Cultural Variation in Affect Valuation

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The authors propose that how people want to feel ("ideal affect") differs from how they actually feel ("actual affect") and that cultural factors influence ideal more than actual affect. In 2 studies, controlling for actual affect, the authors found that European American (EA) and Asian American (AA) individuals value high-arousal positive affect (e.g., excitement) more than do Hong Kong Chinese (CH). On the other hand, CH and AA individuals value low-arousal positive affect (e.g., calm) more than do EA individuals. For all groups, the discrepancy between ideal and actual affect correlates with depression. These findings illustrate the distinctiveness of ideal and actual affect, show that culture influences ideal affect more than actual affect, and indicate that both play a role in mental health.

Keywords: culture, affect, emotion, values, temperament

How does culture shape emotion? The answer has important implications for mental health interventions, because many psychiatric disorders feature various types of emotional distress as a core symptom. Ethnographic and empirical studies diverge in their answers. Ethnographic accounts report significant variation in emotional experience in China (Ots, 1990; Potter, 1988), India (Shweder & Haidt, 2002), Indonesia (Heider, 1991; Lutz, 1988), the Mediterranean (Gaines & Farmer, 1986), Poland (Wierzbicka, 1994), Tahiti (Levy, 1983), and the United States (Wierzbicka, 1994). These reports have led many scholars to conclude that emotional experience is largely culturally determined (e.g., Kleinman & Good, 1985; Shweder, 1994; Wierzbicka, 1994).

Empirical findings, however, indicate that cultural differences in emotion may not be as profound as suggested by ethnographic reports. For instance, Scherer and colleagues (Scherer, 1997; Scherer & Wallbott, 1994) found more similarities than differences in reported emotional responses to prototypical emotion-eliciting events among people from 37 different nations. Oishi (2002) found no significant differences between Asian American (AA) and European American (EA) individuals in reports of online emotional experience over the course of a week. Breugelmans et al. (2005) observed that Raramuri Indians, rural Javanese, and college students from Belgium, Indonesia, and Mexico were more similar than different in the bodily sensations they associated with specific emotions. Finally, we have observed more similarities than differences in online reports of emotional experience, facial expressions, and measures of autonomic nervous system activity (e.g., heart rate, skin conductance) when EA and AA participants conversed with romantic partners (Tsai & Levenson, 1997), watched emotional films (Tsai, Levenson, & Carstensen, 2000), and relived emotional events (Tsai, Chentsova-Dutton, Friere-Bebeau, & Przymus, 2002). Together, these findings suggest that cultural similarities outweigh cultural differences in emotion.

Moreover, when group differences in emotional experience are observed (e.g., Mesquita & Karasawa, 2002; Scollon, Diener, Oishi, & Biswas-Diener, 2004), it is often unclear whether they arise from cultural or other factors. Research has demonstrated a moderate to high (r = .5 to .8) correlation between personality traits related to temperament (i.e., extraversion and neuroticism: also called "affective traits") and self-reported emotional experience in people from a variety of different cultures (e.g., Costa & McCrae, 1980; David, Green, Martin, & Suls, 1997; Emmons & Diener, 1985; Gomez, Cooper, & Gomez, 2000; Gross, Sutton, &

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Ketelaar, 1998; McCrae, Costa, & Yik, 1996; Rusting & Larsen, 1997; Schimmack, Radhakrishnan, Oishi, & Dzokoto, 2002). Because these traits also show moderate heritability (e.g., Bouchard, 1994; Finkel, Wille, & Matheny, 1998; Goldsmith & Campos, 1986; Goldsmith & Lemery, 2000; Hettema, Neale, & Kendler, 2001; Krueger, 2000; Lemery & Goldsmith, 2002; Plomin & Caspi, 1999; Tellegen, Lykken, Bouchard, & Wilcox, 1988), theorists have argued that genetic factors account for a greater proportion of the variance in affective experience than do environmental factors (Diener & Lucas, 1999; Lykken & Tellegen, 1996). Because these traits vary across different national samples (Allik & McCrae, 2004), it is possible that national differences in self-reported affective experience result in part from temperamental differences. However, most cross-cultural studies of emotion fail to measure these affective traits, and therefore, they cannot rule out this possibility. Thus, the influence of cultural variables versus affective traits on emotion remains largely unexplored.

Affect Valuation Theory

How can the small cultural differences in emotional experience reported by scientists and the large cultural differences reported by ethnographers be reconciled? To address this question, we introduce affect valuation theory (AVT), which predicts that (a) "ideal affect" (i.e., the affective states that people value and would ideally like to feel) differs from "actual affect" (i.e., the affective states that people actually feel); and (b) cultural factors shape ideal affect more than actual affect, whereas temperament shapes actual affect more than ideal affect. Thus, AVT suggests that the discrepancy between ethnographic accounts and empirical research may be due to their different ways of measuring emotional experience. By administering measures that ask people to rate how intensely or frequently they experience various states, scientists have primarily focused on actual affect. In contrast, by examining the emotional practices that people are engaged in, ethnographers have primarily focused on ideal affect. We believe that both are critical to understanding emotion, especially emotion in different cultural contexts.

Ideal Affect Differs From Actual Affect

Studies of emotion words, facial and vocal emotional expressions, and self-reported emotional experience in different cultural contexts have revealed that emotional experience covaries along at least two underlying dimensions: (a) *valence* and (b) *arousal* (e.g., Larsen & Diener, 1992; Russell, 1991; Watson & Tellegen, 1985). For example, fear correlates with negative valence and high arousal, and calm correlates with positive valence and low arousal. When described in terms of valence and arousal, specific emotional states are called *affective states* or *affect*. Although scholars disagree about the comprehensiveness of the affective framework, at minimum it provides a parsimonious and cross-culturally valid scheme for organizing different emotional states (Larsen & Diener, 1992).

Although several psychologists and anthropologists have described cultural variation in attitudes, beliefs, and even emotions about emotions (e.g., Mesquita, Frijda, & Scherer, 1997; Wierzbicka, 1994), only Izard (1971) has empirically distinguished between these affect-related phenomena and affect itself. AVT predicts that actual affect and ideal affect are conceptually and empirically distinct constructs. Whereas ideal affect refers to a goal, actual affect refers to a response. Whereas ideal affect requires some understanding of different affective states and their contingencies, actual affect does not. Finally, because most people want to feel good, ideal affect should primarily involve different positive states, whereas actual affect should instead involve the entire spectrum of affective states. In support of the prediction that ideal and actual affect are distinct constructs, two previous studies have demonstrated that participants' ratings of their own affective experience differ significantly from their ratings of how desirable they perceive those states to be (Feldman Barrett, 1996; Rusting & Larsen, 1995).

Most scientists, however, do not distinguish between actual and ideal affect and, therefore, implicitly treat actual affect and ideal affect as a single construct. In part, this conflation of actual and ideal affect may reflect genuine overlap between the two (i.e., their shared variance). If ideal affect and actual affect are distinct entities, then this overlap may reflect the various ways in which actual and ideal affect interact. For example, actual and ideal affect could reinforce each other; that is, the more a person feels excited, the more she or he may seek further excitement. Similarly, people who value excitement may engage in exciting activities, which may in turn increase their actual feelings of excitement. However, AVT predicts that although actual and ideal affect may interact, they are also distinct. For the rest of the article, we focus on this distinctiveness and refer to the nonoverlapping variance as the "pure" components of ideal and actual affect and to their shared variance as the "interactive" component. A raw measure of actual and ideal affect should include both pure and interactive components, and therefore, unless otherwise specified, we use the terms "ideal affect" and "actual affect" when referring to both.

Cultural Factors Shape Ideal Affect

Although most people report wanting to feel good (Sommers, 1984b), the desirability of different positive states may vary across cultures (Kitayama, Markus, & Kurokawa, 2000). AVT predicts that variation in ideal affect (particularly the pure component) is primarily due to cultural ideas and practices (the cultural variation hypothesis). For instance, people may learn to value specific states by interacting with parents, peers, or teachers; by being exposed to popular media; and by engaging in religious practices. Indeed, studies of twins demonstrate that attitudes and values toward love, sexual activity, leadership, music, politics, and games are more influenced by environmental than by genetic factors (Coon & Carey, 1989; Miles et al., 2001; Olsen, Vernon, Harris, & Jang, 2001; Petrill & Wilkerson, 2000; Waller & Shaver, 1994).

Although a large body of research has documented cultural variation in people's values and goals (Roccas, Sagiv, Schwartz, & Knafo, 2002; Rokeach, 1973; Schwartz, 1992), relatively few studies have focused on affective values or goals. Only three studies have examined cultural variation in desired emotional states. In the first of these studies, Izard (1971) asked participants about the emotions that they most preferred and found that Americans prefer enjoyment–joy more than do people from other cultural contexts (English, German, Swedish, French, Greek, and Japanese). In the second study, investigators found that a significantly greater percentage of Americans (47%) than Chinese (15%) reported wanting to experience enthusiasm (Sommers, 1984a). In

a third study of complex emotions, persons from individualistic cultures (Americans and Australians) desired to feel more pride and less guilt than persons from collectivistic cultures (Chinese and Taiwanese) (Eid & Diener, 2001).

Although these findings appear to indicate cultural variation in ideal affect, none of the investigators explicitly measured the cultural variables hypothesized to account for observed differences, nor did they rule out other possible sources of variation. For example, an alternative to the cultural variation hypothesis might posit that actual affect and ideal affect are unitary rather than distinct. If so, differences in ideal affect may be entirely due to differences in actual affect, and therefore, given previous findings linking affective traits with actual affect, affective traits should predict ideal affect better than cultural variables (the trait variation hypothesis). A second alternative hypothesis might predict that although actual affect and ideal affect differ, people want to feel good in the same way across cultures, and therefore, ideal affect does not differ across cultures (the universal hypothesis). For instance, popular measures of well-being implicitly assume that cultures desire the same affective states (e.g., the Affect Balance Scale; Bradburn, 1969).

The Relative Impact of Cultural Factors and Temperament on Ideal and Actual Affect

Integrating previous findings that link affective traits and actual affect with the hypothesis that cultural factors shape pure ideal affect, we predicted that the relative influence of culture (or environmental factors) and temperament (or genetic factors) on actual and ideal affect would vary. Specifically, we predicted that cultural factors would be more strongly associated with pure ideal than pure actual affect, whereas temperament would be more strongly associated with pure actual than pure ideal affect. Although not the focus of the present studies, we would also predict that the interactive component of ideal and actual affect reflects the interaction of culture and temperament.

The Present Studies

The aim of the present studies was to begin to test the predictions of AVT. In Study 1, we examined whether (a) ideal affect differs from actual affect and (b) culture influences pure ideal more than pure actual affect. In Study 2, we also tested the prediction that temperament influences pure actual more than pure ideal affect. Specifically, we developed measures of ideal and actual affect (Affect Valuation Index [AVI]; Tsai & Knutson, 2006) and administered them to persons who differed in their orientation to American and East Asian cultures.

We chose to focus on individuals oriented to American and East Asian cultures because these cultures clearly differ along the dimension of individualism–collectivism (e.g., Hofstede, 1980; Markus & Kitayama, 1991; Triandis, 1990). Briefly defined, individualism is the tendency to place individual over group concerns, whereas collectivism is the tendency to place group over individual concerns (Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1995). Research suggests that individualists and collectivists have different relationships with their physical and social environments. Whereas individualists aim to influence (i.e., have an impact on, change, improve) their environments to fit their own needs, collectivists aim to adjust (i.e., modify, alter, subvert) their own needs to fit those of their environments (Morling, Kitayama, & Miyamoto, 2002; Triandis, 1995; Weisz, Rothbaum, & Blackburn, 1984). Indeed, Schwartz (1992, 1995) and Oishi, Schimmack, Diener, and Suh (1998) found that individualists value influence goals (stimulation, self-direction, power, and achievement) more than do collectivists, whereas collectivists value adjustment goals (conformity and tradition) more than do individualists.

