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A Meta-Analytic Review of Cultural Variation in Affect Valuation

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Author Note

This article was based on data collected in over 70 published and 18 unpublished reports. No conflicts of interest exist. The datasets used in the analyses (except for two that do not have IRB permission to be publicly shared) have been uploaded to OSF in the form of one combined datafile (<https://osf.io/bz9rc/files/osfstorage/68830097248e1d22a984fb50>). Preparation of this article was supported by the National Science Foundation Grants 1324461, 1732963, and 2214203 awarded to Jeanne Tsai and R01LM013866 to Maya Mathur. J. Tsai, D. Chen, and A. Yang have worked on all stages of this meta-analysis from start to finish; J. Cachia, E. Blevins, and M. Ko did substantive work at different stages of the meta-analysis. M. Mather contributed to the statistical approach. The remaining authors contributed their datasets to the meta-analysis and provided important information about their data; their names are organized alphabetically to recognize this contribution. More specific information about authorship contributions using the CRediT taxonomy is provided below. Authors who contributed their datasets but whose data were not ultimately included in the meta-analysis are not included as co-authors, but we thank them for their efforts. The authors would like to thank Christy Wang, Yang Qu, Patrick Reyes, Daniel Ibeling, Esther Niehoff, Natalie Shook, Aldo Caballero, Elsa Schweizer, Brian Knutson, and Andrew Lampinen for their assistance on various aspects of this project; the Stanford Culture and Emotion Lab for feedback on earlier drafts of this manuscript; and Amanda Acevedo, Millicent Curlee, Meena Dugatkin, Ivan Li, Jiquan Lin, Katie Ossenfort, Christie Scollon, Nicole Senft, Steven H. Tompson, Allon Viskin, Gordon Walker, Joey Yamada, Abby Yip for their work on ideal affect and their support of this project.

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Abstract

What affective states do people ideally want to feel, and why? In Affect Valuation Theory (AVT), Tsai, Knutson, & Fung (2006) proposed and observed that (1) how people would ideally like to feel (their “ideal affect”) differs from how they actually feel (their “actual affect”), and (2) cultural factors shape people’s ideal affect even more than their actual affect. In this individual participant data (IPD) meta-analysis, we re-examined these two premises in a combined data file of over 31,000 participants from 124 datasets collected by different research teams across the world. Consistent with Tsai et al. (2006), we observed that: (1) actual affect and ideal affect are empirically distinct constructs, and (2) cultural differences in ideal affect are larger in magnitude than cultural differences in actual affect. These findings held across research teams, participant populations, and publication status. Importantly, most cultural differences in ideal affect endured over time, including European Americans’ greater valuation of high arousal positive (HAP) states compared to East Asian Americans and East Asians. New patterns also emerged: European Americans valued low arousal positive states more over time; differences in ideal affect emerged among specific East Asian cultural groups; and socioeconomic status, gender, and age were also associated with differences in ideal affect.

KEY WORDS: Ideal affect, Affect Valuation Index, Culture, SES, Age, Gender

Public Significance Statement

This meta-analysis revealed that how people want to feel (their “ideal affect”) differs from how they actually feel (their “actual affect”), and that cultural factors shape people’s ideal affect more than their actual affect. Because people’s ideal affect is related to important aspects of their daily lives, including what consumer products and activities they prefer, how they view happiness and well-being, and how they judge and treat others, understanding people’s ideal affect can help explain their behavior. Recognizing these cultural differences in ideal affect and their roles in daily life may be key to promoting mutual understanding, trust, and cohesion within our increasingly multicultural and interconnected world.

A Meta-Analytic Review of Cultural Variation in Affect Valuation

People differ in the emotions that they value, desire, and ideally would like to feel (e.g., Eid & Diener, 2001; Feldman Barrett, 1996; Rusting & Larsen, 1995; Tamir, 2016; Tsai et al., 2006). Although researchers have been interested in people's values, beliefs, and attitudes toward emotion since the 1970s, at that time, they did not have a reliable, easy, or consistent way of measuring these constructs. For instance, emotion researchers assessed display rules (i.e., people's beliefs about what emotions they should show in specific situations) through self-report instruments (e.g., Ekman, 1972; Matsumoto, 1990); developmental psychologists assessed children's attitudes toward emotions via vignettes (e.g., Saarni, 1979; Underwood et al., 1992); and sociologists assessed attitudes toward emotions through in-depth interviews (e.g., Hochschild, 1983). Moreover, no theoretical framework connected different findings with each other, with other affective processes, or with behaviors in people's everyday lives, limiting the potential scope and reach of this research.

In the early 2000s, we (Tsai, Knutson, & Fung, 2006) began studying the emotions that people value and ideally would like to feel (people's "ideal affect") as a way of understanding how culture shapes people's emotions. Except for studies by Eid and Diener (2001) on experienced and desired states,¹ our work differed from most cross-cultural research on attitudes and views of emotion in that it explicitly distinguished people's ideal affect from how they actually felt (their "actual affect"). We uniquely theorized and confirmed that actual and ideal affect were differentially influenced by cultural and temperamental factors, with cultural factors shaping ideal affect more than actual affect, and temperamental factors shaping actual affect more than ideal affect. We also predicted and confirmed that people's ideal affect independently (i.e., above and beyond their actual affect) shaped their daily experiences and behaviors.

¹ Whereas we asked participants how much they ideally would like to feel (or want to feel) various emotional states, Eid and Diener (2001) asked participants how "appropriate or desirable" it was to experience different emotions.

These predictions became the basis of Affect Valuation Theory (AVT), first described in Tsai et al. (2006) and further elaborated in Tsai (2007, 2017, 2024). In Tsai et al. (2006) and Tsai (2007), we also presented the Affect Valuation Index (AVI), which we developed as a self-report measure of actual and ideal affect based on previous measures of actual affect (Feldman Barrett & Russell, 1999; Larsen & Diener, 1992; Russell, 1991; Thayer, 1989; Watson & Tellegen, 1985).

Since the publication of Tsai et al. (2006), our team and others have administered the AVI to thousands of participants across the world, resulting in a rich corpus of ideal affect data collected over the span of two decades. In this individual participant data (IPD) meta-analysis, we combined 124 datasets collected from January, 2002 to February, 2023 from 70 published and 18 unpublished reports to: (1) revisit the reliability of the AVI, (2) examine whether the basic premises of AVT hold for two decades of data, (3) answer questions about cultural differences in ideal affect that have emerged over time, and (4) test associations between ideal affect and other factors such as socioeconomic status (SES), gender, and age. Before presenting the rationale and methodology of this meta-analysis, we describe the AVI and AVT in greater detail.

Development of the Affect Valuation Index (AVI)

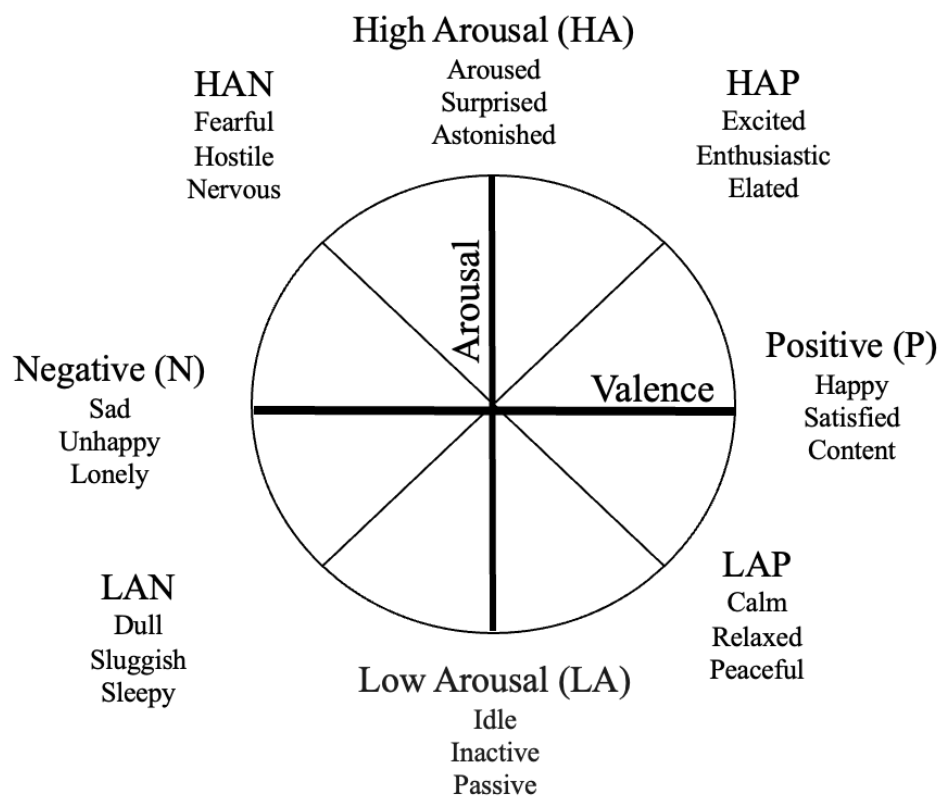
To assess people's ideal affect, we (Tsai et al., 2006) created a measure based on existing measures of actual affect. To assess actual affect, the AVI asks participants to use a 5-point rating scale (1 = *not at all/never*, 2 = *a small amount of the time*, 3 = *half the time/a moderate amount*, 4 = *most of the time*, and 5 = *all the time/an extreme amount*) to indicate “how much they actually feel” a variety of states (e.g., excited, happy, calm) “on average” or “over the course of a typical week” (Feldman Barrett & Russell, 1999; Larsen & Diener, 1992; Russell, 1991; Thayer, 1989; Watson & Tellegen, 1985). To assess ideal affect, the AVI asks participants to use the same rating scale to indicate “how much they ideally would like to feel” those same states (e.g., excited, happy, calm) “on average” or “over the course of a typical week.” Although we have also examined ideal affect at shorter time intervals (e.g., “right now,” “in this moment,” “in this particular situation”) (e.g., Chim et al., 2018; Tsai, Miao, Seppala et al., 2007;

Sims et al., 2015), similar to work on situation-specific emotion goals and preferences (e.g., Tamir, 2005; Tamir, 2009; 2016; Tamir et al., 2015), this meta-analysis focuses on global ideal affect.

