

# Why the better-than-average effect is a worse-than-average measure of self-enhancement: An investigation of conflicting findings from studies of East Asian self-evaluations

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**Abstract** A recent meta-analysis on cross-cultural studies of self-enhancement finds that evidence for East Asian self-enhancement is consistently apparent only in studies where participants compare themselves to the average other, aka the “Better-than-Average” Effect (BAE). However, prior research has suggested that the BAE may conflate motivations to view the self in a positive light with non-motivational factors, such as a tendency to evaluate “everyone as better than average” [EBTA; Klar Y, Gilladi EE (1997) *J Personal Soc Psychol* 73:885–901]. In two studies, European-Canadian, Asian-Canadian, and Japanese students were asked to evaluate themselves as well as a fictitious student compared to the average. Replicating prior research, evidence for Japanese self-enhancement was found with the BAE, albeit weaker than Canadians. However, in the measures where the EBTA effect was circumvented, self-enhancement was no longer evident among Japanese. Likewise, within the BAE method, prior research has found that East Asians self-enhance more for important than unimportant traits. When the EBTA effect was circumvented this correlation was also significantly reduced. Findings from this research converge with other sources of evidence that East Asians do not appear to be motivated to self-enhance.

**Keywords** Culture · Self-enhancement

## Introduction

The question of whether people from East Asian cultures (in particular, Chinese, Koreans, and Japanese) exhibit as strong self-enhancement motivations as Westerners has recently received much attention and has generated considerable controversy. Many studies have found evidence that Westerners self-enhance more than East Asians (e.g., Chang and Asakawa 2003; Heine et al. 2000; Nora-sakkunkit and Kalick 2002). There does not appear to be much disagreement regarding the existence of this cultural difference. A recent meta-analysis of the published literature (Heine and Hamamura 2007) revealed a large cultural difference in self-enhancement ( $d = .84$ ) between the two cultural groups that emerged in 29 of the 30 methods that were employed to investigate this question (the one exception being studies that used the Implicit Associations Test; e.g., Kitayama and Uchida 2003).

However, although cultural differences in self-enhancement emerged quite consistently across studies, evidence for the existence of self-enhancing motivations among East Asians varies considerably across studies. Some researchers have found evidence that East Asians show pronounced self-criticism. For example, Kitayama et al. (1997) found that Japanese were more likely to experience self-esteem decreases than they were self-esteem increases when they imagined themselves in various situations (whereas Americans showed the opposite effect). Likewise, Heine and Lehman (1995, Study 2) found that Japanese estimated that the absolute likelihood of them experiencing negative life events was greater than that of their peers (whereas Canadians showed the reverse effect). In contrast, other studies have found evidence that East Asians show pronounced self-enhancement, albeit, less pronounced than among Westerners. For example,

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Heine and Lehman (1995, Study 2) found with a relative-likelihood measure that Japanese rated themselves as less likely than the average student to experience various negative life events. Likewise, Brown and Kobayashi (2002) found that Japanese evaluated themselves more positively on a number of personality traits than they did the average student. In contrast to this inconsistent pattern of self-enhancement for East Asian participants, Western participants showed significant evidence for self-enhancement consistently across the different studies (Heine and Hamamura 2007). In short, the question of whether East Asians self-enhance has been controversial and does not yield a straightforward answer.

One further source of controversy regarding the identified cultural differences in self-enhancement is regarding whether these differences can be accepted at face value. Heine et al. (1999) proposed three alternative accounts for cultural differences in self-enhancement. One account was that East Asians might self-enhance by enhancing their groups, whereas Westerners self-enhance by enhancing their individual selves (for competing arguments on this account see Brown and Kobayashi 2002; Heine 2003; Heine and Lehman 1997; Muramoto and Yamaguchi 1997). A second account was that East Asians might be feigning their self-criticism (or Westerners might be feigning their self-enhancement), such that their true motivations might not be evident in self-report measures due to cultural differences in self-presentation norms (for arguments on both side of this debate see Heine and Hamamura 2007; Heine et al. 2000; Kobayashi and Greenwald 2003; Kurman 2003). And a third account was that East Asians might self-enhance in domains that were of importance to them. The present paper does not address the first two accounts, but focuses on the third account regarding the importance of traits.

Do East Asians self-enhance more in domains that are important to them than they do in domains that are relatively unimportant? Similar to the conflicting pattern of evidence regarding the existence of self-enhancement among East Asians, there have been conflicting findings regarding this question. Some research has found clear evidence that East Asians are more likely to self-enhance in important domains than they are in less important ones. For example, Sedikides et al. (2003) found that Japanese were more likely to self-enhance in interdependent domains than they were in independent domains, whereas Americans showed the opposite pattern. Brown and Kobayashi (2002) showed that Japanese, like Americans, showed more self-enhancement for traits that were especially important to them compared with those that were less important. On the other hand, other research has found the opposite pattern. Heine and Lehman (1995) found that Japanese were less likely to self-enhance in interdependent domains than they

were in independent ones. Similarly, Heine and Renshaw (2002) found that Japanese were more self-critical for those traits that they viewed to be important compared with those that they viewed to be less important, whereas Americans showed the opposite pattern (also see Heine et al. 2001; Heine and Lehman 1999; Kitayama et al. 1997; Norkunkit and Kalick 2002). In sum, there has also been controversy over the question of whether East Asians self-enhance for especially important traits.

#### Variation across methods

A recent meta-analysis of cross-cultural studies of self-enhancement between Westerners and East Asians helps to shed light on the conflicting patterns of evidence (Heine and Hamamura 2007). Overall, across all studies, there were pronounced cultural differences in self-enhancement, with Westerners showing strong evidence of self-enhancement ( $d = .87$ ), whereas East Asians did not ( $d = -.01$ ). However, this overall analysis conceals a considerable degree of variation across methods. In particular, there were two methods in which East Asians consistently showed a strong self-enhancement effect: (1) studies in which participants evaluated themselves in comparison with the average other (aka, the “better-than-average effect”; BAE), and (2) studies in which participants evaluated the relative likelihood that they would experience negative future life events (aka, the “future is better-than-average effect”; FBAE<sup>1</sup>). In the remaining 12 methods, in contrast, East Asians showed either evidence for self-criticism or for null effects. Contrary to this method-specific pattern of East Asians, Westerners showed significant evidence for self-enhancement in all 14 of the methods (Heine and Hamamura 2007).