To successfully influence or change the physical or social environment, a person must act on others or one's environment (e.g., by expressing an opinion, moving an object); in contrast, to successfully adjust his or her own needs to those of the environment, a person must first assess the demands of the environment (e.g., by allowing others to act first, observing where objects are located). Indeed, previous studies have observed that individuals who exerted more influence or dominance were more likely to initiate acts (Galinsky, Gruenfeld, & Magee, 2003; Gifford & O'Connor, 1987) and were less likely to relax mentally and physically (Mehrabian & Russell, 1974). Thus, we predict that people with influence goals should value high-arousal positive states (HAP; e.g., enthusiastic, excited, energetic). In contrast, because low-arousal states promote attention to environmental stimuli (Schupp, Cuthbert, Bradley, Birbaumer, & Lang, 1997), people with adjustment goals should value low-arousal positive states (LAP; e.g., calm, relaxed, serene). Thus, individualistic cultures (e.g., American culture) should value HAP more than do collectivistic cultures (e.g., Chinese and other East Asian cultures), and collectivistic cultures should value LAP more than do individualistic cultures. These differences are prototypically exemplified by the writings of two influential thinkers: Whereas American philosopher Ralph Waldo Emerson (1841/2000, p. 262) believed that "Nothing great was ever achieved without *enthusiasm* [italics added]," Chinese philosopher Lao-tzu (6th century; as cited in Cleary [1989, p. 2]) believed that "If people can be clear and *calm* [italics added], heaven and earth will come to them."

In Study 1, we compared the ideal and actual affect of individuals who lived in the United States but who varied in their orientation to American and East Asian cultures (EA and AA). To enhance variation in orientation to East Asian culture, we added a group of individuals who lived in Hong Kong (Hong Kong Chinese [CH]) in Study 2. When testing our prediction regarding the difference between ideal and actual affect, we focused on both pure and interactive components because both comprise ideal and actual affect. However, when testing our predictions regarding the influences of cultural factors and temperament, we focused on the pure components of ideal and actual affect by partialing out the interactive component (i.e., their shared variance).[1] The interactive component of actual and ideal affect will be a topic of future research.

Study 1: Affect Valuation in EA and AA Samples

Hypotheses

In Study 1, we administered the AVI to EA and AA undergraduates. Because two thirds of AA individuals in the general popu-

[1] The results did not change when we conducted the analyses without partialing out the shared variance.

lation are immigrants, and most of the remaining third are children of immigrants (Reeves & Bennett, 2004), we assumed that most of our AA participants had been exposed to East Asian ideas and practices in their home environments. We predicted that (a) for both groups, ideal affect would differ from actual affect (the distinct construct hypothesis); (b) AA participants would value LAP more than would EA participants, whereas the EA participants would value HAP more than would AA participants; and (c) group differences in ideal affect would be partially mediated by individualism and collectivism (the cultural variation hypothesis). Specifically, we predicted that group differences in ideal HAP would be partially mediated by individualism (indexed by independent self-construal) and that group differences in ideal LAP would be partially mediated by collectivism (indexed by interdependent self-construal). Because both groups were students at American universities, the present study provided a conservative test of the cultural variation hypothesis.

Method

Participants

Two hundred one EA and 196 AA undergraduate students from universities in the San Francisco Bay area participated in the study. Only AA participants whose parents were of Chinese, Korean, Japanese, or Vietnamese descent and EA participants whose parents were of European descent were included in the study. All participants spoke English fluently, and there were no significant group differences in gender, age, or education. The two groups differed in socioeconomic status (SES), with EA participants reporting higher SES than AA participants, $F(1, 376) = 12.32$, $p < .001$. Because the pattern of results did not change after controlling for differences in SES, this variable will not be discussed further. On the basis of a subset of participants' responses to a cultural orientation inventory (described below), EA participants were more oriented to American culture than were AA participants, $F(1, 288) = 17.04$, $p < .001$. Although AA participants were moderately oriented to Asian culture, they were more oriented to American culture than to Asian culture, $t(107) = 11.39$, $p < .001$. Means and standard deviations for these variables are presented in Table 1.

Instruments

Actual and ideal affect. The AVI includes measures of ideal and actual affect. To assess ideal affect, respondents were asked to "rate how much you would IDEALLY like to feel" each of 25 items "on average," by using a scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely or all of the time*). The items, presented in Table 2, sampled each octant of the affective circumplex (Larsen & Diener, 1992; Watson & Tellegen, 1985). The measure of ideal affect has good test–retest reliability (octant $M = .61$, $SD = .08$, range = .52 to .75) and discriminant validity (e.g., weak relationships with sensation seeking [octant $M = .02$, $SD = .13$, range = −.15 to .18] and regulatory focus [octant $M = .06$, $SD = .10$, range = −.09 to .23]) for American and CH samples. The measure of ideal affect also shows good convergent validity; for example, ideal affect is significantly correlated with musical preferences, engagement in specific leisure and sports activities, and consumer product preferences, even after controlling for actual affect (see Tsai & Knutson [2006] for more information about the psychometric properties of the AVI).[2]

To assess actual affect, we administered a parallel version of the ideal affect measure, which asked participants to "rate how much you TYPICALLY feel each of the following items on average." This measure is similar to the Positive and Negative Affect Schedule (Watson & Tellegen, 1985) and other mood measures (Feldman Barrett, 1996; Larsen & Diener, 1992). Consistent with prior research (Costa & McCrae, 1988; Watson, 1988; Watson & Clark, 1994; Watson & Walker, 1996), the measure of actual affect showed good test–retest reliability (octant $M = .65$, $SD = .05$, range = .60 to .77) and discriminant validity (e.g., weak relationships with sensation seeking [octant $M = .03$, $SD = .11$, range = −.08 to .16] and regulatory focus [octant $M = .08$, $SD = .20$, range = −.24 to .42]). Previous studies have demonstrated the construct validity of reports of actual affect (Diener & Larsen, 1984; Feldman Barrett, 1997; Oishi, 2002; Oishi, Diener, Scollon, & Biswas-Diener, 2004; Scollon et al., 2004; Watson & Clark, 1994; Watson & Walker, 1996).

For both actual and ideal affect, we calculated mean aggregate scores of items from each octant of the affective circumplex. These scores were ipsatized to assess participants' ideal and actual affect relative to their own mean and standard deviation and to account for potential cultural and individual differences in response style (consistent with Yik and Russell, 2003). In Table 2, internal consistency estimates for each octant are presented for each group.

Self-construal. To assess whether group differences were due to individualism–collectivism, a subset of participants completed the Self-Construal Scale (SCS; Singelis, 1994), which assesses individualistic ("independent") and collectivistic ("interdependent") concepts of the self. Participants rated how strongly they agreed with statements assessing independence (e.g., "I act the same way no matter who I am with") as well as interdependence (e.g., "I will sacrifice my self-interest for the benefit of the group I am in"). Previous studies have demonstrated that this instrument is a reliable and valid measure for use with EA, AA, and Chinese samples (Singelis, Bond, Sharkey, & Lai, 1999). Internal reliabilities for independent and interdependent self-construal were .69 and .68 for EA participants and .73 and .72 for AA participants in the present study.

Demographics and cultural orientation. Participants reported their gender, age, years in school, and SES. To assess whether the groups

Table 1
Sample Characteristics for Study 1

Variable	European Americans ($n = 201$)	Asian Americans ($n = 196$)
Gender (% female)	52.3	54.1
Age (years)	19.99 (1.94)	19.75 (1.51)
Education (years of college)	2.47 (1.28)	2.47 (1.27)
Socioeconomic status[a]***	3.84 (0.90)	3.52 (0.87)
Orientation to American culture[b]***	4.03 (0.41)	3.81 (0.50)
Orientation to Asian culture[b]		3.04 (0.46)

Note. Except for gender, all values represent means (with standard deviations in parentheses).
[a] 1 = lower income, 3 = middle income, and 5 = upper income. [b] 1 = not at all, 5 = extremely.
*** $p \leq .001$.

[2] To ensure that reports of ideal affect are not merely reports of how people think they should feel ("ought affect"), we asked American and CH participants to rate how they would ideally like to feel (ideal affect), how their closest relative (e.g., mother) thinks they should feel ("relative ought affect"), and how their closest peer (e.g., best friend) thinks they should feel ("peer ought affect"). If ideal affect is merely a reflection of ought affect, ideal affect should be highly correlated ($r > .7$) with ought affect. However, analyses revealed that ideal affect was only moderately correlated with relative ought affect (octant $M = .42$, $SD = .09$, range = .26 to .54) and peer ought affect (octant $M = .45$, $SD = .07$, range = .34 to .57), suggesting that, although related, ideal affect and ought affect are not identical constructs.

Table 2
Internal Consistency Estimates and Correlations Between Actual and Ideal Affect for Study 1

Octant	Items	European Americans (n = 201)			Asian Americans (n = 196)		
		Actual α	Ideal α	r between actual and ideal	Actual α	Ideal α	r between actual and ideal
High-arousal positive	Enthusiastic, excited, strong (elated)	.75	.74	.53***	.80	.76	.35***
Positive	Happy, satisfied, content	.81	.67	.28***	.81	.76	.21**
Low-arousal positive	Calm, at rest, relaxed, peaceful (serene)	.79	.75	.34***	.75	.73	.16*
Low arousal	Quiet, still, passive	.63	.65	.47***	.67	.64	.32***
Low-arousal negative	Dull, sleepy, sluggish	.68	.73	.11	.70	.51	.07
Negative	Sad, lonely, unhappy	.87	.69	.22**	.83	.69	.29***
High-arousal negative	Fearful, hostile, nervous	.61	.56	.20**	.53	.55	.09
High arousal	Aroused, surprised, astonished	.57	.53	.31***	.62	.69	.48***

Note. Items in parentheses were added in Study 2.
* $p < .05$. ** $p < .01$. *** $p < .001$.

differed in orientation to American culture, we administered the American version of the General Ethnicity Questionnaire (GEQ; Tsai, Ying, & Lee, 2000) to a subset of participants. These participants rated 38 items pertaining to their social affiliation, activities, attitudes, exposure, food, and language use and proficiency (e.g., "When I was growing up, I was exposed to American culture"). In addition, to ensure that AA participants were moderately oriented to their specific Asian culture (e.g., Chinese culture, Japanese culture), we had them complete the Asian version of the GEQ, which asks participants to first indicate the specific Asian culture with which they have had the greatest contact and then to rate items that were similar to those of the GEQ American version (e.g., "When I was growing up, I was exposed to [specific Asian] culture"). The validity of the GEQ has been reported in several studies (e.g., Tsai, 2001; Tsai, Ying, & Lee, 2000). In this study, the internal consistency of the GEQ American version was .86 for EA participants and .85 for AA participants; the internal consistency of the GEQ Asian version was .77 for AA participants.

Procedure

Instruments were presented in the context of other questionnaires that were not relevant to the present study. Participants completed the questionnaires either in class or at home and returned them in person or via mail. Because participants who completed the questionnaires in class had less time to complete the questionnaires than those who completed them at home, only a subsample (EA group = 82 [41%], AA group = 75 [38%]) completed both the SCS and the GEQ.

Results

Differences Between Actual Affect and Ideal Affect

We conducted two types of analyses to determine whether actual affect and ideal affect form one single or two distinct constructs. First, we examined the correlation between actual and ideal affect scores from the same octant. Whereas the distinct construct hypothesis predicts that actual and ideal affect scores will be weakly or moderately correlated ($0 < r < .5$), the single construct hypothesis predicts that actual and ideal scores will be highly correlated ($r > .7$). Second, we conducted confirmatory factor analyses to assess the fit of two nested models, one based on the distinct construct hypothesis, and the other based on the single construct hypothesis.