Participants rated affective states that varied in terms of arousal and valence, taken from several two-dimensional models of affect (see Figure 1, Feldman Barrett & Russell, 1999; Larsen & Diener, 1992; Russell, 1991; Thayer, 1989; Watson & Tellegen, 1985), which have been replicated across different cultures and languages (e.g., Kuppens et al., 2006; Russell, Lewica, & Niit, 1989). These two dimensions define eight types of affect, reflecting the octants of the affective circumplex: (1) high arousal positive states [HAP; e.g., excited], (2) positive states [P; e.g., happy], (3) low arousal positive states [LAP; e.g., calm], (4) low arousal states [LA; e.g., idle], (5) low arousal negative states [LAN; e.g., dull], (6) negative states [N; e.g., sad], (7) high arousal negative states [HAN; e.g., fearful], and (8) high arousal states [HA; e.g., aroused].

Figure 1

Two-dimensional model of affect



Note. Based on Feldman Barrett & Russell (1999), Larsen & Diener (1992), Russell (1991), Thayer (1989), Watson & Tellegen (1985). 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.

Because we originally predicted that U.S. and Chinese samples would differ in their ideal affect, we translated and back-translated the AVI into Chinese using standard translation techniques (Brislin, 1970) and then demonstrated measurement equivalence for the AVI for our samples. Since 2006, the AVI has been translated into at least 12 different languages (English, Japanese, simplified and traditional Chinese, Spanish, Hebrew, German, Turkish, Portuguese, Polish, Korean, French, Thai) by different research teams.²

Several scholars have focused on other meta-aspects of emotion, including people's attitudes toward emotions (Harmon-Jones et al., 2011), their valuation of extreme happiness (Mauss et al., 2011), their beliefs about the utility of emotions (Luong et al., 2016), and their views of the likeability and desirability of different emotions (Feldman Barrett, 1996; Rusting and Larsen, 1995). There are also research teams that have developed measures that share important features with the AVI to measure related constructs (e.g., Arens & Stangier, 2020; Tamir & Ford, 2012). For instance, a significant body of work by Tamir and colleagues has examined "desired emotion," usually referring to situation-specific emotion and emotion regulation goals (e.g., Porat, Halperin, Mannheim & Tamir, 2016; Porat, Halperin & Tamir, 2016; Porat et al., 2019, 2020; Tamir, 2009, 2016; 2021; Tamir et al., 2016). Because our main research questions focused on cultural differences in how people ideally want to feel on average (their global ideal affect), this meta-analysis did not include situation-specific desired emotions, emotion goals, or momentary ideal affect. Still, when relevant, we included data from studies by Tamir and colleagues

² As we started administering the AVI to different cultural and linguistic samples, we began to discover that some affect items were easier for participants to understand than others, and that some affect items were easier to translate into a particular language than others. Thus, while we typically sample the eight octants of the affective circumplex, at times we have removed specific items to increase the reliability of each aggregate. For instance, "euphoria" was removed from the HAP aggregate when it did not load with the other HAP terms and/or when a significant percentage of participants reported not understanding the meaning of this term (e.g. Tsai et al., 2018).

and others that measured desired emotion at the global level as a proxy for ideal affect (see below).

Because our main aims were to examine the internal consistency of the AVI and to test the premises of Affect Valuation Theory, we use the term “ideal affect” throughout this report.

Cultural Variation in Affect Valuation: Theory and Empirical Support

We used the AVI to test the premises of Affect Valuation Theory (AVT). AVT has three main premises: (1) people’s actual affect differs from their ideal affect; (2) cultural factors shape ideal affect more than actual affect, whereas temperamental factors shape actual affect more than ideal affect; and (3) people engage in specific behaviors to achieve their ideal affect. In this meta-analysis, we primarily focus on the first premise of AVT and the part of the second premise of AVT related to culture.

People’s Actual Affect Differs From Their Ideal Affect

In Tsai et al. (2006), we conducted two studies to begin to test these premises. Consistent with the first premise of AVT that actual and ideal affect are distinct constructs, in both studies, (1) mean aggregates of ideal affect and actual affect were weakly to moderately ($r \leq .51$) correlated with each other; (2) the two-factor model that treated actual affect and ideal affect as two separate factors (e.g., ideal HAP, actual HAP) fit the data better than the one factor model that treated them as a single construct; and (3) across cultural groups, people reported ideally wanting to feel more positive (HAP, P, LAP) than negative (HAN, N, LAN), and they reported ideally wanting to feel more positive and less negative than they actually felt (Tsai et al., 2006).

Cultural Factors Shape Ideal Affect More Than Actual Affect

To examine the relative impact of cultural factors on ideal and actual affect, we compared the ideal affect of European Americans and East Asian Americans in the first study and then of European Americans, Chinese Americans, and Hong Kong Chinese in the second study. We compared these cultural groups because of previous work suggesting that they differed in their models of self (e.g., Markus & Kitayama, 1991; Morling et al., 2002), which we predicted would have implications for how they would ideally like to feel. More specifically, we (Tsai et al., 2006) predicted that because U.S. culture encourages people to influence and actively change other people and their physical environments

to be consistent with their own beliefs and preferences (reflecting a more independent model of self that defines itself as fundamentally distinct from others), European Americans would value excitement and other HAP states that facilitate action more than East Asian Americans and East Asians would. In contrast, because East Asian cultures encourage people to adjust their beliefs, preferences, and behaviors to fit in with others and their physical environments (reflecting a more interdependent model of self that defines itself as fundamentally related to others), East Asian Americans and East Asians would value calm and other LAP states that suspend action and broaden attention to the environment more than European Americans would (Tsai et al., 2006; Tsai, Miao, et al., 2007).

Ideal HAP and LAP. Consistent with these predictions, in Study 1 of Tsai et al. (2006), European Americans valued HAP more and LAP less than the East Asian Americans, and in Study 2 of Tsai et al. (2006), European Americans valued HAP more and LAP less than the Hong Kong Chinese. Chinese Americans in Study 2 valued HAP as much as their European American peers and more than their Hong Kong Chinese peers, but they valued LAP more than European Americans. Chinese Americans also valued LAP more than Hong Kong Chinese, perhaps because they were raised by immigrant parents who may have held more traditional cultural ideas than the Hong Kong Chinese participants. As theorized, these cultural differences in ideal HAP were linked to having influence goals, as described above (see Tsai, Miao, Seppala, et al., 2007, for other studies linking ideal HAP to valuing influence, and ideal LAP to valuing adjustment).

In addition to these between-cultural group differences, we (Tsai et al., 2006) observed within-cultural group differences. In Study 1, European Americans valued HAP more than LAP, whereas East Asian Americans valued HAP and LAP to similar degrees. By contrast, in Study 2, European Americans valued HAP and LAP similarly, whereas both Chinese Americans and Hong Kong Chinese clearly valued LAP more than HAP. These differences emerged after controlling for how much participants actually felt HAP and LAP (“actual HAP and LAP”), which did not significantly vary across the cultural groups. Together, these findings support the premise that cultural factors shape ideal affect more than actual affect (e.g., Tsai et al., 2006; Tsai, 2007).

Ideal Negative States. Since the initial demonstrations of cultural differences in ideal HAP and ideal LAP (Tsai et al., 2006; Tsai, Miao, Seppala et al., 2007), we and other researchers have also documented cultural differences in the valuation of negative states. For instance, Clobert et al. (2022) observed that European Americans valued LAN less than Taiwanese, which is consistent with significant work comparing European American and East Asians' views of negative states (Choi et al., in press; Miyamoto, Ma, & Petermann, 2014; Miyamoto, Ma, & Wilken, 2017; Yoo et al., 2022). Other studies have focused on the affective states that people want to avoid ("avoided affect"; e.g., Koopmann-Holm & Tsai, 2014; Koopmann-Holm et al., 2020), observing that U.S. Americans want to avoid negative affect more than their Chinese counterparts do (Seow, Du, & Koopmann-Holm, 2025).

Ideal POS vs NEG. We have also documented cultural differences in the degree to which people want to maximize positive and minimize negative states (Sims et al., 2015), based on the difference between how much participants ideally want to feel positive states (POS: HAP, P, and LAP) and how much they ideally want to feel negative states (NEG: HAN, N, and LAN). European Americans reported wanting to maximize the positive and minimize the negative more than Chinese Americans, and both wanted to maximize the positive and minimize the negative more than their Beijing and Hong Kong Chinese peers, who did not differ from each other. Similar findings emerged in a latent class analysis study, in which European Americans were more likely to endorse classes in which the desirability of positive emotions was high and the desirability of negative emotions was low, whereas Asian Americans endorsed more moderate desirability for both positive and negative emotions (Senft et al., 2023). Again, consistent with the second premise of AVT, although some studies also revealed cultural differences in actual affect, these differences were smaller in magnitude than cultural differences in ideal affect (Clobert et al., 2022; Koopmann-Holm & Tsai, 2014; Sims et al., 2015).

