomy, while others guys are optimistic

Table 2
Cronbach's alpha and bivariate correlations of the Times 1 and 2 well-being measures for the Americans (US) and Chinese (CN).

Measure	Chronbach's alpha				Correlations ^a									
	Time 1		Time 2		US					CN				
	US	CN	US	CN	HAD	BDI	PS	SWB	SWL	HAD	BDI	PS	SWB	SWL
HAD	.87	.79	.89	.83	<u>.87</u>	.72	.77	.80	.58	.75	.70	.64	.69	.49
BDI	.80	.83	.85	.87	.82	<u>.86</u>	.69	.67	.62	.75	.82	.72	.73	.50
PS	.86	.79	.88	.83	.77	.69	<u>.74</u>	.86	.67	.71	.75	.53	.75	.52
SWB	.91	.90	.92	.93	.78	.64	.85	<u>.74</u>	.61	.73	.73	.79	.69	.57
SWL	.89	.70	.91	.81	.63	.58	.73	.65	<u>.88</u>	.47	.44	.54	.59	.79

Note. HAD = Hospital Anxiety and Depression Scale; BDI = Beck Depression Inventory; PS = Perceived Stress Scale; SWB = Subjective Well-Being; SWL = Satisfaction with Life.
^a Stability associations are underlined on the main diagonal and associations at Times 1 and 2 are above and below the diagonal, respectively. All correlations are significant at $p < .0001$.

Table 3

Descriptive statistics for the psychological well-being measures at Times 1 and 2 for Americans (US) and Chinese (CN) within conditions of self-enhancement and self-effacement.

Measure ^a	Time 1								Time 2							
	US				CN				US				CN			
	Self-enhance		Self-efface		Self-enhance		Self-efface		Self-enhance		Self-efface		Self-enhance		Self-efface	
	M	SD	M	SD												
HAD	3.39	0.41	3.36	0.47	3.00	0.42	2.96	0.37	3.45	0.39	3.34	0.51	3.08	0.42	2.94	0.40
BDI	2.73	0.23	2.72	0.23	2.54	0.34	2.51	0.34	2.76	0.26	2.72	0.24	2.62	0.37	2.56	0.34
PS	3.75	0.78	3.77	0.75	3.07	0.69	3.08	0.66	3.86	0.76	3.69	0.76	3.27	0.72	3.01	0.65
SWB	4.59	0.86	4.57	0.99	4.20	0.98	4.29	0.88	4.76	0.81	4.32	1.01	4.40	1.05	4.21	0.95
SWL	4.57	1.15	4.32	1.20	2.96	0.91	2.96	1.01	4.81	1.09	4.19	1.19	3.18	1.07	2.90	1.07

Note. HAD = Hospital Anxiety and Depression Scale; BDI = Beck Depression Inventory; PS = Perceived Stress Scale; SWB = Subjective Well-Being; SWL = Satisfaction with Life.

^a Data are reported in raw units (BDI, 0–3; HAD, 1–4; PS, 1–5; SWB, 1–6; SWL, 1–6), with higher scores indicating better well-being.

women ($M = -0.04, SE = .07$). Unexpectedly, there was a trend for a Condition \times Culture \times Sex interaction, $F(1,91.3) = 3.63, p < .07$ such that Chinese males reported greater well-being in the self-enhancing ($M = 0.32, SE = 0.18$) than self-effacing condition ($M = -0.46, SE = 0.22$), $F(1, 18.6) = 7.56, p = .01$, and no other group (Chinese females, American females, and American males) evidenced a condition effect, $F_s < 0.77$.

At Time 2 there were again main effects of culture, $F(1,99.8) = 22.45, p < .0001, \eta^2 = 0.18$, and sex, $F(1,99.8) = 10.60, p < .0001, \eta^2 = .10$, such that Americans reported greater well-being ($M = 0.41, SE = .08$) than did Chinese ($M = -0.13, SE = .08$), and men ($M = .32, SE = .09$) reported greater well-being than did women ($M = -0.04, SE = .07$). There was also a condition effect indicating that participants reported better well-being after self-enhancing ($M = 0.33, SE = .07$) than after self-effacing ($M = -0.05, SE = .08$), $F(1,99.8) = 11.74, p = .0009, \eta^2 = 0.11$.