Pearson product–moment correlational analyses. Consistent with the distinct construct hypothesis, as shown in Table 2, correlations between actual and ideal affect of the same octants were weak to moderate, ranging from .11 to .53 for EA participants and from .07 to .48 for AA participants, suggesting that although they share variance, ideal and actual affect also carry distinct variance.

Confirmatory factor analyses. Next, we conducted two confirmatory factor analyses that compared the fit of two nested models. To maintain independence among the ratings, we conducted these analyses on raw rather than ipsatized scores. Because of the relatively small sample size, we conducted these analyses on three actual and three ideal HAP and LAP items (HAP: excited, enthusiastic, and strong; LAP: calm, peaceful, and relaxed). The distinct construct hypothesis predicts a two-factor model for each octant (actual HAP vs. ideal HAP; actual LAP vs. ideal LAP). The single construct hypothesis, however, predicts one factor for each octant (HAP and LAP). Thus, for each octant (HAP, LAP), we first assessed the fit of the two-factor model (with factorial covariance constrained to 1.00) and then the fit of the one-factor model (with factorial covariance and the interfactor correlation constrained to 1.00) (Chin & Todd, 1995; van der Sluis, Dolan, & Stoel, 2005). The fit of each model was calculated by using LISREL 8 (Jöreskog & Sörbom, 1996) on the covariance matrices (provided upon request). Parameters were estimated by using maximum likelihood. Following convention, we used five commonly used fit indexes to assess model fit: the root-mean-square error of approximation (RMSEA), the standardized root-mean-square residual (SRMR), the comparative fit index (CFI), the goodness-of-fit index (GFI), and the incremental fit index (IFI). For the RMSEA and SRMR, values less than .05 indicate a very good fit, values between .05 and .10 indicate a reasonable fit, and values greater than .10 indicate poor fit (Browne & Cudeck, 1992; Krueger, Chentsova-Dutton, Markon, Goldberg, & Ormel, 2003). For the CFI, GFI, and IFI, values of approximately .90 or higher indicate good fit (Bentler, 1990; Bentler & Bonett, 1980). After assessing the fit of each model, we determined whether the two models were significantly different with the chi-square difference test (Bollen, 1989). Finally, we compared the chi-square and Akaike information criterion (AIC) values of the two models to identify the model

that provided a better fit, with smaller AICs and chi-squares indicating better fit (Kline, 1998; van der Sluis et al., 2005).

For HAP items, the two-factor model provided a good fit according to the CFI, IFI, and GFI, a reasonable fit according to the SRMR, and a poor fit based on the RMSEA (RMSEA = .14, SRMR = .07, CFI = .90, IFI = .90, GFI = .94). In contrast, the single-factor model was a poor fit according to four of five fit indices, with the exception of SRMR, which suggested that the single-factor model provided a reasonable fit (RMSEA = .23, SRMR = .10, CFI = .71, IFI = .71, GFI = .85). The change in chi-square between the two models was significant, indicating that the two models significantly differed in fit: two-factor model, $\chi^2(8, N = 395) = 77.91$; single-factor model, $\chi^2(9, N = 395) = 203.43$; $\Delta\chi^2 = 125.52$, $\Delta df = 1$, $p < .001$. Finally, consistent with the distinct construct hypothesis, the two-factor model had smaller chi-square values—two-factor model, $\chi^2(8, N = 395) = 77.91$; single-factor model, $\chi^2(9, N = 395) = 203.43$—and AIC values (two-factor model: AIC = 92.74; single-factor model: AIC = 216.01) than the single-factor model, suggesting a better fit.

For the LAP items, the two-factor model provided a poor fit according to the RMSEA, CFI, and IFI; a reasonable fit according to the SRMR; and a good fit according to the GFI (RMSEA = .15, SRMR = .09, CFI = .80, IFI = .80, GFI = .92). In contrast, the single-factor model provided a poor fit according to four of the five indices, with the exception of SRMR, which suggested that the single-factor model provided a reasonable fit (RMSEA = .19, SRMR = .10, CFI = .68, IFI = .69, GFI = .87). The change in chi-square between the two models was significant, suggesting that two models significantly differed: two-factor model, $\chi^2(8, N = 392) = 104.55$; single-factor model, $\chi^2(9, N = 392) = 160.69$; $\Delta\chi^2 = 54.14$, $\Delta df = 1$, $p < .001$. Finally, consistent with the distinct construct hypothesis, the two-factor model had smaller chi-square values—two-factor model, $\chi^2(8, N = 392) = 104.55$; single-factor model, $\chi^2(9, N = 392) = 160.69$—and AIC values (two-factor model: AIC = 108.38; single-factor model: AIC = 157.95) than the one-factor model, suggesting that it provided a better fit.[3]

In summary, findings from two types of analyses (i.e., correlational analyses and confirmatory factor analyses) revealed that actual affect and ideal affect comprise two distinct constructs rather than one single construct. These findings support the first prediction of AVT.

Pairwise t tests. We also conducted pairwise *t* tests to test the hypothesis that across groups, individuals would report wanting to feel more pleasant and less unpleasant than they actually felt. Analyses confirmed this hypothesis (for the EA group, $p < .001$ for all octants except low-arousal states [LA]; for the AA group, $p < .001$ for all octants). There was only one case for which there was no difference between actual and ideal affect: EA participants reported actually feeling LA as much as they ideally wanted to feel them. Ipsatized means and standard errors are shown in Figure 1 (EA group, top; AA group, bottom).

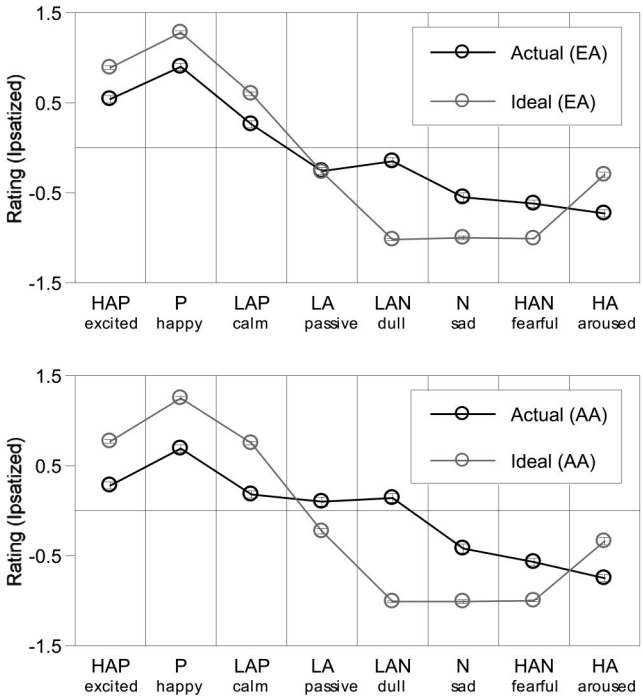

Figure 1. Actual and ideal affect (ipsatized mean and standard error) for the European American group (EA, top) and the Asian American group (AA, bottom) in Study 1. Sample items are provided for each octant. HAP = high-arousal positive; P = positive; LAP = low-arousal positive; LA = low arousal; LAN = low-arousal negative; N = negative; HAN = high-arousal negative; HA = high arousal.

Group Differences in Pure Ideal Affect

To examine whether there were group differences in pure ideal affect, we conducted a 2 × 2 (Group [EA, AA] × Ideal Affect [HAP, LAP]) repeated measures analysis of covariance (ANCOVA), controlling for actual HAP and actual LAP. Group was treated as a between-subjects factor; Affect was treated as a within-subjects factor.[4] Consistent with the cultural variation hypothesis but contrary to the universal hypothesis, the Group × Affect interaction was significant, $F(1, 392) = 16.57$, $p < .001$ (see Figure 2). As predicted, planned comparisons revealed that EA individuals valued HAP more than did AA individuals, $F(1, 393) = 5.38$, $p < .05$, Cohen's $d = .21$, and that AA individuals valued LAP more than did EA individuals, $F(1, 393) = 30.29$, $p < .001$, Cohen's $d = .61$, controlling for actual HAP and LAP, respectively. One-way ANCOVAs conducted on the remaining six octants of ideal affect, controlling for actual affect, revealed no significant main effects or interactions involving group, suggesting that the observed differences were specific to HAP and LAP.

Mediators of Group Differences in Pure Ideal Affect

We administered the SCS to a subsample of participants so that we could assess whether group differences in pure ideal HAP and

[3] We also conducted confirmatory factor analyses on standardized scores (standardized within each individual) to control for positioning effects. For both HAP and LAP, the two-factor model provided a good and better fit than the one-factor model.

[4] Initially, Gender was also included as a between-subjects factor; however, because neither the main effect of Gender nor the interaction of Gender and Group was significant, Gender was not included in the analyses.

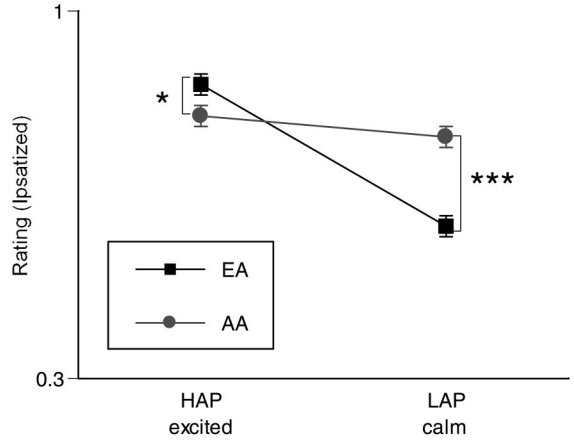

Figure 2. Group differences in ideal high-arousal positive states (HAP) and low-arousal positive states (LAP) (ipsatized mean and standard error), controlling for actual affect, in Study 1. EA = European American group; AA = Asian American group. *$p < .05$. ***$p < .001$.

pure ideal LAP were partially mediated by differences in independent and interdependent self-construal. Analyses of variance (ANOVAs) revealed significant group differences in independence, $F(1, 155) = 16.28$, $p < .001$ (EA group: $M = 4.89$, $SD = .65$; AA group: $M = 4.46$, $SD = .72$), and interdependence, $F(1, 155) = 15.75$, $p < .001$ (EA group: $M = 4.60$, $SD = .63$; AA group: $M = 5.00$, $SD = .64$). Partial and zero-order correlations between the affect and self-construal variables are reported in Table 3. Partial correlations between actual affect and the self-construal variables controlled for ideal affect; partial correlations between ideal affect and the self-construal variables controlled for actual affect.

We conducted a series of multiple regressions to test the four criteria for mediation (Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004). Specifically, we examined whether (a) the independent variable (group: EA = 0, AA = 1) was significantly correlated with the outcome variable (ideal HAP, ideal LAP); (b) the independent variable (group) was significantly correlated with the mediator (independence, interdependence); (c) the mediator (independence, interdependence) was significantly correlated with the outcome variable (ideal HAP, ideal LAP), controlling for the independent variable (group); and (d) the mediational effect was significant according to the Sobel test. Actual affect was included as a covariate in Steps 1 and 3 because we were interested in the mediation of group differences in the pure components of ideal affect.