While other studies have documented cultural differences in ideal affect and other related constructs beyond European American, East Asian American, and East Asian groups (see Koopmann-Holm & Tsai, 2014; Lin & Dmitreiva, 2019; Ruby et al., 2012; Salvador et al., 2020; Senft et al., 2021; Tamir et al., 2016; Thompson et al., 2018; Tsai et al., 2016), most cross-cultural research on ideal affect

has focused on these groups. For this reason, we focus European Americans, East Asian Americans, and East Asians when we test AVT's cultural predictions in this meta-analysis.

Ideal Affect Matters for Individual, Interpersonal, and Collective Behavior in the Real World

Although not a focus of this meta-analysis, the third premise of AVT is that much of people's behavior in their everyday lives, consciously or unconsciously, reflects their ideal affect (Tsai, 2007; Tsai, 2017; Tsai, 2024). We (Tsai, 2007) originally predicted that "discrepancies between actual and ideal affect motivate mood-producing behavior" (p. 252), but over the years, this third premise has transformed into the more general prediction that ideal affect matters for individual, interpersonal, and collective behavior and has implications for real world outcomes (Markus et al., 2024; Tsai, 2024).

Consistent with this premise, studies have documented links between people's ideal affect and their everyday decision-making, such as their choices of consumer products and physicians (e.g., Kumar, 2014; Li, 2011; Sims et al. 2014, 2018; Shim, 2018; Tsai, Chim, & Sims, 2015; Yip & Löckenhoff, 2018), as well as their views of love, compassion, and aging (Cachia, Chen et al., 2024; Koopmann-Holm et al., 2020; Koopmann-Holm et al., 2021; Tsai et al., 2018). People's ideal affect has also been linked to how they judge others (Cachia et al., 2024a; Koopmann-Holm et al., 2019; Tsai et al., 2019; Park et al., 2018), with whom they share resources (Cachia et al., 2024a; Park et al., 2017; Park et al. 2020); whom they befriend (Blevins et al., 2023); and how much they endorse harmful vs. compassionate responses toward others (Clobert et al., 2022). People's ideal affect shapes their behavior in real-world settings, including whom they hire and choose to lead their organizations (Bencharit et al., 2019; Bencharit et al., under review); and how they evaluate and respond to their physicians (Sims & Tsai, 2015). Recently, we have examined how cultural differences in ideal affect were reflected in national leaders' responses to the COVID pandemic (Markus et al., 2024).

Other Research on Ideal Affect

Many researchers have used the AVI and related measures for purposes beyond testing the premises of AVT. For example, some researchers have examined the links between people's ideal affect and other related constructs to their enjoyment of activities that match their ideal affect (Chim et al.,

2018), their experience of mixed emotions (Sims et al., 2015), and other aspects of their affective experience (Ford & Tamir, 2014; Vishkin et al., 2023). Some have used the AVI to distinguish other meta-aspects of emotion from ideal affect (e.g., Chow & Berenbaum, 2012, 2015; Harmon-Jones et al., 2011; Thompson et al., 2016). Other researchers have used the AVI to examine the influence of personality, age, and religion on ideal affect and related constructs (e.g., Ditzfeld & Showers, 2014; Jiang et al., 2016; Palmer & Gentzler, 2019; Scheibe et al., 2013; Severin, 2019; Tsai, Miao & Seppala, 2007; Vishkin et al., 2020). Yet others have examined the role parents play in shaping their children's ideal affect (e.g., Chen & Zhou, 2019; Gentzler et al., 2018).

Researchers have also examined the implications of ideal affect and related constructs for mental health, including the occurrence of clinical disorders and symptoms (e.g., depression, anxiety, schizotypy, and risk for social marginalization) (Arens & Stangier, 2020; de Almeida & Uchida, 2021; Garofalo et al., 2020; Lai et al., 2022; Mizrahi Lakan, Millgram, & Tamir, 2022; Li et al., 2019; Millgram et al., 2021; Millgram et al., 2015; Swerdlow et al., 2019; Tsai et al., 2006) and for emotion regulation and memory processes (Chu, Fung, & Chu, 2019; Palmer & Gentzler, 2019; Sands, 2017; Scollon et al., 2009; Tamir, 2016; Zhou et al., 2022). A handful of studies have even assessed the effects of different psychological interventions on people's ideal affect (Koopmann-Holm et al., 2013; Painter et al., 2019; Yu et al., 2022).

The Present Meta-Analysis

We decided to conduct the following meta-analysis for several reasons. First, despite two decades of research, there has been no evidence synthesis of research on ideal affect. Second, although the AVI is overall an internally consistent instrument, in early reports (e.g., Tsai et al., 2006), the internal consistencies of the ideal high arousal negative aggregates were extremely low for European Americans, Chinese Americans, and Hong Kong Chinese (.48, .28, and .23, respectively). Therefore, we wanted to re-evaluate the internal consistency of the AVI for these aggregates especially given the wide use of the AVI and increasing interest in the valuation of negative affective states. Third, because the development of psychological theories depends on repeated evaluation and review of empirical evidence, we wanted to revisit the premises of AVT in a significantly larger and more diverse dataset. Doing so allowed us to

examine whether there were any moderators of previously observed effects. Finally, capitalizing on the diverse populations that have completed the AVI, we wanted to examine whether ideal affect was associated with other important factors such as SES, age, and gender in this larger dataset.

Although no previous meta-analytic reviews have focused on ideal affect, some reviews have examined the associations between actual positive and negative affect and culture/country (e.g. Elfenbein et al., 2002; Van Hemert et al., 2007; Wedderhoff et al., 2021), SES (Gallo & Matthews, 2003; Tan et al., 2020), age (e.g., Buecker et al., 2023; Reed et al., 2014), and gender (e.g. Else-Quest et al., 2012). These reviews, however, have not typically distinguished between low and high arousal positive and negative states. Furthermore, most samples included in previous meta-analytic reviews were drawn from Western cultures, and therefore, researchers could not draw meaningful comparisons between Western and non-Western samples (Buecker et al., 2023; Reed et al., 2023). Likewise, none of these reviews examined variation within countries (e.g. Van Hemert et al., 2007; Tan et al., 2020). In other words, none of the existing meta-analyses met our particular aims.

We decided that an individual participant data (IPD) meta-analysis would best suit our purposes. According to Riley et al. (2021) and Tierney et al. (2021), IPD meta-analyses are increasingly popular because synthesists are not limited by what is published, allowing more variability to model. Indeed, they argue that while IPD meta-analyses are more time and labor intensive than traditional meta-analyses of aggregate data, they may be more appropriate for specific research questions, can provide more “complete and uniform” information, can increase the “quantity” of information available, and can improve the “quality” of the statistical analyses conducted (Tierney et al., 2021). Despite these strengths, IPD meta-analyses are of course still limited to the data collected by the original researchers.

The IPD meta-analysis approach met our specific purposes in the following ways. First, in our case, a traditional meta-analysis on aggregate data was not appropriate because there were not enough studies that explicitly examined the questions we were interested in (i.e., testing the first two premises of AVT). As a result, there was no consistent “treatment” that we could assess across studies. Yet, we could answer our questions if we combined and analyzed the individual participant data across studies. Second,

there was considerable variability among studies in the specific affect terms that researchers measured, and as a result, the affective aggregates used in different published reports were often not based on the same items. Thus, by collecting and then analyzing the individual participant data, we ensured that we were calculating the reliabilities and means of the *same* aggregates across datasets, resulting in more complete and uniform data. Third, many studies did not have enough variability that would allow comparisons across cultural group, age, socioeconomic status, or gender *within a single study*. Collapsing across these studies, though, allowed us to increase the quantity of available data and provided significant variation along these lines. Fourth, many existing studies did not report findings for *both* actual and ideal affect even though the authors administered the entire AVI, and therefore, we had to conduct analyses of the original data in order to examine the distinction between actual and ideal affect, to control for actual affect when examining ideal affect (and vice versa), and to compare the magnitude of cultural differences in ideal affect with that of cultural differences in actual affect. Thus, the IPD meta-analytic approach allowed us to conduct the most appropriate analyses for our research questions, which logically increased the quality of the statistical analyses. For all these reasons, we collected the individual participant data from the studies that used the AVI or a similar measure.

Study Aims

Our IPD meta-analysis had the following four main aims and hypotheses, shown in Table 1.

Aim 1: Examine Internal Consistency of AVI, Including Ideal HAN

One aim was to examine the internal consistency of the AVI because although most of the affective aggregates showed moderate to high internal consistency in Tsai et al. (2006), with mean alphas of .66-.69, the alphas of the ideal high arousal negative aggregates were low (.23-.48). We wondered whether these low values for ideal HAN persisted over time and whether the internal consistency of the AVI varied by participant population. For instance, university students are typically more homogeneous than community adults, so internal consistencies for the ideal and actual affect aggregates might be higher for the former group than the latter.

Aim 2: Test First Two Premises of AVT and Potential Moderators

A second aim was to examine whether the first two premises of AVT were supported in this larger dataset; specifically, that actual affect and ideal affect are empirically distinct (Aim 2a) and that cultural differences in ideal affect are greater than cultural differences in actual affect (Aim 2b).

We additionally aimed to examine whether support for these premises was moderated by different characteristics of the studies, such as research team, participant population, and publication status (Aim 2c). There are several ways in which these study characteristics might impact the findings. For instance, we (e.g., Tsai et al., 2006; Tsai et al., 2007) typically use more specific cultural criteria than other research teams when recruiting European Americans, East Asian Americans, and East Asians, and therefore, cultural differences in ideal affect may be more (or less) pronounced in our studies compared to those conducted by other research teams (“research team”). Similarly, although most research on ideal affect has focused on university samples, many studies of ideal affect include community samples, which are typically more heterogeneous in terms of SES and age than university samples. Thus, support for AVT might vary depending on whether samples were recruited from universities or larger communities (“participant population”). Finally, it was possible that support for AVT would be stronger for published vs. unpublished data (“publication status”) perhaps due to publication biases in favor of documenting significant results.