The average effect size for East Asian self-enhancement for the BAE and FBAE was positive ( $d = .38$ ) while the average for all the other 12 methods in the meta-analysis was negative, showing evidence for self-criticism ( $d = -.24$ ). Westerners also showed more self-enhancement in the BAE and the FBAE designs ( $d = 1.31$ ) than in other methods ( $d = .70$ ). Hence, studies that utilize the BAE and FBAE methods yield stronger self-enhancement effects for both East Asians and Westerners (a difference of approximately  $d = .60$  for both cultures) than other methods of assessing self-enhancement.

Furthermore, studies that have explored whether East Asians self-enhance more for important traits than

<sup>1</sup> The FBAE is commonly called an optimism bias or unrealistic optimism in the literature. We have used the term FBAE here to identify the optimism bias method that makes direct comparisons with average others

unimportant ones also reveal a similar pattern. Studies that have investigated the relation between self-enhancement and trait importance using the BAE design find significant positive relations (average  $r = .20$ ; Heine et al. 2007), providing evidence for self-enhancing motivations. In contrast, studies that investigated the relation between self-enhancement and trait importance using other methods (e.g., self-peer comparisons, manipulations of success and failure) find non-significant relations (average  $r = .05$ ; Heine et al. 2007). Again, these analyses reveal that the BAE design provides greater evidence for self-enhancement than the other methods.

#### Everybody is better than their group's average (EBTA)

Why do the BAE and FBAE methods result in stronger self-enhancement effects than those obtained from other methods? Some researchers suggest that the BAE and FBAE capture “a robust and valid signature of self-enhancement” (Sedikides et al. 2005, p. 548), and thus argue for the authenticity of East Asian self-enhancement captured in these designs. However, a question remains as to why East Asian self-enhancement is not reliably captured in the 12 other methods that have been utilized in the past (Heine and Hamamura 2007).

A more parsimonious account is that the BAE and FBAE yield an inflated estimate of self-enhancement across cultures. Recent developments in BAE and FBAE research support this account. Kwan et al. (2004) suggest that self-other comparisons such as the BAE are biased measures of self-enhancement as they do not take into account whether one's self-evaluation is more positive than others' evaluation of him or her. Kwan et al. (2004) suggest that methods such as BAE and FBAE yield an inflated self-enhancement effect for this reason. Furthermore, much recent research has shown that the BAE and FBAE are implicated by non-motivational factors, such as egocentrism (Kruger and Burrus 2004) and focalism (for a review see Chambers and Windschitl 2004). This line of research does not rule out that self-enhancement motivation underlies BAE and FBAE, but it does suggest that the BAE and FBAE are conflated with non-motivational factors.

One such factor, in particular, systematically inflates estimates of self-enhancement captured in the BAE and FBAE designs. This bias arises when people process singular versus distributional information (c.f., Kahneman and Tversky 1973). Klar and colleagues (Klar and Giladi 1997; Klar et al. 1996) have suggested that in making a comparative judgment between a singular target (e.g., the self, a stranger) and a distributional target (e.g., most

other students in my university, the average person), people fail to adequately consider the qualities of the group, and the comparison comes to only reflect their absolute evaluations of the singular target. Thus, if people are comparing a fictitious target (e.g., “Jennifer”) with most other members of a positively evaluated group, (e.g., university students), participants have a mildly favorable attitude towards Jennifer as a member of this positive group, and they express this favorability by concluding that Jennifer is “better than average.” This effect is termed the “everyone is better than their group's average effect” (EBTA; Klar and Giladi 1997). Viewing a random other as better than average is a finding parallel to what is seen in the BAE design, yet it could not be driven by self-enhancing motivations as it has nothing to do with the self.

Likewise, in studies where participants are asked to estimate the likelihood that they will experience certain future events relative to the average other (i.e., the FBAE), their evaluations are also vulnerable to the EBTA effect. The FBAE is prone to the EBTA effect because in estimating the relative likelihood of future life events, people tend not to adequately consider the perceived likelihood for others (Klar et al. 1996). That is, people will reason that “Jennifer” is unlikely to become an alcoholic, and their focus on the specific target of Jennifer, and not the distributional target of the comparison group of “most other students” will lead them to conclude that she is less likely than average to become an alcoholic. People's judgments of Jennifer's relative likelihood thus fail to consider the base rates of these events. To the extent the FBAE results from people's considerations of a target's absolute likelihood, the FBAE should be larger for future events that are especially unlikely. For this reason, studies find a larger FBAE for negative future life events compared with positive events as the negative events tend to be far less common than positive ones (Price et al. 2002). Indeed, parallel findings emerge from cross-cultural studies of unrealistic optimism. When asked to compare themselves to others, people from both Eastern and Western cultural groups show more of a self-enhancing bias for FBAE judgments of negative events (average  $d$ s across seven studies = .39 and .98 for East Asians and North Americans, respectively) than they do of positive events (average  $d$ s across five studies =  $-.20$  and  $.42$  for East Asians and North Americans, respectively; Heine and Hamamura 2007). Furthermore, whereas Westerners exhibit significant self-enhancing biases for both FBAE judgments of both positive and negative events, East Asians only show a significant self-enhancing bias for negative events (and East Asians do not show evidence of unrealistic optimism when estimating likelihoods in absolute terms, Heine and Lehman 1995).

To the extent that the EBTA effect is implicated in studies of the BAE and FBAE, self-enhancement effects that are reported from methods that have participants comparing themselves to average might thus consist of two components: a motivation to view themselves positively (self-enhancement) as well as a cognitive tendency of failing to consider the qualities of the group (the EBTA effect). Extending this rationale, it would seem likely that across cultures the BAE and FBAE should be greatly reduced when participants evaluated themselves against a random other, thus circumventing the EBTA effect. A few studies support this consideration. Alicke et al. (1995) found that the BAE was attenuated dramatically if instead of comparing themselves to a generalized target people compared themselves to a randomly chosen singular target. Also, when participants are asked to compare themselves to a specific target (i.e., a sibling), the FBAE is far reduced for both Westerners and East Asians (Chang and Asakawa 2003).