Although the first criterion for mediation was not met for pure ideal HAP—that is, group was not significantly correlated with pure ideal HAP ($B = -.04$, $SE = .05$, $\beta = -.06$), $t(154) = -0.79$, *ns*—we continued with the remaining steps because scholars have recently questioned the importance of this first step in demonstrating mediation (Shrout & Bolger, 2002).[5] The second criterion for mediation was met: Group was significantly correlated with independence ($B = -.44$, $SE = .11$, $\beta = -.31$), $t(155) = -4.04$, $p < .001$. In support of the third criterion for mediation, independence was correlated with pure ideal HAP, after controlling for group, although this correlation was nonsignificant ($B = .06$, $SE = .04$, $\beta = .14$), $t(153) = 1.84$, $p = .07$. The Sobel test also revealed that the mediational effect of independence was not significant (Sobel test = -1.40, *ns*).

The first two criteria for mediation were met for pure ideal LAP: (a) Group was significantly correlated with pure ideal LAP ($B = .13$, $SE = .05$, $\beta = .21$), $t(154) = 2.68$, $p < .01$; and (b) group was significantly correlated with interdependence ($B = .40$, $SE = .10$, $\beta = .30$), $t(155) = 3.97$, $p < .001$. In support of the third criterion for mediation, interdependence was correlated with pure ideal LAP, after controlling for group, although this correlation was nonsignificant ($B = .07$, $SE = .04$, $\beta = .15$), $t(153) = 1.83$, $p = .07$. The Sobel test also revealed that the mediational effect was not significant (Sobel test = 1.60, *ns*). Thus, interdependence did not mediate group differences in pure ideal LAP.

Study 1 Discussion

In Study 1, participants' reports of actual affect were weakly or moderately correlated with their reports of ideal affect, and the two-factor model that treated actual and ideal affect as distinct provided a better fit of the data than did the single-factor model. Together, these findings support the first prediction of AVT that ideal affect differs from actual affect. Partial support for the second prediction of AVT was also obtained: Controlling for actual affect, we found that EA participants valued HAP more than did AA participants, and AA participants valued LAP more than did EA participants. Group differences in pure ideal HAP and pure ideal LAP, however, were not mediated by independence or interdependence.

The study had a number of limitations. First, Study 1 was a conservative test of the cultural variation hypothesis. Both groups were American, which may have restricted the potential variation in independence and interdependence and orientation to East Asian culture. Second, we used a general measure of individualism–collectivism, which did not mediate variation in pure ideal affect. On the one hand, this might suggest that group differences in pure ideal affect were not strongly related to individualism and collectivism. On the other hand, they might indicate that more specific aspects of individualism and collectivism not captured by the SCS (e.g., specific measures of influence and adjustment goals) might better account for group differences in pure ideal HAP and pure ideal LAP. Third, although results supported the cultural variation hypothesis, the data did not allow us to rule out the possibility that the differences were due to temperament-related affective traits, such as neuroticism and extraversion (the trait variation hypothesis). Furthermore, because we did not measure these affective traits, we were unable to test the prediction that affective traits shape pure actual affect more than pure ideal affect. Fourth, although the two-factor model provided a better fit of the data than the single-factor model, the overall fit of the two-factor model was not optimal, particularly for LAP. Fifth, because ideal affect was measured with the AVI, which provides participants with specific affect terms, it was not clear whether the same pattern would emerge if participants were allowed to use their own words.

[5] The fact that there was not a significant group difference in pure ideal HAP for this subsample raises the possibility that the subsample was not representative of the larger sample.

Table 3
Partial (Below Diagonal) and Zero-Order (Above Diagonal) Correlations Between Affect and Cultural Variables in Study 1

Variable	1	2	3	4	5	6
1. Actual HAP	—	−.11*	.46***	−.33***	.25***	−.03
2. Actual LAP		—	−.16**	.22***	.10	.04
3. Ideal HAP			—	−.57***	.25**	−.01
4. Ideal LAP				—	−.17*	.20**
5. Independence	.16*	.14	.16*	−.19*	—	−.11
6. Interdependence	−.02	−.001	.004	.20*		—

Note. Partial correlations between self-construal and actual affect control for ideal affect; similarly, partial correlations between self-construal and ideal affect control for actual affect. HAP = high-arousal positive state; LAP = low-arousal positive state.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Finally, although groups differed in pure ideal affect, the psychological or functional significance of this difference was not clear. These limitations motivated Study 2.

Study 2: Affect Valuation in American and Chinese Cultural Contexts

In Study 2, we recruited a sample of EA participants, Chinese American (CA) participants, and Chinese college students living in Hong Kong (CH) to increase variance in orientation to East Asian culture and in endorsement of individualism and collectivism. To increase the distinction between the CA and CH groups, we used more specific recruitment criteria in this study than in Study 1 to ensure that CA participants were highly oriented to both American and Chinese culture. In addition to the SCS, we included other measures of individualism and collectivism to test the predicted association between individualistic goals and ideal HAP and between collectivistic goals and ideal LAP. Specifically, all participants completed the Individualism–Collectivism Scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis & Gelfand, 1998), which differentiates between horizontal and vertical types of individualism and collectivism.[6] Whereas vertical individualism refers to the degree to which people compete to acquire status over others, horizontal individualism refers to the degree to which people view themselves as different and unique. Similarly, whereas vertical collectivism refers to the degree to which people are loyal to their in-groups (e.g., family), horizontal collectivism refers to the degree to which people are connected to others. Participants also completed the Schwartz Values Survey (SVS; Schwartz, 1992), which has been used to compare values in individualistic and collectivistic contexts (Schwartz, 1992, 1995) as well as among individuals within the same culture who vary in individualistic and collectivistic orientation (Oishi et al., 1998). Of importance to the present study, the SVS also includes items related to influence and adjustment goals, which allowed us to test the specific prediction that influence goals would be associated with valuing HAP, whereas adjustment goals would be associated with valuing LAP.

Additionally, to rule out potential influences of affective traits and to test the hypothesis that affective traits shape pure actual more than pure ideal affect, we simultaneously administered a reliable and valid measure of neuroticism and extraversion. To examine whether group differences in pure ideal affect generalized to a different response format, we asked participants to describe their ideal states in their own words, in addition to completing the AVI. To assess whether we could improve the fit of the two-factor model, we added HAP (i.e., elated) and LAP (i.e., serene) items to the AVI. Finally, to assess the psychological significance of ideal affect, we administered the Center for Epidemiological Studies—Depression Scale (CES–D; Radloff, 1977), which reliably assesses depression in American and CH samples (C. K. Cheung & Bagley, 1998; Ying, 1988; Ying, Lee, Tsai, Yeh, & Huang, 2000). We predicted that if ideal affect has functional consequences, then greater discrepancies between actual and ideal affect should correlate with reduced well-being (Matsumoto et al., 1999; Rogers, 1961; Ward & Chang, 1997). Further, consistent with the cultural variation hypothesis, we predicted that culturally valued affect would have a stronger association with well-being than would less culturally valued affect. This hypothesis contrasts with the universal hypothesis, which predicts that similar affects should be associated with well-being across cultures.

Hypotheses

As in Study 1, we predicted that (a) consistent with the distinct construct hypothesis, ideal affect would differ from actual affect; (b) consistent with the cultural variation hypothesis, EA participants would value HAP more and LAP less than would CH

[6] Triandis (1995) introduced the horizontal and vertical dimension to demonstrate the multidimensional nature of individualism–collectivism. Indeed, various studies have demonstrated variation by type of individualism. For example, in Chiou (2001), although Americans scored higher in horizontal individualism than did Taiwanese, the groups did not differ in vertical individualism. Similarly, in Triandis, Chen, and Chan (1998), although more Americans preferred horizontal individualism than did the CH group, there were no group differences in preferences for vertical individualism.

participants (controlling for differences in actual affect and affective traits), with CA participants (who are less oriented to American culture than EA participants and less oriented to Chinese culture than CH participants) falling in between the other two groups; and (c) group differences in pure ideal HAP and pure ideal LAP would be partially mediated by differences in individualism and collectivism. Specifically, we predicted that groups that were more independent, were more individualistic, and endorsed influence goals more would value HAP more, whereas groups that were more interdependent, were more collectivistic, and endorsed adjustment goals more would value LAP more. We also predicted that (d) across groups, cultural variables would be more strongly associated with pure ideal affect than pure actual affect, whereas affective traits would be more strongly associated with pure actual affect than pure ideal affect. Finally, we hypothesized that (e) the discrepancy between culture-specific ideal affect and actual affect would be strongly associated with depression for all groups. Specifically, we hypothesized that the discrepancy between actual and ideal HAP would be significantly correlated with depression for EA and CA participants, but not CH participants, whereas the discrepancy between actual and ideal LAP would be significantly correlated with depression for CH and CA participants, but not EA participants.

Method

Participants

Seventy-nine EA, 81 CA, and 96 CH undergraduate students participated in a survey on "emotions, thoughts, and behaviors." EA participants were required to have been born and raised in the United States or Canada and to have parents and grandparents of European descent who were born and primarily raised in either the United States or Europe. CA participants were required to have been born and raised in either the United States or a Chinese context (including China, Hong Kong, Taiwan, Indonesia, Malaysia, and Singapore) and to have parents and grandparents of Chinese descent who were born and raised in a Chinese cultural context. CH participants were required to have been born and raised and to be currently living in Hong Kong and to have parents and grandparents who were born and raised in a Chinese context. In the final sample, 100% of the EA group were born and raised in the United States; the majority of the CA group were born (58%) and raised (79%) in the United States, and 100% of the CH group were born and raised in Hong Kong.

There were no significant group differences in age or gender. The groups, however, did significantly differ in education, $F(2, 252) = 8.26$, $p < .001$; generational status, $F(2, 247) = 1{,}486.66$, $p < .001$; and SES, $F(2, 212) = 65.56$, $p < .001$. Post hoc comparisons revealed that EA and CA participants had more years of college than did CH participants ($p < .01$); CH participants were of higher generational status than EA participants ($p < .05$), who were of higher generational status than CA participants ($p < .001$); EA participants were of higher SES than CA participants, and both groups were of higher SES than the CH group ($p < .01$). However, the pattern of results did not change after controlling for these differences, and therefore, they will not be discussed further. As expected, the groups also differed in their orientation to American culture, $F(2, 240) = 567.74$, $p < .001$. Post hoc comparisons revealed that EA participants were more oriented to American culture than were CA participants, and both groups were more oriented to American culture than were CH participants ($p < .001$). CH participants were also more oriented to Chinese culture than were CA participants, $F(1, 174) = 266.53$, $p < .001$. Means and standard deviations for these variables are provided in Table 4.

Instruments

Translation. For CH participants, all instruments were translated into Chinese and then back-translated into English by four bilingual Chinese–English speakers (three were born and raised in Hong Kong, and one was born and raised in the United States; all were currently living in the United States). Disagreements among translators were rare and resolved by discussion.

Measurement equivalence. To ensure that the instruments were equivalent across groups, we conducted means and covariance structure analysis (MACS; G. W. Cheung & Rensvold, 1999; Ployhart & Oswald, 2004), an increasingly popular way of establishing construct comparability across cultures by using structural equation modeling techniques (e.g., Chirkov, Ryan, Kim, & Kaplan, 2003). For a given construct, MACS allows researchers to test different levels of measurement equivalence by comparing the fit of three nested models: (a) an unconstrained baseline model; (b) the factorial invariance model, in which the factor loadings are equivalent across groups; and (c) the strong factorial invariance model, in which the factor loadings and intercepts are equivalent across groups (G. W. Cheung & Rensvold, 1999; Little, 1997; Ployhart & Oswald, 2004). The latter two models have been used

Table 4
Sample Characteristics for Study 2

Variable	European Americans (n = 79)	Chinese Americans (n = 81)	Hong Kong Chinese (n = 96)
Gender (% female)	54.4	48.1	48.9
Age (years)	19.96 (1.20)	19.69 (1.27)	20.16 (2.21)
Generational status[a]***	3.88 (0.27)	1.58 (0.50)	4.00 (0.00)
Education (years of college)***	2.13 (1.05)	2.20 (1.03)	1.67 (0.72)
Socioeconomic status[b]***	4.17 (0.83)	3.74 (0.86)	2.58 (0.86)
Orientation to American culture[c]***	4.21 (0.33)	3.90 (0.37)	2.49 (0.34)
Orientation to Asian culture[c]		3.23 (0.46)	4.19 (0.33)

Note. Except for gender, all values represent means (with standard deviations in parentheses).
[a] Generational status was coded with 1 being the immigrant generation. [b] 1 = lower income, 3 = middle income, and 5 = upper income. [c] 1 = not at all, 5 = extremely.
*** $p \leq .001$.