We were also interested in whether our results would vary as a function of measure used (AVI or a similar measure) and participants’ clinical status (no clinical disorder, clinical disorder), but as reported below, there were not enough studies that used a measure other than the AVI or that included clinical samples, so we dropped these potential moderators from our analyses.

Aim 3: Answer Emergent Questions About Cultural Differences in Ideal Affect

In addition to re-visiting previously documented findings, we wanted to address two specific questions related to cultural differences that have emerged since we began this work: (1) whether European American ideal LAP has changed over time, and (2) whether participants’ ideal HAP differs across specific East Asian subgroups (i.e., Chinese, Japanese, Taiwanese, South Korean).

Changes in Ideal LAP Over Time Among European Americans (Aim 3a)

Most studies have documented cultural differences in ideal HAP, with European Americans consistently valuing HAP more than East Asians, and European Americans valuing HAP as much as or slightly more than East Asian Americans (Bencharit et al., 2019; Blevins, 2022; Park et al., 2017; Park et al., 2020; Sims et al., 2018; Tsai, Miao, Seppala et al., 2007; Tsai et al., 2016; Tsai et al., 2018; Tsai et al., 2019). In contrast, the cultural differences in ideal LAP have been less consistent over time, with some studies showing the predicted difference (e.g., Tsai et al., 2006, Study 2; Tsai, Miao, Seppala et al., 2007, Study 1; Park et al., 2017), others finding no difference (e.g., Tsai et al., 2019, Study 1b; Sims et al., 2018, Study 1), and others even finding that European Americans valued LAP more than East Asians (e.g., Tsai et al., 2018, Thompson et al., 2018). We (Tsai et al., 2006) first started noticing increases in levels of ideal LAP among European Americans in Study 2 compared to Study 1, which was conducted prior to September 11, 2001. Since then, financial crises, political polarization, gun violence, threats to U.S. democracy, and the advent of social media are all potential events that might increase European Americans' (and other U.S. Americans') valuation of LAP over time. Thus, our aim was to test the prediction that ideal LAP would be positively associated with year of data collection for European Americans. We did not predict such associations for East Asian Americans or East Asians because we did not observe similar changes. We were also agnostic about whether associations between year of data collection and the other types of ideal affect would emerge.

Differences in Ideal HAP Among Specific East Asian Subgroups (Aim 3b)

Studies comparing U.S. and East Asian ideal affect often focus on different East Asian subgroups (e.g., Hong Kong Chinese in one study vs. Japanese in another), raising the question of whether East Asian subgroups differ from one another. For instance, South Korea stands out as having a significant U.S. military presence and a significant Christian population compared to the other East Asian countries (Aubrey, 2009; Lee and Matsumoto, 2011), and Christianity emphasizes HAP more than Buddhism (Tsai,

Miao & Seppala, 2007). As a result, South Koreans may value HAP more than other East Asian subgroups. This meta-analysis allowed us to test this hypothesis for the first time.

Aim 4: Explore Associations with SES, Age, and Gender

This combined data file also afforded us the opportunity to examine the association of ideal affect with other factors that have received relatively little empirical attention, including SES, age, and gender. Although we also examined the links between actual affect and these variables, several studies have already examined these associations, and therefore, to conserve space, we present the results for actual affect in the Supplementary Materials, Sections 14-17.

SES

Few studies have examined the relationship between participants' SES and ideal affect. One study found no association between participants' SES and different classes or types of ideal positive and negative states (Senft et al., 2023), although this study did not distinguish between high and low arousal positive and negative states. Given the links between individualism and SES (Carey & Markus, 2017; Hamamura et al., 2013; Stephens et al., 2012), and our previous findings that individualistic values and influence goals are associated with ideal HAP (Tsai et al., 2006), we predicted that participants who were higher in SES would value and ideally want to feel HAP more than participants who were lower in SES. In addition, because previous findings suggest that lower SES in the United States is associated with greater interdependence and adjustment (Carey & Markus, 2017; Manstead, 2018; Piff et al., 2012; Snibbe & Markus, 2005), we predicted that lower SES individuals would value LAP more (higher SES individuals would value LAP less). Similarly, because interdependence has also been associated with valuing LAN more (Clobert et al., 2022; Sims et al., 2015), we predicted that individuals of lower SES would value LAN more than individuals of higher SES (higher SES individuals would value LAN less). Finally, given the links between individualism and anger in previous reports (Boiger et al., 2013), we predicted that higher SES might be associated with greater ideal HAN. In sum, we predicted that individuals of higher SES would value HAP and HAN more and LAP and LAN less than individuals of lower SES.

Age

Several studies have examined ideal affect across the lifespan, but the results are mixed. For instance, in one study (Tsai et al., 2018), we found that for European Americans between the ages of 18 and 93, there were no age differences in the valuation of HAP or LAP, but other studies, we (Scheibe et al., 2013) and Palmer and Gentzler (2019) found that older adults in the United States valued HAP less and LAP more than younger adults. Our findings also suggest that the links between participant age and ideal affect might vary by culture: whereas in Tsai et al. (2018) we found no age differences among European Americans, among Chinese Americans and Hong Kong Chinese, older adults valued HAP and LAP less and HAN and LAN more than did younger adults. Given these mixed findings, we did not make specific predictions about the relationship between ideal affect and age.

Gender

To our knowledge, few gender differences in ideal affect have been reported. Given previous findings that females are more interdependent and less independent than males (Cross et al., 2000; Cross & Madson, 1997; Josephs et al., 1992), we predicted that females would value adjustment more and influence less than males, and therefore, females would value LAP and LAN more and HAP and HAN less than males.

Table 1
Summary of Aims and Hypotheses

Aims	Hypotheses
1. Examine internal consistency of AVI, including ideal HAN	All actual and ideal aggregates including ideal HAN will show moderate to high alphas ($> .50$)
2. Test first two premises of AVT and potential moderators ^a	
a. Actual and ideal affect differ	Across cultures, actual and ideal affect will be distinct constructs (i.e., actual and ideal affect will be weakly correlated with each other; two factor model will fit data better than one factor model)
	Participants will report ideally wanting to feel more positive and less negative than they actually feel
b. Cultural differences in ideal affect are greater than cultural differences in	European Americans and East Asian Americans will value HAP more than East Asians

actual affect	East Asian Americans and East Asians will value LAP more than European Americans
	East Asians will value LAN more than European Americans
	European Americans and East Asian Americans will ideally want to maximize the positive and minimize the negative (ideal POS vs. NEG) more than East Asians
	The magnitude of cultural differences in ideal affect will be greater than the magnitude of cultural differences in actual affect
c. Do premises hold across measure, research team, participant population, and publication status?	Above predictions will hold regardless of measure, research team, participant population, and publication status
3. Answer emergent questions	
a. Has ideal LAP changed over time for European Americans?	Ideal LAP will be positively correlated with year of data collection for European Americans
b. Are there differences in ideal HAP among specific East Asian subgroups?	South Koreans will value HAP more than Chinese, Taiwanese, and Japanese subgroups
4. Explore associations with SES, age ^b , and gender	Higher SES will be positively correlated with ideal HAP and HAN and negatively correlated with ideal LAP and LAN
	Females will value LAP and LAN more and HAP and HAN less than males.

Note. ^a We did not test the premise that temperamental factors will shape actual affect more than ideal affect. ^b We did not have specific predictions about the links between age and ideal affect given the mixed nature of previous findings. AVI = Affect Valuation Index; AVT = Affect Valuation Theory; HAN = High arousal negative states; HAP = High arousal positive states; LAN = Low arousal negative states; LAP = Low arousal positive states; POS = positive states; NEG = negative states.

Method

Next, we describe our: (a) search for reports, (b) process of data collection and extraction, (c) process of data inclusion and harmonization to optimize data quantity and quality, and (d) coding of potential moderators and key independent variables. The first three steps are aligned with those recommended by Tierney et al. (2021).

Search for Relevant Research

As shown in Figure 2, we searched for records (i.e., published reports, chapters, datasets) through electronic databases (APA PsycInfo, APA PsycArticles, PubMed, Google Scholar, Web of Science³, JSTOR, COS Open Science Framework Registry, ScienceDirect, Scopus, ProQuest Dissertations, AnthroSource), using the following search terms: “affect valuation,” “affect valuation index,” “desired emotion,” “desired mood,” and “ideal affect.” This search was completed on February 1, 2023, and yielded 10,469 records. We also included an additional 2,064 records that cited either Tsai, Knutson, and Fung (2006) and Tsai (2007) on Google Scholar. Together, this yielded a total of 12,533 records. After removing 1,966 duplicates, 10,567 records remained. Two coders went through the abstract and titles of these records to determine their relevance (i.e., related to affective processes) and date (i.e., published between 1996-2023), which yielded a total of 2,285 reports after excluding 8,282 irrelevant reports.

A team of eight coders (two masters-level and six undergraduate research assistants) reviewed each of these reports in full to determine whether it should be included in the meta-analysis. They included reports that: (a) contained original human data collected by the authors (i.e., excluding textbook chapters, review articles, etc.) and (b) assessed global or trait-like ideal affect using the AVI (i.e., studies that only assessed actual affect were not included) or a similar measure (see greater detail below). For a small number of reports, it was unclear from the full text whether the authors assessed ideal affect or just actual affect with the AVI. In these instances, we contacted the authors to determine whether they measured ideal affect. To establish inter-rater reliability, coders were trained on a subset of 20 reports and then rated a randomly selected subset of 200 search reports. Inter-rater reliability was high ($Kappa = .82$), and discrepancies were resolved through consensus.