Similarly, we hypothesize that the EBTA effect might be implicated in the stronger positive correlations between self-enhancement and importance that are evident in studies of the BAE compared with studies conducted with other methods (Heine et al. 2007). If people evaluate specific others especially favorably in BAE studies because of the EBTA effect, it follows that they should rate specific others as better than average especially for those traits that are most positive. Favorable evaluations of people are most afforded by traits that are strongly valenced. For example, if a person evaluated a target extremely positively on especially valenced traits, such as warm, intelligent, or trustworthy, they would likely have an overall positive view of that target. In contrast, extremely positive evaluations on less valenced traits such as punctual, impulsive, or cautious, would not necessarily translate into an overall positive view of the target. The more desirable and important the trait, the more it will afford a positive evaluation. We thus reason that because the EBTA effect inflates the positivity of evaluations of individual targets compared to average it should also inflate the correlation between self-enhancement and importance. Hence, we hypothesize that if the EBTA effect is circumvented, the magnitude of these correlations should decrease.

In two studies we sought to assess whether Japanese and Canadians still show significant self-enhancement biases when the EBTA effect is taken into account. In the first study we investigated whether the EBTA effect magnified measures of self-enhancement using the BAE and FBAE designs. We also investigated whether the EBTA effect inflated the magnitude of correlations between self-enhancement and the importance of traits in a BAE design.

## Study 1

### Method

#### *Participants*

Participants were recruited from several Japanese universities and at the University of British Columbia (UBC). Announcements were made in various classes at the universities inviting them to participate in a survey on the internet. The Japanese sample consisted of 31 students (20 females and 11 males) from Chuo University, International Christian University, Hokkaido University, Kyoto University, Sophia University, and Tokyo Gakugei University. All Japanese participants were born in Japan and had Japanese parents.

The Canadian sample consisted of 98 University of British Columbia (UBC) students (74 females and 24 males). We partitioned the Canadian sample into three groups by ethnic background. Participants were classified as “Asian-Canadian” if they self-identified with an East Asian ethnicity; specifically, Chinese (including those from Taiwan and Hong Kong), Korean, and Japanese. Forty-seven participants (34 females and 13 males) met the criteria for this group. The “European-Canadian” sample consisted of the 40 participants (30 females and 10 males) who reported that they were of European ethnicity. The remaining 11 participants were of varied ethnicities (e.g., Middle Eastern descent, mixed ethnicities, etc.) and were excluded from the analyses. A number of participants had missing values on some of their measures so the degrees of freedom vary slightly across some analyses.

#### *Materials*

Participants from both countries completed a questionnaire on the internet that consisted of assessments of the BAE and the relative likelihood unrealistic optimism for negative events, aka the FBAE. The BAE was assessed using the same list of 15 attributes developed by Brown and Kobayashi (2002). As in Brown and Kobayashi (2002), participants rated how accurately these 15 attributes characterized themselves on a Likert scale from 1 (Not at all accurate) to 7 (Completely accurate), and how accurately they characterized “most other students” from their university. In between these two sets of evaluations we added one additional rating task: participants rated how accurately those 15 statements characterized a specific, fictitious individual. Participants read a brief statement which said that “Kate (Yumiko in Japanese) age 20, is a student at your university. Please evaluate Kate on the following scale.” “Kate” and “Yumiko” are common female names among university-aged students in Canada and Japan, respectively,

and we chose female names expecting that the overwhelming majority of our participants would be female. Following the ratings of Kate (Yumiko), participants rated most students from their school. The materials and procedure for this study are modeled after Klar and Giladi (1997, Study 2). Lastly, participants rated how important each of the 15 traits was to them on a scale ranging from 1 (not at all important) to 7 (very important).

The FBAE was assessed with 10 potential future life events, adopted from Heine and Lehman (1995, Study 1). The 10 events were put into two types of statements, and beneath the description of each event, respondents were presented with a 7-point rating scale which ranged from 1) Much less likely than the average university student; through 4) About the same as the average university student; to 7) Much more likely than the average university student. Participants rated the relative likelihood that they would experience the events followed by the relative likelihood that Kate (Yumiko) would experience the events using the same scale.

*Translation of Materials.* Questionnaires were produced both in English and Japanese, and respondents completed them in their native language. The original English version was translated into Japanese by a bilingual, and two other bilinguals checked the translation to ensure comparability and equivalence in meaning.

Results and discussion

Comparability of samples

A significant age difference emerged among the three groups,  $F(2, 114) = 5.88, p < .01$ . The Asian-Canadian sample ( $M = 19.06$ ) was significantly younger than both the European-Canadian sample ( $M = 21.33$ ) and the Japanese sample ( $M = 21.30$ ). We calculated the correlations between age and each of the dependent variables and found a significant correlation between age and evaluations of “most other students.” Thus, we included age as a covariate for analyses with this variable.

The Japanese sample consisted of 64.5% females, compared to 75% for the European-Canadians and 72.3% for the East Asian-Canadians. These proportions were not significantly different ( $\chi^2 [2, N = 118] < 1, ns$ ). We report all analyses collapsed across gender *but note whenever gender effects emerge*.

The BAE

We examined how members of each cultural group rated themselves, the fictitious other, and most others. Participants’ evaluations were averaged across the 15 attributes to form a

composite measure. Reliability analyses conducted within each culture and for each of the three rating scales revealed that the average Cronbach’s alphas was .85 (range .72–.96), indicating that participants generally viewed the attributes similarly within each type of statement. Analyses of ratings were conducted on these composite measures (see Table 1).

First, we calculated the BAE by subtracting participants’ ratings of “most other students” from their ratings of themselves. To the extent that participants’ ratings for the statements about themselves were higher than those for most other students, the difference score of these two is an indication of the BAE. An ANOVA of the BAE revealed no cultural difference,  $F(2, 111) < 1, ns$ . Japanese ( $M = .34, SD = .91$ ) showed as pronounced a BAE as both European-Canadians ( $M = .37, SD = .59$ ) and Asian-Canadians ( $M = .33, SD = .72$ ). Analyses of the magnitude of the BAE within each culture revealed that both European-Canadians,  $t(37) = 3.75, p < .001$ , and Asian-Canadians,  $t(47) = 3.15, p < .01$ , showed a significant BAE, and the effect was nearly significant among Japanese,  $t(30) = 2.03, p < .06$ .