Table 5
Fit Indices for Factorial Invariance Model and Cronbach's Alpha for Instruments in Study 2

Variable	Factorial invariance fit indices				Cronbach's α		
	RMSEA	GFI	IFI	CFI	EA	CA	CH
HAP							
Actual	.00	.98	1.00	1.00	.82	.85	.62
Ideal	.04	.98	1.00	1.00	.77	.72	.69
P							
Actual	.00	.99	1.00	1.00	.88	.85	.84
Ideal	.00	.99	1.01	1.00	.70	.77	.80
LAP							
Actual	.00	.98	1.00	1.00	.81	.77	.65
Ideal	.00	.99	1.01	1.00	.79	.64	.71
LA							
Actual	.14	.96	.96	.95	.77	.79	.55
Ideal	.09	.98	.97	.97	.53	.74	.58
LAN							
Actual	.00	1.00	1.02	1.00	.66	.74	.47
Ideal	.18	.99	.91	.90	.57	.70	.59
N							
Actual	.04	.99	1.00	1.00	.75	.83	.80
Ideal	.00	1.00	1.02	1.00	.57	.70	.72
HAN							
Actual	.00	.99	1.01	1.00	.72	.66	.59
Ideal	.11	1.00	.91	.90	.48	.28	.23
HA							
Actual	.00	1.00	1.05	1.00	.54	.52	.38
Ideal	.00	1.00	1.03	1.00	.58	.71	.36
Extraversion	.20	.92	.91	.91	.80	.69	.67
Neuroticism	.00	1.00	1.00	1.00	.78	.82	.79
Independence	.08	.99	.98	.98	.76	.66	.49
Interdependence	.03	.99	1.00	1.00	.64	.58	.51
Influence physical environment	.00	1.00	1.01	1.00	.78	.73	.69
Influence social environment	.06	1.00	.99	.99	.68	.78	.77
Adjust to social environment	.00	.99	1.01	1.00	.78	.75	.64
Vertical individualism	.00	.98	1.00	1.00	.65	.79	.63
Horizontal individualism	.00	.99	1.01	1.00	.66	.62	.55
Vertical collectivism	.00	1.00	1.04	1.00	.59	.57	.57
Depression	.00	1.00	1.00	1.00	.81	.86	.83

Note. RMSEA $<$ .10 indicates acceptable fit; RMSEA $<$ .05 and GFI, IFI, and CFI $>$ .90 indicate good fit. RMSEA = root-mean-square error of approximation; GFI = goodness-of-fit index; IFI = incremental fit index; CFI = comparative fit index; EA = European American; CA = Chinese American; CH = Hong Kong Chinese; HAP = high-arousal positive; P = positive; LAP = low-arousal positive; LA = low arousal; LAN = low-arousal negative; N = negative; HAN = high-arousal negative; HA = high arousal.

to demonstrate measurement equivalence (the third is necessary to compare latent group means).

For each construct, we assessed the fit of each model by using RMSEA, CFI, IFI, and GFI (see above description) and compared fit of the models by using the difference-in-fit criterion of less than .05 (Little, 1997). Because of our limited sample size, we assessed measurement equivalence separately for each construct. For each construct, we used the three items that factor analyses revealed had the strongest factor loadings as indicators. With the exception of ideal low-arousal negative (LAN), ideal high-arousal negative (HAN), and extraversion, differences in fit between the baseline and factorial invariance models were less than .05. However, as shown in the first four columns of Table 5, for all measures, the majority of fit indices suggested that the factorial invariance model provided a good to acceptable fit.[7]

The majority of measures, however, did not meet criteria for strong factorial invariance, suggesting that the intercepts differed across groups. In all likelihood, these differences were due to response styles (e.g., acquiescence bias) that have been observed to differ significantly across cultural contexts (G. W. Cheung & Rensvold, 2000; M. Cheung, personal communication, December 17, 2004; Johnson, Kulesa, Cho, & Shavitt, 2005; Mullen, 1995; Smith, 2004). Therefore, we conducted analyses on both ipsatized and raw scores. Because the pattern of results was strikingly similar regardless of whether we used ipsatized or raw scores, we report findings from analyses with raw scores for all measures except the affect variables to maintain comparability with the existing literature.

Actual and ideal affect. Measures were identical to those used in Study 1, although we replaced "strong" with "elated" for HAP and "peaceful"

[7] These analyses were conducted on raw scores. Although methods for assessing measurement equivalence with ipsatized scores exist (M. Cheung, 2004; M. Cheung & Chan, 2002), they require that at least two latent factors be included in the model (M. Cheung, 2004). Because of our limited sample size, we could assess the construct comparability of only one factor at a time, and therefore we could not apply these methods to our data.

with "serene" for LAP. Internal consistency estimates are reported in Table 5.[8]

Cultural variables. As in Study 1, we administered the SCS (Singelis, 1994) to assess interdependent and independent self-construal. We administered the Individualism–Collectivism Scale (Singelis et al., 1995; Triandis & Gelfand, 1998) to assess horizontal individualism, vertical individualism, and vertical collectivism. Because we could not identify horizontal collectivism items that were equivalent (based on the MACS analyses) or internally consistent across groups, we did not include this variable in the analyses.

We also administered the SVS (Schwartz, 1992) to assess influence and adjustment goals. We created separate aggregates for goals related to physical influence, social influence, and social adjustment on the basis of items that MACS analyses revealed were equivalent across groups (Schwartz & Sagiv, 1995). To assess goals related to physical influence, we aggregated items related to acting on one's environment by exploring and seeking novelty, change, and adventure (referred to by Schwartz as "stimulation and self-direction"). To assess social influence goals, we aggregated items related to having an impact on people and events, the right to lead or command, and control over others (referred to by Schwartz as "power and achievement"). To assess social adjustment goals, we aggregated items related to being respectful of tradition, parents, and elders; being obedient and dutiful; and meeting obligations (referred to by Schwartz as "conformity and tradition"). Internal consistency estimates for these cultural variables were moderate to high (see Table 5). Although we attempted to create an aggregate that indexed physical adjustment goals, we could not identify items that were equivalent (according to MACS analyses) and internally consistent across groups.

Personality traits. To assess neuroticism and extraversion, participants completed the 60-item NEO Five-Factor Inventory (Costa & McCrae, 1992). Internal consistency estimates for these variables were high (see Table 5).

Open-ended responses. Participants were asked to respond in writing to the question "What is your ideal state?" Three coders blind to the cultural group of the participant read each response and then recorded the number of times participants mentioned items that fell within each affective octant, based on several different two-dimensional models of affect (Feldman Barrett & Russell, 1999; Larsen & Diener, 1992; Watson & Tellegen, 1985). To assess reliability, coders overlapped on 20% of the responses (mean kappa for three raters across eight affective octants = .95, *SD* = .05, range = .86–1.00).

Depression. To assess depressive symptoms, we administered the CES–D (Radloff, 1977). Although we calculated measurement equivalence on only three items (due to our limited sample size), we conducted analyses on the entire scale because the sum score is commonly used to assess depression (Radloff, 1977).

Demographic and cultural orientation variables. Participants reported where they were born and where they were raised as well as their age, educational level, and SES. Participants also reported their parents' and grandparents' place of birth and place primarily raised. To assess how oriented participants were to American culture, we administered the GEQ American version (see Study 1) to all participants. CA and CH participants also completed the GEQ Chinese version, which included the same items as the GEQ Asian version but specifically used Chinese culture as the reference culture. Internal consistency estimates for the GEQ American version were .86 for EA participants, .88 for CA participants, and .92 for CH participants. For the GEQ Chinese version, they were .90 for CA participants and .86 for CH participants.

Procedure

The order in which the actual and ideal affect measures were presented was counterbalanced to control for possible order effects. The remaining instruments were presented in the same order for all participants, with the affect measures presented first, then the cultural and personality measures, the CES–D, and, finally, the demographic questionnaire.

Data Analyses and Results

Differences Between Actual Affect and Ideal Affect

As in Study 1, we tested the distinct construct hypothesis by correlating actual with ideal affect and by conducting confirmatory factor analyses to test and compare the fit of the single-factor versus two-factor models.

Replicating the results from Study 1 and consistent with the distinct construct hypothesis, both analyses indicated that ideal affect differs from actual affect. Correlational analyses revealed that actual and ideal affect were weakly to moderately ($r \leq .53$) correlated with each other for each group. Pearson correlation coefficients between actual and ideal affect were as follows for each octant (indicated by the subscripts, where P = positive, LAN = low-arousal negative, LA = low arousal; N = negative, HAN = high-arousal negative, and HA = high arousal): for the EA group, $r_{HAP} = .30$, $p < .01$; $r_{P} = .24$, $p < .05$; $r_{LAP} = .17$, *ns*; $r_{LA} = .33$, $p < .01$; $r_{LAN} = -.13$, *ns*; $r_{N} = .23$, $p < .05$; $r_{HAN} = .10$, *ns*; $r_{HA} = .20$, *ns*; for the CA group, $r_{HAP} = .53$, $p < .001$; $r_{P} = .19$, *ns*; $r_{LAP} = .33$, $p < .01$; $r_{LA} = .36$, $p < .001$; $r_{LAN} = .04$, *ns*; $r_{N} = .15$, *ns*; $r_{HAN} = .34$, $p < .01$; $r_{HA} = .49$, $p < .001$; and for the CH group, $r_{HAP} = .31$, $p < .01$; $r_{P} = .18$, *ns*; $r_{LAP} = .16$, *ns*; $r_{LA} = .18$, *ns*; $r_{LAN} = .19$, *ns*; $r_{N} = -.10$, *ns*; $r_{HAN} = .09$, *ns*; $r_{HA} = .29$, $p < .01$.

Confirmatory factor analyses also revealed that the two-factor model was a better fit than the single-factor model for both HAP and LAP; HAP: two-factor model (RMSEA = .12, SRMR = .06, CFI = .91, IFI = .91, GFI = .94), $\chi^2(8, N = 255) = 44.29$ (model AIC = 62.90); single-factor model (RMSEA = .18, SRMR = .09, CFI = .79, IFI = .79, GFI = .88), $\chi^2(9, N = 255) = 91.18$ (model AIC = 98.82); $\Delta\chi^2 = 46.89$, $\Delta df = 1$, $p < .0001$; LAP: two-factor model (RMSEA = .09, SRMR = .05, CFI = .94, IFI = .94, GFI = .96), $\chi^2(8, N = 252) = 25.43$ (model AIC = 50.28); single-factor model (RMSEA = .21, SRMR = .12, CFI = .68, IFI = .68, GFI = .86), $\chi^2(9, N = 252) = 102.06$ (model AIC = 129.64); $\Delta\chi^2 = 76.63$, $\Delta df = 1$, $p < .0001$. Moreover, the two-factor model provided a better fit for LAP items in Study 2 than in Study 1, suggesting that the new LAP items improved the fit of the model. In summary, we replicated the findings from Study 1 and found additional support for the first prediction of AVT.[9]

As in Study 1, pairwise *t* tests revealed that members of all groups reported wanting to feel more positive and less negative than they actually felt (for the EA group, $p < .001$ for all octants; for the CA group, $p < .001$ for all octants; for the CH group, $p <$

[8] Low alphas and correlation coefficients may be related to reduced variance for these octants.