³ We accessed Web of Science through Stanford Libraries, which includes the following subscriptions for Web of Science: Web of Science Core Collection, BIOSIS Citation Index, Medline, Zoological Record, Current Contents Connect, Derwent Innovations Index, Data Citation Index, SciELO Citation Index, BIOSIS Previews, CABI--CAB Abstracts and Global Health, Inspec, KCI--Korean Journal Database, Journal Citation Reports, Essential Science Indicators, EndNote Online.

Of the 2,285 reports, 183 did not have an available full report that could be reviewed. Of the remaining 2,102 reports, 2,022 were in English and 80 were not in English. Of the 2,022 English reports, 1,922 were excluded for the following reasons: (a) 400 did not include empirical data, (b) 51 did not collect original human data, (c) 1,401 did not measure ideal affect or a related construct, and (d) 70 measured a construct related to ideal affect, but the measure lacked key features of the AVI which would allow us to use the data as a proxy for ideal affect. These key features were: (a) a Likert rating scale, (b) the global assessment of ideal affect (i.e., on average or during the past week or month), and (c) phrasing that asked participants how often or how much they would like to feel or want to feel specific states.

For the 80 reports that were not in English, we reviewed their titles and abstracts using English translations provided with the report if they were available and using Google Translate for the others. Of the 80 reports that were not in English, 77 were excluded for the following reasons: (a) 75 did not mention ideal affect or a related construct in the translated abstract, and (b) two were duplicates of reports we already had.

In sum, after excluding a total of 1,999 reports (1,922 English reports and 77 non-English reports) from the full-text review, the search identified 103 reports that were eligible for inclusion in the meta-analysis (89 that used the AVI and 14 that used a similar measure meeting our criteria).

Data Collection and Extraction

Data Collection

We contacted the primary authors of the 103 reports via email, described the study purpose, and asked if they would be willing to share their datasets from the report. To help minimize the effects of publication bias, we also asked authors if they had any unpublished data they were willing to share.

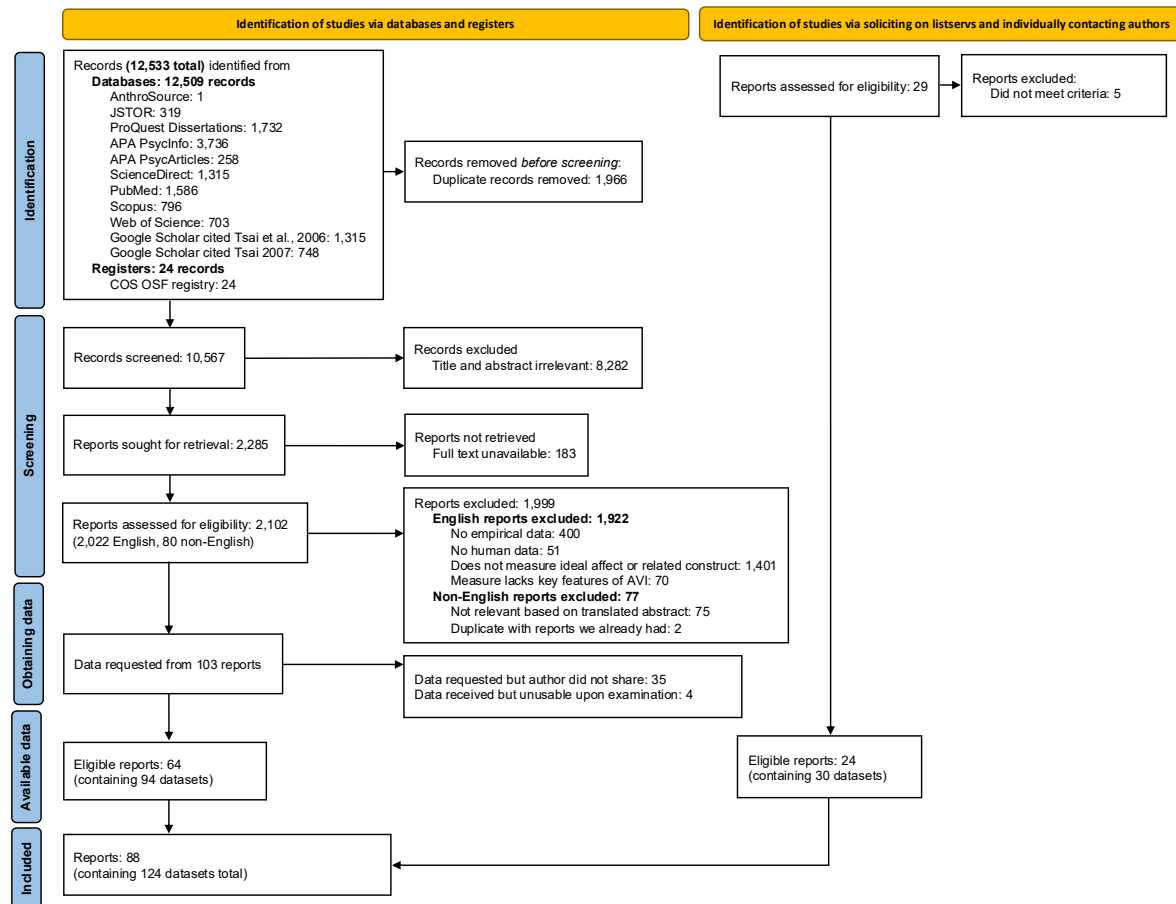
Authors were asked to upload their datasets through an online form, and to indicate basic demographic characteristics of their samples. Authors of 68 reports agreed to share their data (63 from published and five from unpublished reports; of the five unpublished (or gray) reports, four were from the Open Science Framework Registry, and one was from Google Scholar). Authors of 35 reports did not provide their data

(21 did not respond to multiple queries; three declined to participate; three could not locate the data; eight indicated that their reports were re-examinations of datasets that they had already submitted). Authors either submitted their datasets through the form or emailed their files directly to us. Once we received authors' datasets, we confirmed that they included ideal affect data. We excluded data from an additional four published reports because two assessed momentary or situational sampling rather than global ideal affect; one administered the AVI in a group setting; and one used a measure that did not include the key features of the AVI. This resulted in 64 eligible reports, which contained 94 datasets.

We also obtained gray data through two other methods. First, we posted on scientific society listservs an announcement stating that we were conducting a review of ideal affect studies and invited researchers to submit their published and unpublished data for use. Second, we reached out to other researchers who had previously contacted the first author about using the AVI and asked them to share their published or unpublished ideal affect datasets. These authors provided an additional 29 reports. Of these 29 reports, 5 were excluded because they only measured actual affect or momentary ideal affect. This yielded 24 eligible reports from our gray data search containing 30 datasets, which we included in our combined data file.

In total, our search yielded datasets from 88 reports containing 124 datasets, which are listed in Supplementary Materials, Section 23. Of these 88 reports, 70 were published reports (63 used the AVI, 7 used another measure), and 18 were unpublished reports (which all used the AVI). Together, these datasets yielded data from 31,034 participants. Prior to submission for publication, research teams confirmed that they obtained IRB or comparable ethics review for the data they shared, except for one case in which the team was not required by its institution to obtain IRB approval.

Figure 2
Flow of Reports and Studies into the Meta-Analysis



Note. “Records” refer to the results of the database and register search, which were screened based on title and abstract. “Reports” refer to full texts and unpublished data that were obtained and assessed for eligibility after either (a) passing the record screening from the database and register search or (b) being solicited from listservs and individual authors through the gray literature search.

Data Extraction

Once we received the datasets, we extracted and standardized the data (e.g., converted AVI data that used a 7-point scale to a 5-point scale). For each published report’s dataset(s), we checked that the number of participants in the dataset(s) matched those in the published report. We then combined the datasets across reports.

Data Inclusion and Harmonization to Optimize Data Quantity and Quality

In typical meta-analyses of aggregated data, synthesists code characteristics of study quality (e.g., sampling design and randomization) to examine whether the investigated effects vary as a function of study quality (Johnson, 2021). When conducting IPD meta-analyses, researchers optimize data quantity and quality by deciding which individual participant data to include. To this end, we made several decisions. First, we decided only to include datasets that used the AVI or a measure that was very similar to it because we did not believe data from other measures could be meaningfully compared with AVI data. Second, once we obtained the data, we decided which specific affect items to include in the aggregates to maximize comparability and total sample size (see “Item Selection for Actual and Ideal Affect Aggregates”). Third, because one of the main goals of this meta-analysis was to examine the persistence of cultural differences in ideal affect, we wanted to identify participants who could be included in these analyses. We quickly realized that there was considerable variability in the types of information researchers collected on the cultural background of their participants. Therefore, we coded the different types of information collected (see Supplementary Materials, Section 2) and determined which participants were appropriate to include in our specific cross-cultural comparisons (see “Cultural Categorization”). Fourth, based on Gottfried (2024), we asked participants to indicate the practices they used to evaluate the quality of their data (see “Practices to Maximize Data Quality”). We describe each of these decisions in greater detail below.

Item Selection for Actual and Ideal Affect Aggregates

Because the AVI had more items than we needed to calculate the affective aggregates, and because researchers differed in the specific affective items they used in their studies, we had to identify a subset of *overlapping* affective items that we could use in our analyses that maximized sample size. In other words, our goal was to identify the largest number of participants in the combined data file who had completed the same affective items. We thought it likely that studies that used the AVI would include most of the original items used in Tsai et al. (2006), but given variability in use of the AVI, we wanted to confirm that this was the case. This process involved two steps, as described in the Supplementary Materials, Section 1a. Table 2 lists the items selected for each aggregate based on this process.