Although the latter condition effect is consistent with the universalist perspective, a more appropriate test is provided by our subsequently reported primary analysis that controls for existing differences in Time 1 well-being given the unexpected condition effect for Chinese males at Time 1. It is worth noting that at Time 2 (a) there was not a Condition \times Culture \times Sex effect, $F(1,99.8) = 1.55, p < .30, \eta^2 = 0.01$ [nor a or a Condition \times Culture effect, $F(1,99.8) = 0.33, p < .60, \eta^2 = 0.00$], and (b) the condition effect remained even with the exclusion of Chinese males from the analysis, both of which suggest that that Chinese males are not driving the Time 2 condition effect. Nonetheless, the primary analysis provides a more appropriate test and affords insight as to whether self-enhancement increases well-being from Time 1 or self-effacement decreasing well-being from Time 1.

3.2. Primary analysis: residualized change in well-being

We standardized each psychological well-being measure across time (so as not to lose between-time differences) and regressed Time 2 responses onto Time 1 responses and a factorial crossing of condition (self-enhance, self-efface), culture, sex, and measure (BDI, HAD, PS, SWB, SWL) using SAS Proc Mixed. We used an unstructured variance-covariance matrix to control the within-subject nature of Measure and tested and allowed for heterogeneity of variance with Kenward-Rogers degrees of freedom as a function of Culture \times Sex \times Condition. Controlling Time 1 responses as a covariate yielded results as residualized (partialled, regressed) change from Time 1 (Cohen et al., 2003). Positive predicted scores indicate improved psychological well-being from Time 1 and negative predicted scores indicate deteriorated psychological well-being from Time 1.

A sex main effect, $F(1, 83.3) = 7.58, p = .007, \eta^2 = 0.08$, indicated that men evidenced more improved well-being from Time 1 ($M = 0.18, SE = .05$) than did women ($M = -0.00, SE = .04$). More

importantly, a condition effect, $F(1,82.7) = 15.83, p < .0001, \eta^2 = 0.16$, indicated that participants who self-enhanced evidenced more improved psychological well-being from Time 1 ($M = 0.21, SE = .04$) than did participants who self-effaced ($M = -0.04, SE = .05$). Tests of the latter means against zero (i.e., no change from Time 1) indicated that self-enhancement increased psychological well-being from Time 1, $F(1,49) = 23.42, p < .0001, \eta^2 = 0.32$, whereas self-effacement yielded no change, $F(1,38) = 0.76, p = .39, \eta^2 = 0.02$. The condition effect was not moderated by any interaction involving culture or sex, $F_s < 0.71$, and occurred even with the exclusion of Chinese males from the analysis.

Consistent with the universalist perspective, both cultures evidenced the same pattern of effects. In particular, the condition effect occurred in both the US, $F(1,74.9) = 10.05, p < .0022, \eta^2 = 0.12$, and in China, $F(1,32.6) = 6.25, p < .0174, \eta^2 = 0.16$. Self-enhancement increased psychological well-being from Time 1 in both the US ($M = 0.27, SE = .06$), $F(1,43.7) = 19.89, p < .0001, \eta^2 = 0.31$, and in China ($M = 0.16, SE = .06$), $F(1, 18.6) = 5.90, p < .0252, \eta^2 = 0.24$, and the magnitude of increase did not differ between cultures, $F(1,49.3) = 1.69, p = .1997, \eta^2 = 0.03$. Self-effacement yielded no change in psychological well-being in both the US ($M = -0.00, SE = .06$), $F(1,38) = 0.00, p = .996, \eta^2 = 0.00$, and in China ($M = -0.08, SE = .07$), $F(1, 15.2) = 1.34, p = .2640, \eta^2 = 0.08$, and the lack of change did not differ between cultures, $F(1,40.3) = 0.72, p = .4016, \eta^2 = 0.02$.