Next, we calculated the difference between the ratings for the fictitious other and most other students. This represents the EBTA effect (Klar and Giladi 1997). An ANOVA that was conducted on the EBTA effect revealed an unpredicted cultural difference,  $F(2, 112) = 7.83, p < .001$ . Post-hoc comparisons (Tukey’s, which are used throughout the studies) revealed that the EBTA effect was larger among Japanese ( $M = .65, SD = .80$ ) than among

**Table 1** Means and standard deviations for ratings, and effect sizes (*d*) for biases in Study 1

	European-Canadians	Asian-Canadians	Japanese
Self ratings	5.18a (.53)	5.25a (.85)	4.40b (.80)
Ratings of Kate (Yumiko)	4.80ab (.72)	5.17a (.94)	4.72b (.58)
“Most other students” ratings	4.83a (.66)	4.92a (.79)	4.04b (.61)
BAE	.63a**	.46a*	.37a
EBTA	-.02a	.38a*	.81b**
BROE	.57a**	.11ab	-.43b*
FBAEN: optimistic bias	1.55a**	1.43a**	1.02a**
EBTA: optimistic bias	.33a*	.55a**	1.11b**
FBROE optimistic bias	1.35a**	.97a**	-.13b

Standard deviations are reported in parentheses

Rows with different subscripts are significantly different at  $p < .05$

\* Significant evidence of a bias at  $p < .05$

\*\* Significant evidence of a bias at  $p < .001$



European-Canadians ( $M = -.01$ ,  $SD = .63$ ) or Asian-Canadians ( $M = .25$ ,  $SD = .65$ ). The difference between the two Canadian groups was not significant. Moreover, the EBTA effect was not significant among European-Canadians,  $t < 1$ , *ns*, although it was significant for both Asian-Canadians,  $t(47) = 2.69$ ,  $p < .01$ , and Japanese,  $t(30) = 4.48$ ,  $p < .001$ . We believe there are two reasons for this unanticipated cultural difference, which we elaborate on in the discussion below.

Next, we calculated the difference between ratings of self and the fictitious other, and the difference score was operationalized as the “Better than a Random Other Effect” (BROE). That is, how participants compare themselves to a random other should provide evidence for motivations to view oneself positively, but, at the same time, circumvent the problems in comparing singular versus distributive targets. If the self is rated more positively than a random other this is evidence for self-enhancement, whereas if the self is rated less positively than a random other this is evidence for self-criticism.

An ANOVA of the BROE revealed a significant cultural difference,  $F(2, 113) = 8.69$ ,  $p < .001$ . Post-hoc comparisons revealed that the BROE was significantly larger for European-Canadians ( $M = .41$ ,  $SD = .72$ ) than for Japanese ( $M = -.32$ ,  $SD = .74$ ). Asian-Canadians ( $M = .08$ ,  $SD = .71$ ) fell non-significantly in between. *T*-tests revealed that the BROE was significantly positive for European-Canadians,  $t(38) = 3.49$ ,  $p < .001$ , indicating a self-enhancing bias, and significantly negative for Japanese,  $t(30) = -2.40$ ,  $p < .05$ , indicating a self-critical bias. Asian-Canadians showed a non-significant trend for self-enhancement,  $t(46) < 1$ .

In sum, members from all cultural groups showed a significant BAE. However, when participants instead compared themselves to a random other, Japanese were self-critical whereas European-Canadians were still self-enhancing. This pattern suggests that the BAE found in other studies with Japanese might not be due to self-enhancing motivations but to the EBTA effect.

An unexpected finding of our analysis was that the three cultural groups differed in the magnitude of the EBTA effect. We suspect that this difference may have occurred for two reasons. First, prior research on the EBTA effect suggests a distinction between the EBTA effect as captured by an indirect comparison method (i.e., taking the difference between two separate ratings of average and singular targets) that we used in Study 1, and by a direct comparison method (i.e., asking participants to directly compare the singular target to average). This line of research, which has been conducted exclusively among Westerners, has reported consistent evidence of the EBTA from the direct comparison method but not with the indirect comparison method (see Giladi and Klar 2002; Klar and Giladi 1997).

Hence, the absence of the EBTA effect among European-Canadians might be due to our use of the indirect comparison method. To address this possibility, Study 2 used the direct comparison method of assessing the EBTA effect.

Second, we also suspect that the observed cultural difference in the EBTA effect is due to an interaction of the different self-evaluative motivations of the three samples and the order that participants evaluated the different targets. That is, the Canadians rated Kate immediately after they rated themselves, and their self-enhancing motivations would suggest that they rate Kate more negatively than themselves to create a favorable contrast. This motivation might have resulted in Kate being rated more negatively than she would have been if participants hadn't first rated themselves, which would have served to decrease the magnitude of the EBTA effect. Likewise, Japanese self-critical motivations suggest that they would rate Yumiko more positively than themselves to create an upward social comparison, and in so doing, lead to a more favorable rating of Yumiko, and an enhanced EBTA effect. Similarly, the weak self-enhancing motivations of the Asian-Canadians would predict a result in between. We speculate that if participants rated the random other before they rate themselves, we would not have found a cultural difference in the magnitude of the EBTA effect. We address this point in Study 2.

#### The FBAE

Unrealistic optimism was assessed by comparing participants' estimates for how likely they and the random other were to experience a list of negative future life events compared to the average student from their school. Note, unlike the BAE, the FBAE was assessed by the direct comparison method. Estimates that are significantly less than the midpoint of the scale (4) demonstrate an optimistic bias. That is, participants felt that they or the fictitious other was less likely than most other students to experience the negative event. Participants' evaluations were averaged across the 10 events. Cronbach's alphas conducted within each culture and within each of the two measures averaged .79 (range .46–.93). We combined all 10 events into a composite measure and conducted analyses on that.