[9] As in Study 1, we also conducted confirmatory factor analyses on standardized scores (within each individual and group) to control for positioning effects. Again, the two-factor model provided a good and better fit than the one-factor model.

Table 6
Raw and Ipsatized Means (and Standard Deviations) for Personality and Cultural Variables in Study 2

Variable	European Americans (n = 79)		Chinese Americans (n = 81)		Hong Kong Chinese (n = 96)	
	Raw	Ipsatized	Raw	Ipsatized	Raw	Ipsatized
Extraversion**	3.68 (0.71)$_a$	0.17 (0.59)$_a$	3.33 (0.72)$_b$	−0.08 (0.63)$_b$	3.00 (0.78)$_c$	−0.20 (0.70)$_b$
Neuroticism***	2.30 (0.80)$_a$	−1.04 (0.64)$_a$	2.85 (1.00)$_b$	−0.51 (0.88)$_b$	3.02 (0.98)$_b$	−0.21 (0.85)$_c$
Independence***	4.50 (1.30)$_a$	−0.33 (0.65)$_a$	3.71 (1.23)$_b$	−0.70 (0.55)$_b$	3.62 (1.03)$_b$	−0.78 (0.59)$_b$
Interdependence	4.56 (1.16)	−0.24 (0.60)$_a$	4.86 (0.90)	−0.01 (0.49)$_b$	4.55 (0.92)	−0.12 (0.59)
Influence physical environment***	4.64 (1.49)$_a$	0.10 (0.56)$_a$	4.23 (1.50)$_a$	−0.10 (0.58)$_a$	3.52 (1.27)$_b$	−0.46 (0.61)$_b$
Influence social environment*	3.17 (1.62)	−0.62 (0.68)$_a$	3.20 (1.63)	−0.68 (0.67)	2.81 (1.59)	−0.92 (0.88)$_b$
Adjust to social environment**	3.34 (1.59)$_a$	−0.52 (0.54)$_a$	4.08 (1.37)$_b$	−0.21 (0.56)$_b$	3.90 (1.09)$_b$	−0.21 (0.47)$_b$
Vertical individualism**	3.27 (0.70)$_a$	−0.13 (0.57)$_a$	3.53 (0.80)	−0.01 (0.62)	3.61 (0.67)$_b$	0.20 (0.59)$_b$
Horizontal individualism***	4.21 (0.55)$_a$	0.71 (0.50)$_a$	4.08 (0.51)$_a$	0.53 (0.53)	3.82 (0.65)$_b$	0.40 (0.52)$_b$
Vertical collectivism**	2.51 (0.73)$_a$	−0.84 (0.55)$_a$	2.81 (0.73)$_b$	−0.75 (0.65)$_a$	2.92 (0.69)$_b$	−0.51 (0.60)$_b$

Note. Different subscripts indicate groups that significantly differ from each other ($p < .05$).
* $p < .05$. ** $p < .01$. *** $p < .001$.

.001 for all octants except LA).[10] The only octant for which there was not a significant difference between actual and ideal affect in the CH group was LA. (Means and standard deviations for all groups were similar to those reported in Study 1 and are available upon request.)

Group Differences in Affective Traits and Cultural Variables

Before testing our hypotheses regarding group differences in pure ideal affect, we conducted one-way ANOVAs on affective traits and cultural variables. As reported in Table 6, there were significant group differences for all of these measures, with the exception of interdependence ($p < .01$). EA participants were more extraverted and less neurotic than were CH participants. Consistent with descriptions of American culture as more individualistic (and less collectivistic) than Chinese culture, EA participants were more independent, more horizontally individualistic, and less vertically collectivistic and held more influence goals (physical and social) but fewer social adjustment goals than did CH participants. However, EA participants were also less vertically individualistic than CH participants.[11] With the exception of interdependence, social influence, and social adjustment goals, means were in the direction of the CA group falling between the EA and CH groups. CA participants scored higher but did not significantly differ from CH participants in terms of interdependence and social adjustment. Similarly, the CA group scored higher but did not significantly differ from the EA group in terms of social influence.

Group Differences in Pure Ideal Affect

To test whether EA and CA participants valued HAP more than did CH participants and whether CH participants valued LAP more than did EA participants, we conducted 3 × 2 (Group [EA, CA, CH] × Ideal Affect [HAP, LAP]) repeated measures ANCOVAs on ideal affect, controlling for actual HAP and actual LAP (Group was treated as a between-subjects factor; Affect was treated as a within-subjects factor).[12] Consistent with the cultural variation hypothesis (and contrary to the universal hypothesis), the predicted Group × Affect interaction was significant, $F(2, 233) = 8.58$, $p < .001$, and remained so after controlling for neuroticism and extraversion, $F(2, 231) = 4.81$, $p < .01$. One-way ANCOVAs of ideal HAP, controlling for actual HAP, revealed the predicted main effect of group, $F(2, 234) = 15.80$, $p < .001$. Specifically, simple contrasts revealed that the EA and CA groups valued HAP more than did the CH group (Figure 3; $p < .001$; Cohen's ds = .83 and .73, respectively). Although EA participants valued HAP more than did CA participants, this difference was not significant. One-way ANCOVAs conducted on ideal LAP, controlling for actual LAP, also revealed the predicted main effect of group, $F(2, 234) = 7.81$, $p < .001$. Simple contrasts revealed that the EA group valued LAP significantly less than did the CA group ($p < .001$, Cohen's $d = -.68$) and the CH group ($p < .05$, Cohen's $d = -.34$). Contrary to predictions, CA participants valued LAP significantly more than did CH participants ($p < .05$, Cohen's $d = .33$).[13] There were no significant group differences in pure actual HAP or LAP.

[10] Unlike the EA group in Study 1, but like the other groups, EA participants in Study 2 reported wanting to feel less LA (e.g., quiet) than they actually felt.

[11] Vertical individualism is particularly sensitive to changes in market economies and affluence (Triandis, 1995); indeed, the increasing economic affluence in Hong Kong may explain why several studies have found no difference between EA and CH groups (or other East Asian groups) in vertical individualism, despite differences in horizontal individualism (Chiou, 2001; Triandis et al., 1998). Thus, our findings may reflect the greater rate of economic change that is occurring in Hong Kong compared with the United States.

[12] As in Study 1, Gender was initially included as a between-subjects factor; however, because neither the main effect of Gender nor the interaction between Gender and Group was significant, we did not include this factor in our analyses.

[13] Significant group differences in ideal LA, HA, and LAN also emerged, after controlling for their respective actual affect; the CH group devalued LA, HA, and LAN less than did the EA and CA groups, who did not differ from each other.

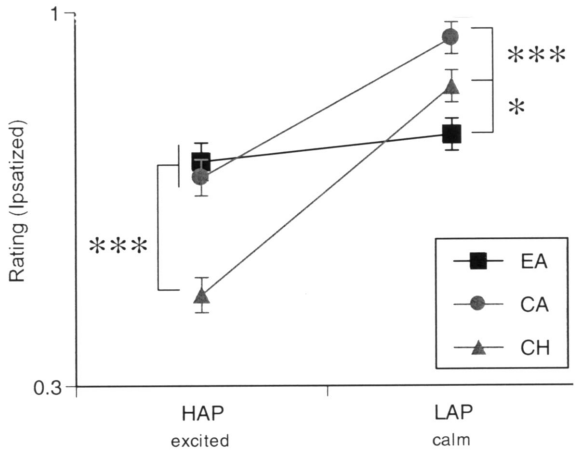

Figure 3. Group differences in ideal high-arousal positive states (HAP) and low-arousal positive states (LAP) (ipsatized mean and standard error), controlling for actual affect, in Study 2. EA = European American group; CA = Chinese American group; CH = Hong Kong Chinese group. *$p < .05$. ***$p < .001$.

Group Differences in Descriptions of Ideal States

We first examined whether there were group differences in the affect words used in participants' open-ended responses by conducting a one-way ANOVA on the total number of affect words. Analyses revealed a significant main effect of group, $F(2, 212) = 37.99$, $p < .001$. Planned comparisons revealed that EA participants used more affect words than did CA participants (EA group: $M = 4.97$, $SE = .29$; CA group: $M = 4.16$, $SE = .28$; $p < .05$) and that CA participants used significantly more affect words than did CH participants (CA group: $M = 4.16$, $SE = .28$; CH group: $M = 1.83$, $SE = .25$; $p < .001$). Therefore, we calculated the proportion of total affect words that comprised HAP and LAP words and conducted a 3 × 2 (Group [EA, CA, CH] × Affect [HAP, LAP]) repeated measures ANOVA on these proportions. As predicted, analyses revealed a significant Group × Affect interaction, $F(2, 183) = 4.85$, $p < .01$. These differences remained significant after controlling for affective traits, $F(2, 181) = 2.91$, $p = .057$. One-way ANOVAs revealed a significant main effect of group for HAP words, $F(2, 183) = 4.18$, $p < .05$, and for LAP words, $F(2, 183) = 3.16$, $p < .05$.[14] Planned comparisons revealed that when describing their ideal states, EA participants used a significantly greater proportion of HAP words than did CH participants (EA group: $M = .22$, $SE = .03$; CH group: $M = .09$, $SE = .03$; Cohen's $d = .55$, $p < .01$), whereas CH participants used a significantly greater proportion of LAP words than did EA participants (EA group: $M = .32$, $SE = .04$; CH group: $M = .44$, $SE = .04$; Cohen's $d = .39$, $p < .05$). These findings were consistent both with the cultural variation hypothesis and with observed cultural differences in pure ideal HAP and pure ideal LAP, as measured by the AVI.

As predicted, the CA group fell in between the EA and CH groups for both HAP and LAP words. For both HAP and LAP words, the CA group did not significantly differ from the EA group (CA: $M = .17$, $SE = .03$). Whereas CA participants did not significantly differ from CH participants in HAP words, CA participants did significantly differ from CH participants in LAP words, with CH participants using a significantly greater proportion of LAP words than did CA participants (CA group: $M = .31$, $SE = .04$; CH group: $M = .44$, $SE = .04$; Cohen's $d = .42$, $p < .05$). Thus, although the CH group valued LAP less than did the CA group when ideal affect was assessed in a closed format (i.e., with the AVI), when ideal affect was assessed in an open-ended format, the CH group valued LAP more than did the CA group. This discrepancy may be due to the fact that the open-ended question asked participants to identify their ideal states, whereas the AVI asked participants to make frequency judgments about their ideal states.

Mediators of Group Differences in Pure Ideal HAP and Pure Ideal LAP

As in Study 1, we conducted multiple regression analyses to assess whether the predicted cultural variables mediated group differences in pure ideal HAP and pure ideal LAP (the cultural variation hypothesis). Group was coded so that 1 = EA, 2 = AA, and 3 = CH. We also tested the trait variation hypothesis by examining whether affective traits mediated group differences in pure ideal affect. As in Study 1, all of these analyses included actual affect as a covariate.