We could not compute aggregates from 5 datasets (Ford & Tamir, 2014 pilot 1; Kumar, 2014 study 1; Painter et al., 2019 study 1; Park et al., 2016 study 1; Yamada, 2018 study 1), comprising a total of 422 participants (37.44% Female; 16.35% East Asian, 48.58% European American, 35.07% Other) because they did not include raw individual items (i.e., they only contained ipsatized items or a mean aggregate) or because they contained affect items that were not originally included in the AVI (e.g., “angry”). Since these studies reflect ideal affect data recovered from our search, they are included in our “Sample Descriptives” section. Still, because no aggregates could be computed for these datasets, they were excluded from our analyses (see “Results” section).

Table 2

Actual and Ideal Affect Aggregate Items Selected to Maximize Sample Size

Aggregate	Items
High arousal positive (HAP)	excited, enthusiastic, elated
Positive (P)	happy, content, satisfied
Low arousal positive (LAP)	calm, peaceful, relaxed
Low arousal (LA)	idle, inactive, passive
Low arousal negative (LAN)	dull, sleepy, sluggish
Negative (N)	lonely, sad, unhappy
High arousal negative (HAN)	hostile, nervous, fearful
High arousal (HA)	astonished, surprised (aroused) ^a

^a Our item selection process indicated that it would be optimal to drop an item (“aroused”) from the high arousal (HA) aggregates to maximize sample size. However, because some analyses required at least three items (i.e., in measurement equivalence analyses), “aroused” was retained for those analyses. For other analyses, only “astonished” and “surprised” were used for HA. See Supplementary Materials, Section 1a for more details.

As in previous work, we calculated the mean of items included in each aggregate (e.g., for ideal HAP, the mean of excited, enthusiastic, elated). For correlational analyses, we used raw actual and ideal affect values, but for group comparisons, we used *ipsatized* actual and ideal affect values to control for cultural group differences in response style (i.e., how people respond to rating scales on surveys).

Previous findings suggest that some cultural groups are more likely to use the mid-point of rating scales, whereas others are more likely to use extreme ends of the scale, and some cultural groups tend to vary their responses more than others (Chen et al., 1995; Harzing, 2006; Harzing et al., 2012; Johnson et al., 2005). Ipsatization, or standardizing within individuals, is a way of controlling for these differences in response styles so that group differences that emerge after ipsatization cannot be attributed to differences in response styles. To create the ipsatized values, we calculated the overall mean and SD of all items for each participant, and then for each item, subtracted the overall mean and divided by the SD prior to aggregating. Thus, each participant's mean score was zero. We did this separately for actual and ideal affect. Because some studies only included individual AVI terms from a subset of the octants, participants from these studies had insufficient variance across affect items, which invalidated their ipsatized values. Data from these participants were not included in our analyses of ipsatized values but were included in our analyses of raw values.

Cultural Categorization

Researchers used a variety of labels to describe participant racial, ethnic, and/or cultural information (for full listing of labels used by researchers, see Supplementary Materials, Section 2, Table S2, third column labeled, "Code"). The majority of studies classified this information in one of the following ways: (a) race/ethn: by indicating participants' racial or ethnic group, either in the form of U.S. census-like categories (e.g., Asian, Black, White, etc.) or self-identification (e.g., "Asian American"), (b) culture: by indicating the cultural eligibility criteria participants were required to meet in order to participate in the study (e.g., Chinese Americans had to have parents and grandparents who were born and raised in China), and (c) geo: by indicating participants' geographic location or national residence (e.g., students at a Korean university). Thus, each participant was given one of these labels to indicate which type of information researchers provided, as well as the specific group to which the participant belonged. For example, Chinese Americans who met specific cultural criteria (e.g., born in the United States or a Chinese country, but raised primarily in the United States) were coded as "culture: Chinese American" but those who were only recruited based on their self-identified ethnicity were coded as "race/ethn:

Chinese American.” We labeled East Asian immigrants who had lived in the United States or Canada for less than 10 years and less than 50% of their lives as “culture: International” (e.g., “culture: Chinese International”) and East Asian immigrants who had lived in the United States or Canada for more than 10 years and for 50% of their lives or more as “culture: East Asian American” or “culture: Chinese Canadian.” For all codes, see Supplementary Materials, Section 2, Table S2.

For analyses conducted on our *entire sample*, we included all participants regardless of their cultural categorization. To test our specific hypotheses regarding culture, we consolidated specific culture, race/ethn, and geo codes into three cultural groups: (1) European Americans, (2) East Asian Americans, and (3) East Asians. While these cultural groups were meant to be as inclusive of the different ways in which researchers defined their samples, we also tried to create groups that were as similar to those in Tsai et al. (2006) as possible. For *European Americans*, we aimed to include participants who were of Western European descent and were born, raised and currently living in the United States; therefore, we included all culture or race/ethn codes labelled “European American,” “Caucasian,” “White,” or “Anglo.” For *East Asian Americans*, we aimed to include participants who were of East Asian descent but who were raised and living in the United States or Canada for more than 10 years and over half their lives; therefore, we included all culture or race/ethn codes that indicated an East Asian American or East Asian Canadian identification (e.g., “culture: Chinese American,” or “race/ethn: Korean American”). For *East Asians*, we aimed to include participants who were born and raised and were currently or primarily living in an East Asian country; therefore, we used all culture or geo codes that included East Asians (i.e., Chinese, Japanese, South Korean, and Taiwanese), including immigrants or international students who lived in United States for less than 10 years and less than half their lives.

When cases were ambiguous (e.g., participants were described as “U.S. American,” but it was unclear if they were of European or East Asian descent; participants were described as “Asian American,” but it was not clear if they were specifically East Asian, or participants were described as “East Asian,” but it was not clear if they were primarily living in East Asia), we did not include them in any of the three cultural groups. These participants and all other participants were grouped as “Other.” This process

resulted in a *cultural subsample* of 20,798 participants across the three cultural groups (European Americans, East Asian Americans, and East Asians, see Table 3).

Reported Practices to Maintain Data Quality

Gottfried (2024) asked researchers to indicate which practices they engaged in to evaluate and improve the quality of survey data collected online, such as removing participants with outliers, with missing data, and with lack of variability of response, and/or those who failed attention checks. Applying this approach, we asked researchers to indicate whether they engaged in any of the same practices to evaluate and improve data quality for the datasets they contributed to this meta-analysis (1 = yes, 2 = no, 3 = don't remember). We received responses for 113 out of 124 datasets (91.12%), or 79 out of 88 reports (89.77%). 45.16% of researchers checked for missing answers; 35.48% checked for multiple submissions; 33.87% checked for variability of answers; 32.26% checked for outliers; 19.35% checked for responses to control items or included attention checks; 14.52% used other practices; 8.06% checked for response time; 8.06% checked for quality of open answer responses; 8.06% compared responses with data from a second source; 3.23% checked for self-reported engagement or study knowledge; and 3.23% checked for consistency of answers (for the full table of responses, see Supplementary Materials, Section 22). Except for use of control/attention items, a greater percentage of researchers in the studies included in this meta-analysis reported engaging in practices to evaluate data quality than did those in Gottfried (2024), suggesting that the quality of the included data was at least above average.

Coding of Potential Moderators and Other Key Independent Variables

Since one aim of this meta-analysis was to examine whether previous findings varied as a function of measure, research team, participant population, and publication status, we coded each dataset in the following ways: (a) *measure* was coded as 0 = AVI, 1 = non-AVI, (b) *research team* was coded as 0 = Tsai team (i.e., Tsai is a co-author), 1 = non-Tsai team (i.e., Tsai is not a co-author); (c) *participant population* was coded for university vs. community status (0 = university student sample, 1 = community sample) and for clinical status (0 = non-clinical, 1 = clinical); and (d) *publication status* was coded as 0 = published, and 1 = unpublished at the time of the search.

Next, we describe how we coded the other key independent variables relevant to this meta-analysis. Means and SD of these variables for the entire sample and for the cultural subsample of European Americans, East Asian Americans, and East Asians are provided in Table 3.

Year of Data Collection

To examine whether there were changes in actual and ideal affect over time, we recorded *year of data collection*. If there was a variable included in the data file that specified the exact date that participants submitted their information, that date was extracted and used. We also asked authors to provide an approximate date of data collection, which we used if the data file did not contain the exact date. Thus, there were three possible date formats: (a) the exact date (i.e., based on the time variable within the data file; e.g., “2018-07-11 14:30:00”); (b) specific years based on authors’ reports (e.g., “2015”); and (c) date ranges based on authors’ reports (e.g., “August 2019 to March 2020”). All three date formats were used to maximize inclusion of datasets. When the exact date was supplied, the value used in analyses reflected the year and month (specifically, $\text{year} + (\text{month} - 0.5)/12$ to reflect the middle of the month). When only a year was supplied, the value used reflected the middle of the year (specifically, $\text{year} + 0.5$). When a time range was supplied, we calculated the average of the beginning and end dates.

To validate the year of data collection, we also recorded the *year of publication*. We noted the earliest published date we could find for each published report (including both online and print publications). In published reports that described findings from multiple studies (and therefore had multiple datasets), every study (dataset) within the same report was assigned the same publication date. We recovered the date of data collection for 31,032 participants and the date of publication from 24,640 participants (these numbers differ because the former includes unpublished data). As expected, date of data collection and date of publication were highly correlated ($r = .79$, $t[24637] = 199.97$, $p < .001$). Because date of data collection was more accurate, and because the results were similar when we used date of publication, we focus on the former in the manuscript (results for year of publication are provided in the Supplementary Materials, Section 13).