An ANOVA for the magnitude of the FBAE revealed a marginally significant cultural difference,  $F(2, 114) = 2.50$ ,  $p < .10$ . Individual *t*-tests conducted within each culture revealed that all three cultural groups showed a significant FBAE bias: all *ps* < .001 (see Table 1). This replicates the findings from the BAE.

The EBTA effect was calculated by assessing whether participants' relative likelihood estimates for the random person deviated from the midpoint of the scale. Measured by the direct comparison method, all three cultural groups

showed a significant EBTA effect. However, there was again an unpredicted cultural difference in the magnitude of the EBTA effect,  $F(2, 112) = 10.28, p < .001$ . Post-hoc comparisons revealed that the EBTA effect was less pronounced both for European-Canadians ( $M = .15, SD = .46$ ) and Asian-Canadians ( $M = .52, SD = .94$ ) than it was for Japanese ( $M = 1.05, SD = .95$ ). Thus, although all cultural groups exhibited a significant EBTA effect when it was measured by the direct comparison, the three groups differed in the magnitude of this effect. This cultural difference in the EBTA effect is consistent with our speculation that people rate the random person differently if they have already rated themselves.

We then examined the magnitude of the FBAE with the EBTA effect circumvented by comparing participants' relative likelihood estimates for their own futures with those for the random other. We refer to this as the "My future is better than a random other effect" (FBROE). An ANOVA revealed a significant cultural difference,  $F(2, 112) = 15.37, p < .001$ , which post-hoc comparisons revealed was due to both European-Canadians ( $M = .73, SD = .54$ ) and Asian-Canadians ( $M = .68, SD = .70$ ) showing a more pronounced FBROE than Japanese ( $M = -.11, SD = .83$ ). Follow-up  $t$ -tests revealed that the FBROE was significantly positive for both European-Canadians,  $t(38) = 8.40, p < .001$ , and Asian-Canadians,  $t(45) = 6.57, p < .001$ , whereas it was nominally negative for Japanese,  $t(29) < 1, ns$ . That is, when comparing their futures to a random other both groups of Canadians demonstrate a significant self-enhancing tendency, whereas the Japanese self-enhancing tendency disappeared. These findings are consistent with the notion that the self-enhancing effect that has been obtained in past studies of the FBAE with East Asians is due to the EBTA effect, and not to self-enhancing motivations (cf., Chang and Asakawa 2003).

#### *Correlations between importance ratings and the BAE and BROE*

We calculated the magnitude of the average within-participant correlation between importance ratings and each of the BAE and BROE for each participant. A positive correlation with importance ratings means that the participants showed stronger evidence of a bias (i.e., BAE or BROE) for the traits that were rated as especially important and a weaker bias for those traits that were relatively unimportant.

First, we calculated the average within-participant correlation between importance and the BAE. Replicating the findings of Brown and Kobayashi (2002), Japanese showed a positive correlation between importance and the BAE,  $r = .25, t(29) = 4.41, p < .001$ , as did Asian-Canadians,

$r = .29, t(45) = 6.91, p < .001$ , and European-Canadians,  $r = .37, t(39) = 6.99, p < .001$ .<sup>2</sup> The between-culture analyses revealed no differences across the cultures in this measure of self-enhancement,  $F(2, 113) = 1.47, ns$ . Members of all cultural groups showed more of a tendency to view themselves as better than average as the importance of the trait increased.

We then calculated the average within-participant correlation between importance and the BROE. An ANOVA revealed a cultural difference,  $F(2, 113) = 16.16, p < .001$ , which post-hoc comparisons revealed was due to both groups of Canadians showing a significantly more pronounced correlation between importance and how much better they viewed themselves than the random other, than did Japanese. The difference between European-Canadians and Asian-Canadians was not significant.  $T$ -tests revealed that the correlations for both European-Canadians,  $r = .41, t(39) = 7.62, p < .001$ , and Asian-Canadians,  $r = .29, t(45) = 6.43, p < .001$ , were significantly positive, indicating a pronounced self-enhancing effect. For Japanese, in contrast, the correlation was  $-.00$ , suggesting an absence of self-enhancing motivations. When participants' evaluations of themselves are compared to a random other, rather than average, Japanese no longer showed a positive correlation between importance and how they compare themselves to a random other. Moreover, a repeated measures ANOVA comparing the magnitude of the BAE-importance and the BROE-importance correlations revealed that the BROE-importance correlation was significantly smaller than the BAE-importance correlation,  $F(1, 113) = 9.22, p < .01$ , although this main effect was qualified by culture  $F(2, 113) = 14.85, p < .001$ . Simple effects analyses revealed that the Japanese correlation between self-enhancement and importance was smaller when the EBTA effect was circumvented,  $t(29) = 4.73, p < .001$ , whereas there was no difference for either group of Canadians, (both  $ps > .20$ ).

In sum, Study 1 demonstrated that although Japanese show evidence of a self-enhancing tendency in terms of the BAE, the FBAE, and positive correlations between trait importance and the BAE, all of these effects disappear, or reverse, when comparisons are made with a random other. Japanese not only believe that they are better than most other students, they also believe that a random target is better than most other students. Furthermore, Japanese rate the random other as better than they are, regardless of the importance of the traits, and they view their futures to be equally bright. In contrast, European-Canadians viewed themselves to be better than the random other, especially

<sup>2</sup> Average within-respondent correlations are reported in their original form, however, the analyses are conducted on correlations that have been converted into Fisher's Z-scores.

for important traits, and they also viewed their futures to be brighter. That the results of the Asian-Canadians consistently fell in between those of the European-Canadians and Japanese is further support for the cultural differences.

## Study 2

Study 1 demonstrated that when we contrast people's evaluations of themselves with a specific random other, Canadians show clear evidence of self-enhancement whereas Japanese do not. This suggests that self-enhancing motivations are pronounced for Canadians and largely absent among Japanese. However, this conclusion is weakened because the cultures differed on the EBTA effect. It is less compelling to contend that the EBTA effect inflates the effect sizes in studies of the BAE conducted among East Asians and Westerners if one of those cultural groups did not show a significant EBTA effect. As discussed earlier, we speculate that two possibilities underlie the cultural difference in the EBTA effect. First, the use of an indirect comparison method may have reduced the magnitude of the EBTA effect. In Study 2 we thus used the direct comparison method to assess the EBTA effect. Second, the cultures may have varied in their conception of the random other due to their differing self-enhancement motivations. That is, Canadians might have anchored their self-evaluations on a random other who is less positive than the self in order to create a favorable social comparison whereas Japanese might have anchored their self-evaluation on a random other who is more positive to create a more critical social comparison. In Study 2 we sought to rule out this possibility by changing the order of ratings: having participants rate the random other first and then the self.