For pure ideal HAP, the first criterion for mediation was met: Group significantly predicted pure ideal HAP ($B = -.13$, $SE = .025$, $\beta = -.30$), $t(235) = -5.13$, $p < .001$. The second criterion was met for all of the predicted variables except social influence goals: Group significantly predicted independence ($B = -.43$, $SE = .10$, $\beta = -.28$), $t(237) = -4.57$, $p < .001$; physical influence goals ($B = -.56$, $SE = .11$, $\beta = -.31$), $t(237) = -5.00$, $p < .001$; vertical individualism ($B = .17$, $SE = .06$, $\beta = .19$), $t(237) = 2.96$, $p < .01$; and horizontal individualism ($B = -.20$, $SE = .05$, $\beta = -.27$), $t(237) = -4.33$, $p < .001$. Group also significantly predicted extraversion ($B = -.34$, $SE = .06$, $\beta = -.36$), $t(237) = -5.90$, $p < .001$, and neuroticism ($B = .36$, $SE = .07$, $\beta = .30$), $t(237) = 4.81$, $p < .001$. The third criterion for mediation, however, was met only for physical influence goals ($B = .04$, $SE = .01$, $\beta = .16$), $t(234) = 2.68$, $p < .01$, and for horizontal individualism ($B = .07$, $SE = .04$, $\beta = .12$), $t(234) = 2.02$, $p < .05$. Finally, the Sobel test revealed that physical influence was a significant mediator of differences in pure ideal HAP (Sobel test = -3.15, $p < .01$). Thus, consistent with the cultural variation hypothesis, group differences in pure ideal HAP were partially mediated by physical influence goals. Contrary to the trait variation hypothesis, group differences in pure ideal HAP were not mediated by group differences in extraversion or neuroticism.

For pure ideal LAP, the first criterion for mediation was met: Group predicted pure ideal LAP ($B = .04$, $SE = .02$, $\beta = .12$), $t(235) = 1.91$, $p = .06$, although the correlation was nonsignificant. The second criterion was met for all cultural variables with the exception of interdependence. As reported above, group sig-

[14] We did not control for actual affect because we did not administer an open-ended measure of actual affect. Although this is a limitation of these data, we believe that they still demonstrate that findings with the AVI generalize to an open-ended format.

Table 7
Partial (Below Diagonal) and Zero-Order (Above Diagonal) Correlations for Variables in Study 2

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Actual HAP	—	.04	.40***	−.18**	.56***	−.35***	.28***	−.10	.28***	.09	.004	−.13*	.29***	−.02
2. Actual LAP		—	.03	.21***	.27***	−.38***	.22**	.01	−.02	−.04	−.01	−.18**	−.07	−.07
3. Ideal HAP			—	−.33***	.34***	−.28***	.19**	−.05	.32***	.17**	−.02	−.05	.28***	−.10
4. Ideal LAP				—	−.18**	.06	−.09	.07	−.22***	−.14*	.02	−.02	−.08	−.03
5. Extraversion	.48***	.33***	.16*	−.26***	—	−.45***	.30***	.06	.26***	.04	−.13*	−.20**	.21**	−.15*
6. Neuroticism	−.27***	−.41***	−.16*	.15*		—	−.32***	.22**	−.09	−.04	.09	.22***	−.21**	.24***
7. Independence	.23***	.24***	.09	−.14*			—	.01	.23***	.11	.02	−.19**	.34***	−.18**
8. Interdependence	.01	−.01	−.05	.07				—	.09	−.17**	.21***	−.03	−.09	.42***
9. Influence physical environment	.17**	.03	.24***	−.23***					—	.38***	.25***	−.07	.37***	−.03
10. Influence social environment	.03	−.01	.15*	−.14*						—	.28***	.34***	.23***	.06
11. Adjust to social environment	.01	−.01	−.02	.03							—	.14*	−.09	.35***
12. Vertical individualism	−.12	−.18**	.01	.02								—	.07	.10
13. Horizontal individualism	.20**	−.05	.19**	−.07									—	−.21***
14. Vertical collectivism	.03	−.06	−.10	−.02										—

Note. Partial correlations between affective traits (or cultural variables) and actual affect control for ideal affect; similarly, partial correlations between affective traits (or cultural variables) and ideal affect control for actual affect. HAP = high-arousal positive; LAP = low-arousal positive.
* $p < .05$. ** $p < .01$. *** $p < .001$.

nificantly predicted physical influence goals and horizontal individualism (because we did not have a measure of physical adjustment goals or of horizontal collectivism, we entered physical influence goals and horizontal individualism into the equation and predicted that they would correlate negatively with pure ideal LAP). Group significantly predicted social adjustment (B = .28, SE = .11, β = .16), $t(237)$ = 2.53, $p < .05$, and vertical collectivism (B = .21, SE = .06, β = .23), $t(237)$ = 3.61, $p < .001$, which we predicted would correlate positively with pure ideal LAP. As reported above, group significantly predicted extraversion and neuroticism. The third criterion for mediation was met for physical influence goals (B = −.04, SE = .01, β = −.20), $t(234)$ = −3.08, $p < .01$; extraversion (B = −.09, SE = .03, β = −.25), $t(234)$ = −3.59, $p < .001$; and neuroticism (B = .04, SE = .02, β = .14), $t(234)$ = 1.90, p = .06. Sobel tests revealed that physical influence goals (Sobel test = 3.15, $p < .01$) and extraversion (Sobel test = 2.65, $p < .01$) significantly and negatively mediated group differences in pure ideal LAP, whereas neuroticism showed a trend toward positively mediating group differences in pure ideal LAP (Sobel test = 1.86, p = .06). Consistent with both the cultural variation and trait variation hypotheses, group differences in pure ideal LAP were partially mediated by physical influence goals and extraversion.

Relative Impact of Affective Traits and Cultural Variables on Actual and Ideal Affect

To test the cultural variation hypothesis, we conducted correlational and multiple regression analyses on trait, cultural, and affect variables for the entire sample (see Table 7). Partial correlations between affective traits (or cultural variables) and actual affect controlled for ideal affect; similarly, partial correlations between affective traits (or cultural variables) and ideal affect controlled for actual affect.

To assess how cultural variables and affective traits were related to pure actual and pure ideal affect, we conducted a set of hierarchical multiple regression analyses. To partial out the interactive component of ideal and actual affect (i.e., their shared variance), we entered actual affect at the first step when ideal affect was the criterion variable, and we entered ideal affect at the first step when actual affect was the criterion variable. We then entered affective traits at the second step and cultural variables at the third step. Although the cultural variables were correlated (this is not surprising because they index aspects of individualism and collectivism), none of the correlations were greater than .5, reducing concerns about multicollinearity. Because we were primarily interested in the relative impact of cultural factors and affective traits on pure ideal and pure actual affect, we report findings from the second and third steps only (results from the first step are available upon request). As predicted, for pure actual HAP, changes in R^2 were significant at the second step—affective traits (R^2 = .20), $F(2, 234)$ = 37.25, $p < .001$—but not the third step—culture (R^2 = .02), $F(5, 229)$ = 1.50, *ns*. Specifically, extraversion significantly predicted pure actual HAP (B = .31, SE = .05, β = .41), $t(234)$ = 6.55, $p < .001$. In contrast, for pure ideal HAP, changes in R^2 were significant at both the second—affective traits (R^2 = .03), F(2,

234) = 4.82, $p < .01$—and third steps—culture ($R^2 = .06$), $F(5, 229) = 3.44$, $p < .01$. Specifically, neuroticism showed a trend toward negatively predicting pure ideal HAP ($B = -.05$, $SE = .02$, $\beta = -.13$), $t(229) = -1.91$, $p = .06$; and physical influence goals positively predicted pure ideal HAP ($B = .04$, $SE = .02$, $\beta = .17$), $t(229) = 2.50$, $p < .05$.

Similarly, for pure actual LAP, changes in R^2 were significant at the second step—affective traits ($R^2 = .18$), $F(2, 234) = 27.62$, $p < .001$—but not at the third step—culture ($R^2 = .03$), $F(5, 229) = 1.50$, *ns*. Specifically, extraversion positively predicted pure actual LAP ($B = .15$, $SE = .05$, $\beta = .19$), $t(234) = 2.81$, $p < .01$; and neuroticism negatively predicted pure actual LAP ($B = -.21$, $SE = .04$, $\beta = -.35$), $t(234) = -5.22$, $p < .001$. For pure ideal LAP, however, changes in R^2 were significant at both the second step—affective trait ($R^2 = .07$), $F(2, 234) = 8.63$, $p < .001$—and the third step—culture ($R^2 = .05$), $F(5, 229) = 2.72$, $p < .05$. Specifically, extraversion negatively predicted pure ideal LAP ($B = -.08$, $SE = .03$, $\beta = -.21$), $t(229) = -2.84$, $p < .01$; physical influence goals negatively predicted pure ideal LAP ($B = -.04$, $SE = .01$, $\beta = -.22$), $t(229) = -3.08$, $p < .01$; and interdependent self-construal showed a trend toward positively predicting pure ideal LAP ($B = .04$, $SE = .02$, $\beta = .13$), $t(229) = 1.90$, $p = .06$.[15]

Thus, as predicted, cultural variables had a stronger association with pure ideal (5%–6% of the variance) than with pure actual affect (2%–3% of the variance), whereas affective traits had a stronger association with pure actual (accounting for 18%–20% of the variance) than with pure ideal affect (3%–7% of the variance). This pattern of differences was even more pronounced when cultural variables were entered at the second step and affective traits were entered at the third step.[16]

Associations With Depression

Finally, we predicted that the discrepancy between actual and ideal affect would be correlated with depression in a culturally specific manner. That is, we predicted that the discrepancy between actual and ideal HAP would account for greater variance in depression for the EA and CA groups than for the CH group, whereas the discrepancy between actual and ideal LAP would account for greater variance in depression for the CH and CA groups than for the EA group.

To test these hypotheses, we first conducted hierarchical regressions to assess the incremental change in R^2 for depression when the discrepancy between actual and ideal HAP was entered at the first step and the discrepancy between actual and ideal LAP was entered at the second step. For the EA group, the discrepancy between actual and ideal HAP accounted for a significant change in R^2 ($R^2 = .07$), $\Delta F(1, 58) = 4.18$, $p < .05$ ($B = 3.30$, $SE = 1.43$, $\beta = .29$), $t(57) = 2.30$, $p < .05$, whereas the discrepancy between actual and ideal LAP accounted for a nonsignificant change in R^2 ($R^2 = .05$), $\Delta F(1, 57) = 3.48$, $p = .07$ ($B = 2.42$, $SE = 1.30$, $\beta = .23$), $t(57) = 1.87$, $p = .07$. For the CA group, both the discrepancy between actual and ideal HAP ($R^2 = .14$), $\Delta F(1, 68) = 10.93$, $p < .01$ ($B = 6.12$, $SE = 1.93$, $\beta = .34$), $t(67) = 3.17$, $p < .01$, and the discrepancy between actual and ideal LAP accounted for significant changes in R^2 ($R^2 = .09$), $\Delta F(1, 67) = 8.05$, $p < .01$ ($B = 4.85$, $SE = 1.71$, $\beta = .31$), $t(67) = 2.84$, $p < .01$. For the CH group, the discrepancy between actual and ideal HAP did not account for a significant change in R^2 ($R^2 = .01$), $\Delta F(1, 70) = .68$, *ns* ($B = 1.36$, $SE = 1.83$, $\beta = .09$), $t(69) = .74$, *ns*; however, the discrepancy between actual and ideal LAP did ($R^2 = .10$), $\Delta F(1, 69) = 7.46$, $p < .01$ ($B = 3.77$, $SE = 1.38$, $\beta = .31$), $t(69) = 2.73$, $p < .01$. Reversing the order of the predictor variables did not alter the findings. Thus, as predicted, the discrepancy between actual and ideal HAP accounted for a significant percentage of variance in depression for the EA and CA groups, but not for the CH group. Also as predicted, the discrepancy between actual and ideal LAP accounted for a significant percentage of variance in depression for the CA and CH groups, but not for the EA group, although the change in R^2 for the EA group approached significance.[17]

Study 2 Discussion

The findings from Study 2 supported both the distinct construct and cultural variation hypotheses of AVT. First, although actual and ideal affect were weakly to moderately correlated, the two-factor model provided a better fit to the data than did the single-factor model. Second, across different types of assessments (i.e., fixed and open-ended formats), the EA and CA groups valued HAP more than the CH group did, whereas the CA and CH groups valued LAP more than the EA group did, even after controlling for differences in affective traits. Further, as predicted, group differences in pure ideal affect were mediated by goals related to influencing the physical environment. Third, also as predicted, cultural variables were more strongly associated with pure ideal than with pure actual affect, whereas affective traits were more strongly associated with pure actual than with pure ideal affect. Fourth, discrepancies between ideal and actual affect were correlated with depression, supporting their functional importance. In support of the cultural variation hypothesis, the discrepancy between actual and ideal HAP was significantly associated with depression for the EA and CA groups, but not for the CH group, consistent with findings that the EA and CA groups value HAP more than do the CH group. Also as predicted, but less pronounced, the discrepancy between actual and ideal LAP was significantly associated with depression for CA and CH participants, but not for EA participants, consistent with findings that CA and CH participants value LAP more than do EA participants.