Subjective SES

We focused on self-reported subjective measures of SES because few studies in the dataset included more objective measures of SES such as actual family income or GDP per capita. Furthermore, previous findings suggest that subjective measures of SES are more tightly linked to psychological well-being (e.g., Präg et al., 2016) and physical health (e.g., Cundiff et al., 2017) than objective measures of SES. To measure subjective SES, thirty of the studies used a 5-point scale (1 = lower income, 2 = lower middle income, 3 = middle income, 4 = upper middle income, and 5 = upper income). The remaining three studies used the 10-point SES ladder (Adler et al., 2000), with 1 = the lowest SES, and 10 = the highest SES. We converted these 10-point scores to a 5-point scale. In total, we had self-reported subjective SES data from 7,928 participants.

Age

Age of participant was available in one of the following formats: (a) the exact age of the participant, (b) the birth date of the participant, or (c) a bucket that represented a range of ages. To standardize the values across data files, we converted the latter two formats into an estimate of the participants' ages at the time of data collection. For birth date formats, the age was calculated by finding the length of time between the birth date and the year of data collection. For age buckets, the participants' age was estimated by using the average age for the specified bucket range; because B years old typically reflects an age between B and B+1 years, the average we used was $(A+B+1)/2$. We recovered age information from 29,827 participants.

Gender

The format of gender also varied across studies. We recoded gender data (based on the categories used in the original datasets) into “female,” “male,” “non-binary/genderqueer,” “transgender,” “non-male,” “other,” or “prefer not to answer” categories. In the combined data file, 57.82%% were female ($n = 17,944$); 38.89% were male ($n = 12,069$); 0.08% ($n = 24$) were non-binary/genderqueer; 0.003% ($n = 1$) was transgender; 0.56% ($n = 175$) were non-male; 0.13% ($n = 41$) were “other”; and 2.51% ($n = 780$) either preferred not to answer or left the gender question blank. Our analyses compared females (0) and

males (1) because there were insufficient numbers of participants in the other categories to allow meaningful comparisons.

Transparency and Openness

The combined data file and the code for the reported statistical analyses are available on OSF (at https://osf.io/bz9rc/?view_only=477ef0c19f594851b0c3a420544e2e1f).⁴ We did not pre-register the study because the main purpose of the study was to examine whether previously published findings endured over time, and some decisions were necessarily informed by details of the heterogeneous participant-level datasets we included (see below).

Overview of Data Analytic Strategy

When testing our hypotheses about the reliabilities of the aggregates and the distinction between actual and ideal affect, we focused on all affective octants (HAP, P, LAP, LA, LAN, N, HAN, HA) to be consistent with Tsai et al. (2006). When assessing cultural differences in ideal affect, we report on HAP, LAP, HAN, LAN, and ideal POS vs. NEG because these have been studied most in the literature. When examining associations with year of data collection, SES, age, and gender, we focus on HAP, LAP, HAN, and LAN to conserve space. For results for all octants, see Supplementary Materials, Sections 7 and 12-16.

We used generalized estimating equations (GEE) to account for the complex, partly nested correlation structure of our data (involving studies, research teams, and cultural groups). This is a semiparametric method that does not require the strong parametric assumptions of mixed models, which would likely be violated in this case. Rather than requiring the correlation structure to be known a priori, GEE estimates the correlation structure empirically from an initial working correlation matrix and generates robust standard errors using sandwich estimators (see “Depth: An alternative approach: Generalized estimating equations” under Section 7.4 of Frank et al., 2025). Furthermore, GEE methods

⁴ The data file uploaded to OSF has all the datasets included in the meta-analysis except for three. For these three datasets, the relevant institutions’ IRB did not allow public sharing of data. Interested readers may contact the corresponding author directly for access to the combined data file that includes these three datasets.

allow us to leverage the benefits of our individual-level data, rather than using other meta-analytic methods that require pooling data among clusters.

Thus, unless otherwise noted, for analyses that include inference (i.e., p-values or standard errors), GEE were used with individual studies as the clusters. All GEE used a working exchangeable correlation structure with robust inference and were fit using the `glmttoolbox` package in R (v0.1-11; Vanegas et al., 2024). Additionally, to account for small sample settings, for any analyses where the number of included studies (clusters) was less than 40 or the average number of participants per study was less than 100, Mancl and DeRouen bias correction was used (Bie et al., 2021). For point estimates that were simply descriptive statistics (e.g., simple means and standard deviations) without confidence intervals or p-values, we did not adjust for correlations (i.e., using GEE). Instead, we directly computed the point estimates since this would provide statistically valid estimates (and because adjusting for correlations would only affect the confidence intervals and p-values; Ntani et al., 2021; Stapleton, 2009).

Results

Sample Descriptives

Data were primarily collected in the United States (52.27% of full sample, $n = 16,220$) and Canada (3.33%, $n = 1,032$) as well as parts of East Asia (25.34%, $n = 7,864$; more specifically, Hong Kong: 9.46%, $n = 2,937$; Japan: 6.59%, $n = 2,044$; mainland China: 4.03%, $n = 1,250$; Taiwan: 3.36%, $n = 1,044$; South Korea: 1.90%, $n = 589$).

Data were also collected in other regions of the world, including Europe (Germany: 3.22%, $n = 998$; Poland: 0.97%, $n = 302$; United Kingdom: 0.47%, $n = 147$; France: 0.46%, $n = 143$), the Middle East (Israel: 2.76%, $n = 855$; Turkey: 0.65%, $n = 203$), Latin America (Brazil: 2.38%, $n = 740$; Mexico: 0.62%, $n = 193$; Colombia: 0.55%, $n = 172$), Africa (all in Ghana: 0.67%, $n = 208$), South East Asia (Singapore: 0.65%, $n = 201$; Thailand: 0.40%, $n = 124$), and Australia (0.39%, $n = 121$) (See Supplementary Materials, Section 3 for visual map of geographic locations where data were collected).

Table 3 provides the demographics (gender, age, subjective SES, year of data collection, and year of publication) of the entire sample and of the cultural subsample.

Table 3*Demographic Descriptives of Entire Sample and Cultural Subsample*

Variable	Entire Sample	Cultural Subsample		
	(<i>N</i> = 31,034)	European American (<i>n</i> = 10,538)	East Asian American (<i>n</i> = 1,939)	East Asian (<i>n</i> = 8,321)
Gender				
% Female	57.82%	59.23%	54.72%	51.81%
Age				
Mean (<i>SD</i>)	26.41 (12.31)	25.40 (12.07)	29.38 (16.36)	29.65 (14.09)
Min	11.00	11.00	16.00	17.00
Max	93.00	93.00	90.00	89.00
<i>n</i>	29827	10224	1880	8193
Subjective SES				
Mean (<i>SD</i>)	2.90 (1.09)	2.91 (1.18)	3.48 (0.88)	2.61 (1.05)
Min	1.00	1.00	1.00	1.00
Max	5.00	5.00	5.00	5.00
<i>n</i>	7928	3084	363	2251
Year of Data Collection				
Mean (<i>SD</i>)	2014.88 (4.91)	2014.89 (4.77)	2009.30 (4.96)	2015.43 (5.26)
Min	2002.00	2002.00	2002.00	2004.00
Max	2022.50	2022.50	2018.38	2022.46
<i>n</i>	31032	10538	1939	8320
Year of Publication				
Mean (<i>SD</i>)	2017.28 (3.94)	2016.93 (4.24)	2013.02 (5.16)	2017.55 (3.49)
Min	2006.12	2006.12	2006.12	2006.12
Max	2022.79	2022.62	2020.12	2022.79
<i>n</i>	24640	7973	1616	5332

Potential Moderators

As shown in Table 4, for the entire sample, most of the data used the AVI, were not collected by the Tsai team, were university samples, and were from published reports. For the cultural subsample, most of the data used the AVI, were university samples, and were from published reports. Half of the data in the cultural subsample were collected by the Tsai team. Although we originally planned to compare AVI with non-AVI data, we were unable to because: (1) non-AVI data comprised less than 10% of the

datasets, (2) the non-AVI measures did not include the affect items needed to calculate the HAP, LAP, or LAN aggregates, and (3) the studies that used non-AVI measures did not include European American groups, as defined by our cultural categorization. Thus, non-AVI data were only included as part of actual HAN and ideal HAN in analyses relevant for Aims 1 and 2a. Because the percentage of participant data that included clinical samples was below 1%, we also dropped this potential moderator from our analyses.

Table 4
Potential Moderator Descriptives

Potential Moderator	Entire Sample (<i>N</i> = 31,034)		Cultural Subsample (<i>n</i> = 20,798)	
	% Participants	% Datasets	% Participants	% Datasets
Used AVI	86.66%	91.94%	96.74%	96.50%
Tsai team	36.85%	39.52%	50.00%	42.98%
University samples	61.39%	55.65%	55.17%	56.14%
Clinical samples	0.63%	4.03%	0.38%	2.63%
Published	79.40%	75.81%	71.74%	75.44%

Aim 1: What is internal consistency of the AVI, including ideal HAN?

We examined the reliability of the AVI for the entire sample and then for European Americans, East Asian Americans, and East Asians in the cultural subsample. We first calculated the means and standard deviation (SD) of each item and then calculated the reliabilities of the actual and ideal affect aggregates.

Entire sample

The means and SD for raw and ipsatized values for each actual and ideal affect item for the entire sample are provided in Table S5a of the Supplementary Materials, Section 5a. Table 5 reports internal consistency estimates (Cronbach's alpha) for the aggregates (diagonal) as well as zero-order correlations among the aggregates for the entire sample. Cronbach's alphas ranged from .67 to .83 for actual affect, and from .63 to .83 for ideal affect, demonstrating that these aggregates are internally consistent.