In addition, in Study 2 we made separate versions of the questionnaire for males and females so that everyone would evaluate themselves compared with a same-sex target. This is a cleaner test of the role of the EBTA effect than having both male and female participants evaluate themselves in comparison with a random female, as participants did in Study 1.

Finally, Study 2 included a measure of self-enhancement that should not be conflated by the EBTA effect, the "False Uniqueness Effect" (e.g., Norasakkunkit and Kalick 2002). The inclusion of this measure allows us to do two things. First, we can compare the proportions of people who appear to have self-enhancing views of themselves between the false uniqueness effect, the BAE, and the BROE methods, and assess whether there is any convergence between the different measures. Any similarity in the proportions of the sample that self-enhance would be one source of validity evidence for the different measures. Second, the false uniqueness measure can be used as a

validity criterion of self-enhancement in another way by assessing whether the BROE correlates as strongly with this measure as does the BAE. We also include a measure of self-esteem as a further validity criterion of self-enhancement.

## Method

### *Participants*

The Japanese sample consisted of 97 students (42 females and 55 males) from Yamaguchi University. All Japanese participants were born in Japan and had Japanese parents. The Canadian sample consisted of 114 University of British Columbia students. We partitioned the Canadian sample into three groups by ethnic background. Participants were classified as "Asian-Canadian" if they self-identified with an East Asian ethnicity. Sixty-one participants (32 females and 29 males) met the criteria for this group. The "European-Canadian" sample consisted of the 46 participants (22 females and 24 males) who reported that they were of European ethnicity. The remaining seven participants were of varied ethnicities and were excluded from the analyses. A number of participants had missing values on some of their measures so the degrees of freedom vary slightly across some analyses.

### *Materials*

Participants from both countries completed a brief questionnaire that consisted of assessments of the BAE, the EBTA, the false uniqueness effect, self-esteem, and demographic items. To extend the findings from Study 1, and to increase their generalizability, Study 2 used a different set of traits to assess the BAE (adopted from Heine and Renshaw 2002).

Participants evaluated a fictitious other first and then proceeded to the self-rating task. Participants were asked to rate how accurately the 10 traits characterized themselves or a specific, fictitious individual compared to the average student using the 7-point Likert scale from 1 (Much less than an average student) to 7 (Much more than an average student). Thus, the BAE and EBTA are assessed through the direct comparison method. In addition, we changed the fictitious individual's name to "Jessica" ("Ai" in Japanese). Male participants evaluated a fictitious male student ("Chris" and "Naoki" in English and Japanese, respectively). These names are common names among university-aged students in Canada and Japan.

The description of the fictitious other was slightly more elaborated in Study 2 in order to ensure that participants



perceived the task to be meaningful; it read “Jessica (Ai, Chris, or Naoki) age 20, is a student at your university. She (he) is majoring in psychology. She (he) enjoys traveling and watching movies. Of course you do not know Jessica (Ai, Chris, or Naoki) in person, but please try to compare Jessica (Ai, Chris, or Naoki) with an average student at your university to the best of your ability.”

The false uniqueness effect was assessed by asking participants to estimate the proportion of students, the same sex as themselves, who participants think they are better than with respect to a number of traits adopted from Heine and Lehman (1997). Also, self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg 1965).

*Translation of materials.* Questionnaires were produced both in English and Japanese, and respondents completed them in their native language. The original English version was translated into Japanese by a bilingual, and one other bilingual checked the translation to ensure comparability and equivalence in meaning.

## Results and discussion

### Comparability of samples

There were significant cultural differences in the average age of participants,  $F(2, 199) = 43.59, p < .001$ : European-Canadians ( $M = 24.93, SD = 5.65$ ) were significantly older than both Asian-Canadians ( $M = 20.70, SD = 2.78$ ) and Japanese ( $M = 19.69, SD = .89$ ). The correlation between age and self-ratings was significant. As such, age was entered as a covariate for analyses that included self-ratings. There was no difference in the proportion of gender within each sample,  $(\chi^2 [2, N = 204] = 1.28, ns)$ . Nevertheless, we discuss all significant gender main effects and interactions.

### The BAE

Reliability analyses conducted within each culture and for each type of rating scale revealed that Cronbach’s alphas averaged .78 (range .66–.88), indicating that participants generally viewed the attributes similarly within each type of statement. Analyses of ratings were conducted on the composite measures (see Table 2).

The BAE was determined by participants’ ratings for the statements that asked to compare themselves with an average student from their university. Any self-ratings that were significantly greater than 4.0 (which indicated that they viewed themselves more positively than the average student from their university) provide evidence for the BAE. Overall, a significant cultural difference in the BAE was found,  $F(2, 199) = 15.65, p < .001$ . Post-hoc

**Table 2** Means and standard deviations for ratings, and effect sizes (*d*) for biases in Study 2

	European-Canadians	Asian-Canadians	Japanese
Self ratings	5.09a** (.53)	4.93a** (.84)	4.30b* (.83)
Jessica (Ai) ratings	4.56a** (.52)	4.59a** (.62)	4.52a** (.87)
BROE	.54a** (.59)	.34a (.90)	-.21b (1.15)
False uniqueness effect	53.63a (16.34)	45.37ab (21.27)	45.37b* (17.13)
BAE effect size	2.06	1.11	.38
EBTA effect size	1.08	.95	.60
BROE effect size	.92	.38	-.18

Standard deviations are reported in parentheses

Rows with different subscripts are significantly different at  $p < .05$

\* Significant evidence of a bias at  $p < .05$

\*\* Significant evidence of a bias at  $p < .001$

comparisons revealed that Japanese ( $M = 4.30, SD = .83$ ) showed a significantly smaller BAE compared to European-Canadians ( $M = 5.09, SD = .53$ ) and Asian-Canadians ( $M = 4.93, SD = .84$ ). The difference between European-Canadians and Asian-Canadians was not significant. Replicating Study 1, the magnitude of the BAE was significant for members from all cultural groups (all  $ps < .01$ ). Also, the BAE was significantly correlated with self-esteem,  $r(204) = .52, p < .001$ .