4. Discussion

We tested comparatively the relativist and universalist perspectives by linking the self-enhancement motive to psychological well-being. We randomly assigned US and Chinese participants to engage actively in a self-enhancing or self-effacing social comparison on an attribute of personal importance, and assessed psychological well-being a week before and immediately after participants enhanced or effaced. Therefore, *each participant served as her/his own control* and enabled a test of whether self-enhancement versus self-effacement increased or decreased psychological well-being from baseline. Crucially, the self-enhancement manipulation advances beyond limitations of prior self-enhancement research. Finally, the cross-cultural comparison tests the competing predictions of the relativist and universalist perspectives.

The universalist perspective predicts that satisfaction of the self-enhancement motive would promote psychological well-being regardless of culture. This is because self-enhancement is a motive relevant to the self-system of humans. The relativist perspective, in contrast, predicts that such a promotive effect would occur in Western culture, but not in Eastern culture. This is because self-enhancement is incongruent to the self-system that internalizes the mandate of collectivism in the East. Here, self-effacement,

not self-enhancement, would have a promotive effect on psychological well-being.

The results demonstrated that self-enhancement promotes psychological well-being beyond baseline in both Eastern and Western cultures. Together with a growing literature demonstrating tactical and contextual expressions of self-enhancement in multiple cultures (Brown, 2010; Chiu, Wan, Cheng, Kim, & Yang, 2011) and the pancultural desire for self-enhancing feedback (Gaertner et al., in press), the current data support the universalist perspective. Not only is self-enhancement pancultural, but so too is its functional consequence of promoting psychological well-being.

4.1. Limitations and directions for future research

Our research leaves several questions unanswered and opens the door for future investigations. Representing the first experimental manipulation of self-enhancement, it is particularly noteworthy that the manipulation produced systematic shifts in psychological well-being. One relevant question is how long of a duration might the shift in well-being persist? The shift we observed is perhaps fleeting. Nevertheless, it is worth mentioning that observational research suggests that self-reported self-enhancement positively and prospectively predicts psychological well-being 5 months into the future (Zuckerman & O'Loughlin, 2006).

Another question is whether self-enhancement has detrimental effects independent of its promotive effects on psychological well-being. Given that blatant self-enhancement is greeted with social disdain in Eastern and Western cultures (Bond et al., 1982; Hoorens, 2011; Leary et al., 1997) it is possible that invariant, blatant, and non-tactical expressions of self-enhancement negatively affect the quality of interpersonal relationships. Such degradations in social relations could negatively impact well-being independent of a direct and positive effect of self-enhancement (Cai et al., 2011; Crocker & Park, 2004; Heine, 2005; Sedikides et al., 2007).

Another question is to what other cultures do the results pertain? Stated otherwise, an assertion of universality might be premature based on a comparison of only two cultures. With nearly 200 countries on the planet, many of which contain numerous subcultures, some readers might suggest that a claim of universality is unaddressable short of investigating all cultures. On the other hand, another approach is to derive cultural comparisons based on theory. Such is the approach that we followed. Because of the theoretical argument that the collectivistic norms of East-Asian culture alter the motivational structure of the self relative to that of Western culture (Markus & Kitayama, 1991; Triandis, 1989), we sampled a prototypical Western culture, the US, and a prototypical East-Asian culture, China. Both cultural samples evidenced the same functional pattern, which is consistent with the universalist perspective. Nonetheless, future research could extend this research beyond Chinese and American samples to other cultural regions. Of course, we are quick to remind readers that the presence of the motive should be universal but the nature of its observed expression could vary as a function of the context (Brown, 2010; Gaertner et al., 2010).

4.2. Concluding remarks

Indeed, other such questions are also ripe for future research. For example, do diverse self-enhancement strategies (e.g., overt self-presentation versus self-serving bias) contribute differentially to the promotion of psychological well-being in Western and Eastern culture (Chiu, 2007; Chiu & Kim, 2011; Leary, 2007)? And, how do personality and situational context interact with culture to promote psychological well-being in Eastern and Western culture (Lalwani, Shrum, & Chiu, 2009; Lee, Oyserman, & Bond, 2010;

Matsumoto, 2007)? Such relevant issues aside, our findings call for a shift in this debate from whether self-enhancement is pancultural to a more nuanced understanding of how self-enhancement manifests and functions in varying cultural contexts.

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