Three additional findings are worthy of further discussion. First, consistent with our prediction, the CA group valued HAP more than did the CH group and less than did the EA group. However, contrary to Study 1 findings, the difference between the CA and

[15] We conducted a series of moderator analyses to examine whether the associations between affective traits and actual affect and the associations between cultural variables and ideal affect varied across groups. None of these analyses revealed significant differences, suggesting that the associations were similar across groups.

[16] These findings held when we used ipsatized ratings and when we mean centered the ratings by entering group prior to the cultural variables. Thus, the findings were not due to mean positioning effects of the groups on the cultural variables.

[17] Moderator analyses, in which we examined whether the relationship between depression and the discrepancy between actual and ideal HAP varied across groups, confirmed these results, although the interaction approached significance—the change in R^2 due to the interaction of group and the discrepancy between actual and ideal HAP = .02, $F(2, 214) = 2.37$, $p = .10$. Similar analyses for LAP were not significant.

EA groups was not significant. Because the AA group in Study 1 was less oriented to American culture than the CA group in Study 2, the AA group may have more strongly differed from the EA group in valuation of HAP. Indeed, in Study 2, we implemented specific selection criteria to ensure that CA participants were highly oriented to both American and Chinese culture. Thus, the recruited sample was primarily born and raised in the United States. In a subsequent study in which we used similar criteria as Study 2, we replicated this pattern of findings, supporting the notion that the more oriented to American culture AA individuals are, the less likely they are to differ from their EA counterparts in ideal HAP (Tsai, Miao, Seppala, Fung, & Yeung, 2006).

Second, contrary to prediction, CA participants valued LAP more than did CH participants. In a subsequent study, Tsai et al. (2006) also replicated this pattern of findings, suggesting that they are not due to sampling error. It is possible that because the CA participants were predominantly children of Chinese immigrants (who arrived in the United States several decades ago), their contact with Chinese culture was mediated primarily through their parents, whose values may have remained more traditional than those of contemporary CH individuals (this may also explain why CA participants were more interdependent and endorsed more social adjustment goals than did the CH participants). Similarly, other researchers have observed that in certain cultural domains, immigrants appear to be more traditional than contemporaries who still reside in their native homelands (Himka, 1988). Alternatively, it is possible that living in a culture that values HAP makes CA individuals value LAP states even more. Clearly, future studies are needed to examine which of these possible explanations best accounts for our findings. Regardless, this finding suggests that viewing bicultural individuals as being in the middle of two cultures may be overly simplistic.

Third, although physical goals mediated differences in pure ideal HAP and pure ideal LAP, independence, horizontal and vertical individualism, and social influence did not mediate group differences in pure ideal HAP, nor did interdependence, vertical collectivism, and social adjustment mediate group differences in pure ideal LAP. In part, this may be because the internal consistency estimates for these measures were all considerably lower for the Hong Kong sample than for the American samples. Indeed, many psychologists have criticized self-report measures of individualism–collectivism and other cultural constructs for their poor psychometric properties (e.g., Heine, Lehman, Peng, & Greenholtz, 2002). In fact, among all of the cultural measures, the measures of physical influence, social influence, and social adjustment were the most internally consistent, which may explain why physical influence, and not the other cultural variables, emerged as a significant mediator of group differences in pure ideal affect. Alternatively, it is possible that only the specific aspects of individualism and collectivism related to influence and adjustment goals mediate group differences in pure ideal affect. Future research will address these hypotheses.

General Discussion

Overall, our findings supported two main predictions of AVT: (a) Ideal affect differs from actual affect; and (b) cultural factors shape pure ideal more than pure actual affect, whereas temperament shapes pure actual more than pure ideal affect.

Ideal Differs From Actual Affect

The fact that most people want to feel good may not seem surprising. However, these findings provide the first demonstration that how people want to feel differs from how they actually feel and that cultural factors influence how people want to feel. Thus, people from different cultures may want to feel good in different ways. Two sources of evidence indicated that ideal affect is distinct from actual affect. First, the correlations between actual and ideal affect were weak to moderate but not identical ($r < .5$). Second, confirmatory factor analyses demonstrated that treating actual and ideal affect as distinct constructs provided a better fit to the data than treating them as unitary. In addition, mean reports of actual and ideal affect robustly differed, with people reporting that they ideally wanted to feel more positively and less negatively than they actually did.

Cultural Variables Associated With Ideal More Than Actual Affect; Affective Traits Associated With Actual More Than Ideal Affect

To our knowledge, AVT is the first theory to simultaneously consider the influences of both affective traits (as a proxy for temperament and other biological predispositions) and cultural variables on affect. Consistent with predictions, whereas neuroticism and extraversion accounted for greater variance in pure actual than pure ideal HAP and LAP, cultural variables accounted for greater variance in pure ideal than pure actual HAP and LAP. The fact that cultural variables accounted for only 5%–6% of the variance in pure ideal affect may be due to the lower reliability of cultural measures compared with measures of affective traits (Heine et al., 2002) or may indicate that cultural factors other than individualism–collectivism have a more pronounced influence on pure ideal HAP and LAP.

Of course, AVT does not deny the possibility that affective traits might shape pure ideal affect or that culture might shape pure actual affect. Indeed, results revealed one such relationship: The more extraverted individuals were, the less value they placed on LAP states. However, AVT does predict that cultural variables should have a greater influence on pure ideal than pure actual affect. Studies with twins may shed further light on this issue.

Ideal Affect in American and Chinese Cultures

Because people from individualistic cultures (e.g., EA individuals) are more likely to endorse influence goals, we predicted that they would value HAP (excited, enthusiastic, elated). Consistent with this prediction, in Study 1, EA participants reported valuing HAP more than did AA participants, and in Study 2, EA and CA participants valued HAP more than did CH participants. These group differences were positively mediated by physical influence goals. Moreover, for all groups, physical influence goals were positively correlated with pure ideal HAP. Although social influence goals were also correlated with pure ideal HAP, they did not mediate group differences in pure ideal HAP, perhaps because the groups did not significantly differ in these goals.

Because people exposed to collectivistic cultures are more likely to endorse adjustment goals, we predicted that they would value LAP (calm, peaceful, relaxed). Consistent with this prediction, AA participants reported greater pure ideal LAP than did EA participants in Study 1, and CA and CH participants reported greater pure ideal LAP

than did EA participants in Study 2. In Study 2, these group differences were negatively mediated by physical influence goals, suggesting that physical adjustment goals (the opposite of physical influence goals) are positively correlated with pure ideal LAP. Contrary to prediction, social adjustment goals did not mediate differences in pure ideal LAP, again perhaps because groups did not significantly differ in these goals. Currently, we are using experimental designs to further examine the links between influence goals and pure ideal HAP and between adjustment goals and pure ideal LAP.

Links to Mental Health

Differences between actual and ideal affect were correlated with a prevalent measure of mental health, the CES–D, supporting the prediction that ideal affect has psychological and functional significance. For the EA and CA groups, but not for the CH group, discrepancies between actual and ideal HAP accounted for a significant percentage of variance in depression. Similarly, for the CA and CH groups, but not the EA group, discrepancies between actual and ideal LAP accounted for a significant percentage of variance in depression.

These findings suggest that discrepancies in actual and ideal affect might be related to other measures of life satisfaction and well-being. Various scholars have argued that in individualistic cultures, emotions influence life satisfaction more than do cultural norms, whereas in collectivistic cultures, emotions and cultural norms influence life satisfaction to similar degrees (Suh, Diener, Oishi, & Triandi, 1998). To the extent that norms include ideals, our research complements these findings in two ways. First, our work examines the intersection between emotions and ideals by assessing both with respect to affective states. We predict that ideal affect should influence life satisfaction across cultures. Second, our findings raise the possibility that previously observed cultural differences in the relationship between emotion and life satisfaction may be specific to HAP states. That is, LAP states may have as great of an influence on life satisfaction in collectivistic cultures as do HAP states in individualistic cultures.

Limitations and Current Directions

Future research can address the limitations of the present work. First, the findings rely on self-report and do not establish the behavioral consequences of differences in ideal affect. A third hypothesis of AVT, not explored here, predicts that whereas pure actual affect may predict immediate response behavior (e.g., running away from a dog), pure ideal affect may more strongly predict specific recreational and behavioral preferences (e.g., listening to calm vs. exciting music). By extension, cultural variation in pure ideal affect may account for well-documented but poorly understood cultural differences in choices of recreational activities, consumer products, and even drug use.

Second, for conceptual reasons, the present studies focus on the pure components of ideal and actual affect, but not their interactions. Future studies will focus on this interactive component in order to examine whether it reflects the interaction of cultural and temperamental factors. Third, the current findings describe correlational rather than causal associations. Although AVT implies that cultural and socialization practices can change pure ideal affect, causal evidence of this link requires experimental manipulation. Similarly, in addition to self-report questionnaires, it would be important to measure aspects of the cultural environment that promote and encourage people to value different affective states. Fourth, in the present studies, AVT focuses on the states that people would ideally like to feel on average. High test–retest reliability validates this individual differences approach (Tsai & Knutson, 2006). Still, situational variables, such as time of day and social occasion, undoubtedly influence how people ideally would like to feel. Future studies may characterize these potential situational moderators of ideal affect. And finally, the generalizability of these findings remains to be established for samples with greater socioeconomic and age variation.

Implications and Conclusion

Together, these findings suggest that AVT has important scientific and clinical implications. First, AVT provides a way of reconciling the different conclusions drawn by ethnographers and scientists regarding the degree to which culture influences emotion. We propose that whereas ethnographers have primarily studied ideal affect, scientists have primarily studied actual affect. Yet, both are critical to understanding emotion. Second, AVT provides researchers with a theoretical framework for predicting how biological predispositions, such as temperament, and cultural factors might simultaneously influence affect. Our findings suggest that although heritable affective traits (e.g., neuroticism and extraversion) play a robust role in determining which affective states people are likely to feel on average, independent of how they would like to feel, cultural ideas and practices may play more prominent roles in influencing how people would like to feel, independent of how they actually feel. These findings also reveal that to accurately assess mental health and illness in different cultural contexts, researchers and clinicians should consider both actual and culture-specific ideal affect. Finally, the findings suggest that practitioners might improve treatment compliance by matching ideal affect with therapeutic regimen. Alternatively, practitioners may need to seriously consider working with patients to change their ideal affect when it produces unhealthy consequences.

In conclusion, how people want to feel (ideal affect) differs from how they actually feel (actual affect). Whereas temperament shapes pure actual more than pure ideal affect, cultural factors shape pure ideal more than pure actual affect. Thus, AVT promises to provide scientists and clinicians with a new theoretical framework for understanding how cultural factors and biological predispositions work together to shape how people actually feel, how they want to feel, and how they negotiate the difference.

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