The EBTA was calculated by comparing participants’ ratings of the fictitious student to the average student from their university. Any student ratings that were significantly greater than four indicated that the student was rated more positively than average and are evidence for the EBTA effect. Contrary to Study 1, there were no cultural differences in the EBTA effect,  $F(2, 201) < 1, ns$ . The EBTA effect was significant for all cultural groups (all  $ps < .001$ ), replicating the pattern of results seen in other studies (e.g., Klar and Giladi 1997). Moreover, the EBTA was uncorrelated with self-esteem,  $r(204) = .04, ns$ .

These findings suggest that the EBTA effect is independent of self-enhancement motivations and do not differ across cultures. Furthermore, the null effect of the EBTA effect seen among Euro-Canadians in Study 1 was not replicated and does not appear to be a reliable finding. Although systematic counterbalancing is needed to firmly conclude this, the cultural difference in the EBTA effect obtained in Study 1 appears to be due to the use of the indirect comparison method and an interaction between the order of the questions and cultural differences in self-evaluative motivations.

The BROE was calculated by taking the difference between ratings of the first (self compared with the average student) and second type of statements (the other compared

with the average student). This procedure allows us to analyze how participants evaluated themselves compared to the fictitious other. If the self compared to the average student is rated more positively than the random other compared to the average student, this would be evidence that individuals view themselves more positively than specific individuals, and are self-enhancing.

A pronounced cultural difference was found in the BROE,  $F(2, 198) = 10.30, p < .001$ . Post-hoc analyses revealed that the BROE was significantly larger for European-Canadians ( $M = .54, SD = .59$ ) and Asian-Canadians ( $M = .34, SD = .90$ ) compared to Japanese ( $M = -.21, SD = 1.15$ ). The Asian-Canadians' BROE did not differ significantly from that of European-Canadians. *T*-tests revealed that the BROE was significantly positive for European-Canadians,  $t(45) = 6.21, p < .001$  as well as for Asian-Canadians  $t(60) = 2.94, p < .01$ , indicating self-enhancement. In contrast, it was marginally significantly negative for Japanese,  $t(96) = -1.83, p = .07$ , indicating a weak self-critical effect. The BROE was significantly correlated with self-esteem,  $r(204) = .40, p < .001$ .

In sum, consistent with prior studies (e.g., Brown and Kobayashi 2002; Sedikides et al. 2003) members from all cultural groups showed a significant BAE. However, as in Study 1, when participants' evaluations were compared to that of a random other, Japanese were overall self-critical (they viewed themselves less positively than a random other) whereas European-Canadians and Asian-Canadians were self-enhancing (they rated themselves more positively than a random other). Furthermore, this was the case even though the EBTA effect did not differ significantly across the three cultures. This pattern suggests that the BAE found in other studies with Japanese might not be due to self-enhancing motivations but to the EBTA effect

#### *Validity assessments of the BAE and BROE*

The validity of the BAE and BROE as measures of self-enhancement was assessed by comparing the proportion of the samples who self-enhanced with these two measures with another measure of self-enhancement: the false uniqueness effect. An ANOVA revealed a cultural difference in the false uniqueness effect,  $F(2, 201) = 3.63, p < .05$ . Post-hoc comparisons revealed a stronger false uniqueness effect among European-Canadians ( $M = 53.63, SD = 16.34$ ) compared to Japanese ( $M = 45.37, SD = 17.13$ ). This finding replicates prior cross-cultural studies of the false uniqueness effect (e.g., Heine and Lehman 1997; Norasakkunkit and Kalick, 2002). Asian-Canadians ( $M = 45.37, SD = 21.27$ ) did not differ significantly from either European-Canadians or Japanese.

Next we calculated the proportion of participants who showed a self-enhancement effect in the false uniqueness measure (i.e., those participants who had estimates of over 50%). While 74% of European-Canadians showed self-enhancement by this criterion, the proportion was 49% and 44% for Asian-Canadians and Japanese respectively, and these proportions differed significantly, ( $\chi^2 [2, N = 204] = 11.32, p < .01$ ). These proportions were compared to the proportions of participants who showed self-enhancement in the BAE (i.e., the proportion of participants who had average BAE rating of greater than 4) and in the BROE (i.e., those who had average BROE rating of greater than 0). To the extent that the BAE provides an inflated estimate of self-enhancement, the proportion of people who self-enhanced as calculated from the BAE should also be greater than that calculated from the false uniqueness effect. Consistent with this prediction, when assessed with the BAE, 100% of European-Canadians, 85% of Asian-Canadians, and 62% of Japanese showed self-enhancement effects. In other words, the BAE method resulted in a significantly greater proportion of participants of people who self-enhanced compared with the false uniqueness measure (McNemar's Test,  $\chi^2 [1, N = 204] = 32.11, p < .001$ ). In contrast, to the extent that the BROE is an un-inflated measure of self-enhancement, the proportions of people who self-enhanced in the BROE design should converge with the proportions who self-enhanced in the false uniqueness design. An analysis revealed that 87% of European-Canadians, 66% of Asian Canadians, and 32% of Japanese showed self-enhancement in the BROE design. These proportions are not significantly different than that obtained with the false uniqueness measure (McNemar's Test,  $\chi^2 [1, N = 204] = .20, ns$ ). In sum, this analysis shows greater convergent evidence between the BROE and the false uniqueness effect than between the BAE and the false uniqueness effect.

#### *Correlations between importance ratings and the BAE and BROE*

As in Study 1, we calculated the magnitude of the average within-participant correlation between importance ratings and each of the BAE and BROE for each participant. A positive correlation with importance ratings means that the participants showed stronger evidence of a bias (i.e., BAE or BROE) for the traits that were rated as especially important and a weaker bias for those traits that they viewed to be relatively unimportant.

First, we calculated the average within-participant correlation between importance and the BAE. Again replicating the findings of Brown and Kobayashi (2002), Japanese showed a significant average positive correlation

between importance and the BAE,  $r = .33$ ,  $t(85) = 7.24$ ,  $p < .001$ , as did Asian-Canadians,  $r = .53$ ,  $t(54) = 9.23$ ,  $p < .001$ , and European-Canadians,  $r = .44$ ,  $t(43) = 7.85$ ,  $p < .001$ . A between-culture analyses revealed a significant difference across the cultures in this measurement of self-enhancement,  $F(2, 182) = 5.69$ ,  $p < .01$ . Only the difference between Asian-Canadians and Japanese was significant. Members of all cultural groups showed more of a tendency to view themselves as better than average as the importance of the trait increased.

Lastly, we calculated the average within-participant correlation between importance and the BROE. An ANOVA revealed a significant cultural difference in the magnitude of this correlation,  $F(2, 186) = 3.43$ ,  $p < .05$ . The correlation for Japanese ( $r = .16$ ), was significantly weaker compared to Asian-Canadians ( $r = .33$ ). The difference between European-Canadians ( $r = .27$ ) and Asian-Canadians or Japanese did not reach significance. Members of all cultural groups showed more of a tendency to view themselves as better than a random other as the importance of the trait increased. *T*-tests that investigated the average correlation for all three groups were significantly positive: European-Canadians,  $t(43) = 4.56$ ,  $p < .001$ , Asian-Canadians,  $t(55) = 5.33$ ,  $p < .001$ , and Japanese,  $t(88) = 3.53$ ,  $p < .001$ . Moreover, a repeated measure ANOVA revealed that the BROE-importance correlation was significantly smaller compared to the BAE-importance correlation,  $F(1, 182) = 54.16$ ,  $p < .001$ , and culture did not qualify this main effect,  $F(2, 186) < 1$ , *ns*.

In sum, Study 2 generally replicated the findings from Study 1. Japanese tend to view both themselves and a random other to be better than average. However, they tend to view themselves *less* positively than they do the random other. When the problem of evaluating specific versus distributional targets is circumvented, Japanese thus no longer show self-enhancement but rather demonstrate self-criticism. In contrast, European-Canadians show pronounced self-enhancement even when the EBTA effect is circumvented. That Asian-Canadians fall in between the other two samples for almost all analyses further articulates the relation between exposure to Western culture and unrealistically positive self-views.

**General discussion**

Some findings from a recent meta-analysis demonstrated that people from various cultures self-enhance more in studies employing the BAE and the FBAE methods than they do in other designs (Heine and Hamamura 2007). This raises the question that the effects from the BAE and FBAE methods might be conflated with factors that are independent from self-enhancement, in particular, the EBTA effect

(Klar and Giladi 1997). In two studies, when the EBTA effect was circumvented, the degree of self-enhancement dropped for both Canadian and Japanese samples, and the Japanese sample no longer showed significant self-enhancement. This suggests that the findings that East Asians show significant self-enhancement only for those methods that are compromised by the EBTA effect are likely to be largely due to the EBTA effect, and not to their self-enhancing motivations.

Support for this reasoning can be seen in an examination of the magnitude of effect sizes across various studies of self-enhancement. The weighted average effect sizes for the BAE and FBAE from Studies 1 and 2 were highly similar to those observed in the meta-analysis of the same methods by Heine and Hamamura (2007), and they were much larger than those observed with other methods (see Table 3). Likewise, when the EBTA effect was circumvented, the weighted average effect sizes for the BROE and FBROE from Studies 1 and 2 were highly similar to the average weighted effects that emerged in Heine and Hamamura’s (2007) meta-analysis for those studies that did not implicate an EBTA effect. There is thus a great deal of convergence between the various methods of self-enhancement that are not implicated by the EBTA effect. The effects from studies of the BAE and the FBAE remain distinct outliers.

Likewise, while positive correlations between the BAE and importance ratings were found in Studies 1 and 2 for all three cultural groups (weighted average  $r_s = .31, .42,$

**Table 3** Summary of effects from studies 1 and 2 alongside findings from meta-analyses

	European- Canadians	Japanese
<i>Studies that are implicated by the EBTA effect</i>		
BAE effects from studies 1 & 2	1.35	.38
BAE effects from meta-analysis (Heine and Hamamura 2007)	1.31	.38
FBAE effects from study 1	1.55	1.02
FBAE effects from meta-analysis (Heine and Hamamura 2007)	.98	.39
<i>Studies that are not implicated by the EBTA effect</i>		
BROE effects from studies 1 & 2	.75	-.26
Effects from meta-analysis for self-evaluation studies that do not implicate the EBTA effect (Heine and Hamamura 2007)	.68	-.24
FBROE effects from studies 1	1.35	-.13
Effects from meta-analysis for unrealistic optimism studies that do not implicate the EBTA effect (Heine and Hamamura 2007)	.41	-.19

and .41, for Japanese, Asian-Canadians, and Euro-Canadians, respectively, all  $ps < .01$ ), replicating prior research (Brown and Kobayashi 2002; Sedikides et al. 2003), the magnitude of these correlations dropped when the EBTA effect was circumvented (weighted average  $rs = .12, .31, .34$  for Japanese, Asian-Canadians, and Euro-Canadians, respectively). Furthermore, the weighted average correlation between the BROE and importance rating from Studies 1 and 2 was not significant for Japanese ( $p = .19$ ), although it was for the two Canadian samples (both  $ps < .01$ ).

The BAE consists both of motivational factors such as self-enhancement and non-motivational factors such as the EBTA effect (Chambers and Windschitl 2004). When the EBTA effect is separated from the BAE, the resultant BROE provided an estimate of self-enhancement that converged with an independent measure of self-enhancement (the false uniqueness effect). In contrast, the BAE did not converge with the independent measures.

In sum, the present research demonstrates that the BAE yields an inflated estimate of the prevalence of self-enhancement. In order to more accurately ascertain the prevalence of self-enhancing motivations it is recommended to utilize methods other than the BAE or to have people evaluate themselves in comparison to specific others. These methods converge in revealing scant evidence for self-enhancement among East Asians.

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