Notably, the alpha for ideal high arousal negative affect was .73, which was considerably higher than the alphas for this aggregate first reported in Tsai et al. (2006), which ranged from .23-.48. Importantly, these reliabilities did not meaningfully differ as a function of research team, participant population, or publication status (see Supplementary Materials, Sections 19a, 20a, and 21a). As reported in Supplementary Materials Section 18, the reliabilities, correlations, CFAs, and differences in means for actual and ideal HAN were the same for non-AVI and AVI data.

Subsample of European Americans, East Asian Americans, and East Asians

The above analyses focused on the entire sample, without considering cultural group. Before examining the reliabilities of the AVI for each cultural group, we had to demonstrate that the instruments were equivalent for European Americans, East Asian Americans, and East Asians.

Measurement equivalence. To do so, we conducted means and covariance structure analysis (MACS; Cheung & Rensvold, 1999; Ployhart & Oswald, 2004), a popular way of establishing construct comparability across cultures 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 (Cheung & Rensvold, 1999; Little, 1997; Ployhart & Oswald, 2004). The latter two models have been used to demonstrate measurement equivalence (the third is necessary to compare latent group means). The fit of each model was calculated by using the lavaan package in R (v0.6-17; Rosseel, 2012). Individual datasets were used as clusters, and parameters were estimated using maximum likelihood with robust standard errors and the Satorra-Bentler test statistic (the “MLM” estimator in lavaan).

For each affect type, we assessed the fit of each model by using the robust root-mean-square error of approximation (RMSEA), the robust comparative fit index (CFI), the goodness-of-fit index (GFI), and the robust incremental fit index (IFI), and compared fit of the models by using the CFI difference-in-fit

criterion of less than .01 (Cheung & Rensvold, 2002; Little, 1997; Putnick & Bornstein, 2016). We assessed measurement equivalence separately for each affect octant. For all ideal and actual octants (besides actual HAN, which was close to threshold at $\Delta\text{CFI} = .012$), the difference in robust CFI between the baseline and factorial invariance models was less than .01, and all of the fit indices suggested that the factorial invariance model provided an acceptable to good fit (See Supplementary Materials, Section 4 for table of fit indices for raw and ipsatized values).

Only five out of 16 affective octants (eight ideal, eight actual), however, met criteria for strong factorial invariance, suggesting that the intercepts differed across groups. These differences were likely due to cultural differences in response styles (Cheung & Rensvold, 2000; Johnson et al., 2005; Mullen, 1995; Smith, 2004). Therefore, we conducted analyses on both ipsatized and raw scores. Because the pattern of results was similar for ipsatized and raw scores, we report findings from analyses with ipsatized scores when comparing means, and findings from analyses with raw scores when conducting correlations because ipsatizing can constrain variance (See Supplementary Materials, Section 8 for analyses with raw scores when comparing means).

Internal consistency. Consistent with the larger sample, the AVI showed high reliability, ranging from .61 to .84 for the three cultural groups. Notably, the alpha for ideal HAN ranged from .63 to .74, which again was considerably higher than the alphas for this aggregate first reported in Tsai et al. (2006). Item means and SD as well as reliabilities by cultural group are provided in Supplementary Materials, Section 5. Moreover, these reliabilities did not differ for university vs. community samples, despite greater heterogeneity in the latter sample (see Supplementary Materials, Section 20a).

Aim 2a: Do Actual Affect and Ideal Affect Differ?

Next, we examined whether actual and ideal affect were distinct constructs based on correlational analyses, confirmatory factor analyses, and comparisons of mean levels of actual and ideal affect.

Entire sample

Pearson product–moment correlational analyses. First, we examined the correlation between actual and ideal affect scores from the same octant. To calculate correlation coefficients (and perform

inference) with GEE, we first standardized the scores and used them as the independent and dependent variables in a (GEE) linear model (since the regression coefficient with standardized scores is equivalent to the correlation coefficient of the original, raw variables; Bring, 1994). Whereas the distinct construct hypothesis predicts that actual and ideal affect scores will be weakly or moderately correlated ($.00 < r < .50$), the single construct hypothesis predicts that actual and ideal scores will be highly correlated ($r > .70$). As illustrated in Table 5 (boxes shaded in gray), all the correlations for the octants were less than .50, suggesting that actual affect and ideal affect are two distinct constructs.

Two- vs. one-factor model. 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. The distinct construct hypothesis predicts a two-factor model for each octant (e.g., actual HAP vs. ideal HAP). In contrast, the single construct hypothesis predicts one factor for each octant (e.g., HAP). We performed multilevel confirmatory factor analyses to account for the clustered nature of the data (Hox, 2022; Huang, 2017; Muthen 1994). To maintain independence among the ratings, we conducted these analyses on raw rather than ipsatized scores. We conducted these analyses on all eight octants; for each octant, we first assessed the fit of the two-factor model and then the fit of the one-factor model, with individual studies as the clusters (Huang, 2023). The fit of each model was calculated by using the lavaan package in R (v0.6-17; Rosseel, 2012). Parameters were estimated using maximum likelihood with robust standard errors and the Satorra-Bentler test statistic (the “MLM” estimator in lavaan). Following convention, we used four commonly used fit indices to assess model fit (RMSEA, CFI, GFI, and IFI), using the cluster-robust version of the indices when possible.

For the RMSEA, 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 et al., 2003). For the CFI, GFI, and IFI, values of approximately .90 or higher indicate good fit (Bentler, 1990; Bentler & Bonett, 1980). Table 6 shows all the fit indices and model comparison values for two-factor vs. one-factor models for the entire sample. Although there were cases where the fit was poor, the two-factor model provided consistently better fit than the one-factor model for all octants.

After assessing the fit of each model, we determined whether the two models were significantly different with the robust chi-square difference test (Satorra & Bentler, 2001). For all octants, the two-factor model had smaller RMSEA values, chi-square values, AIC values, and BIC values than the single-factor model. In addition, the robust delta in chi-square (a function of the standard chi-squares in the one- and two-factor models) and CFI between the two models suggested that the two-factor model was a significantly better fit than the single-factor model. Finally, change (Δ) in CFI, which has been argued to be less sensitive to sample size (Cheung & Rensvold, 2002) exceeded -.01, providing additional support for the distinct construct hypothesis.

Table 5
Zero-Order Correlations and Reliabilities for Raw Actual and Ideal Affect for the Entire Sample

Variable (Raw)		Actual Affect								Ideal Affect							
		HAP	P	LAP	LA	LAN	N	HAN	HA	HAP	P	LAP	LA	LAN	N	HAN	HA
Actual Affect	HAP	.74	.56***	.33***	-.19***	-.24***	-.23***	-.05**	.41***	.44***	.13***	.07***	.01	.03	.04*	.12***	.27***
	P		.83	.54***	-.25***	-.35***	-.47***	-.30***	.17***	.24***	.28***	.18***	-.02	-.05***	-.07***	-.03**	.12***
	LAP			.76	-.004	-.20***	-.28***	-.32***	.12***	.10***	.13***	.28***	.08***	.04**	.01	.01	.09***
	LA				.71	.57***	.47***	.36***	.10***	.01	-.01	.06***	.38***	.20***	.18***	.14***	.10***
	LAN					.69	.53***	.46***	.05***	.03**	.01	.06***	.23***	.20***	.14***	.12***	.08***
	N						.81	.58***	.09***	.02	-.06***	-.002	.21***	.19***	.27***	.20***	.09***
	HAN							.67	.26***	.07***	-.05***	-.02	.23***	.21***	.25***	.31***	.17***
	HA								.72	.18***	-.04*	-.01	.20***	.20***	.21***	.28***	.48***
Ideal Affect	HAP									.70	.51***	.40***	-.16***	-.29***	-.29***	-.19***	.34***
	P										.81	.61***	-.27***	-.48***	-.54***	-.45***	.08***
	LAP											.77	-.15***	-.37***	-.39***	-.38***	.09***
	LA												.63	.59***	.54***	.50***	.15***
	LAN													.78	.72***	.67***	.08**
	N														.83	.72***	.10***
	HAN															.73	.19***
	HA																.70

Note. ns range from 13,931 to 24,371; reliabilities are reported in the diagonal; shaded boxes are correlations between actual and ideal affect for the same aggregate; 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.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 6
Fit Indices and Model Comparisons for Two-Factor vs. One-Factor Models

Variable	Fit Indices				Model Comparison					
	RMSEA	GFI	IFI	CFI	AIC	BIC	χ^2	df _{χ^2}	<i>n</i>	<i>p</i>
HAP										
2-Factor	.14	.99	.90	.90	237292.45	237438.24	2699.15	8	15885	
1-Factor	.21	.99	.83	.76	241094.06	241232.17	6502.76	9	15885	
Δ (robust)				.14			205.91	1		< .001
P										
2-Factor	.11	1.00	.95	.96	233409.56	233556.66	1613.75	8	17012	
1-Factor	.34	.97	.47	.54	249285.68	249425.03	17491.87	9	17012	
Δ (robust)				.42			1739.06	1		< .001
LAP										
2-Factor	.09	1.00	.96	.96	246880.69	247027.40	1042.57	8	16676	
1-Factor	.25	.99	.74	.64	255171.37	255310.36	9335.25	9	16676	
Δ (robust)				.32			397.49	1		< .001
LA										
2-Factor	.12	.99	.79	.90	217019.51	217163.20	1700.11	8	14221	
1-Factor	.17	.98	.66	.77	219062.04	219198.16	3744.64	9	14221	
Δ (robust)				.12			108.00	1		< .001
LAN										
2-Factor	.09	1.00	.92	.96	245066.89	245213.83	1085.96	8	16873	
1-Factor	.24	.98	.41	.62	252949.81	253089.01	8970.87	9	16873	

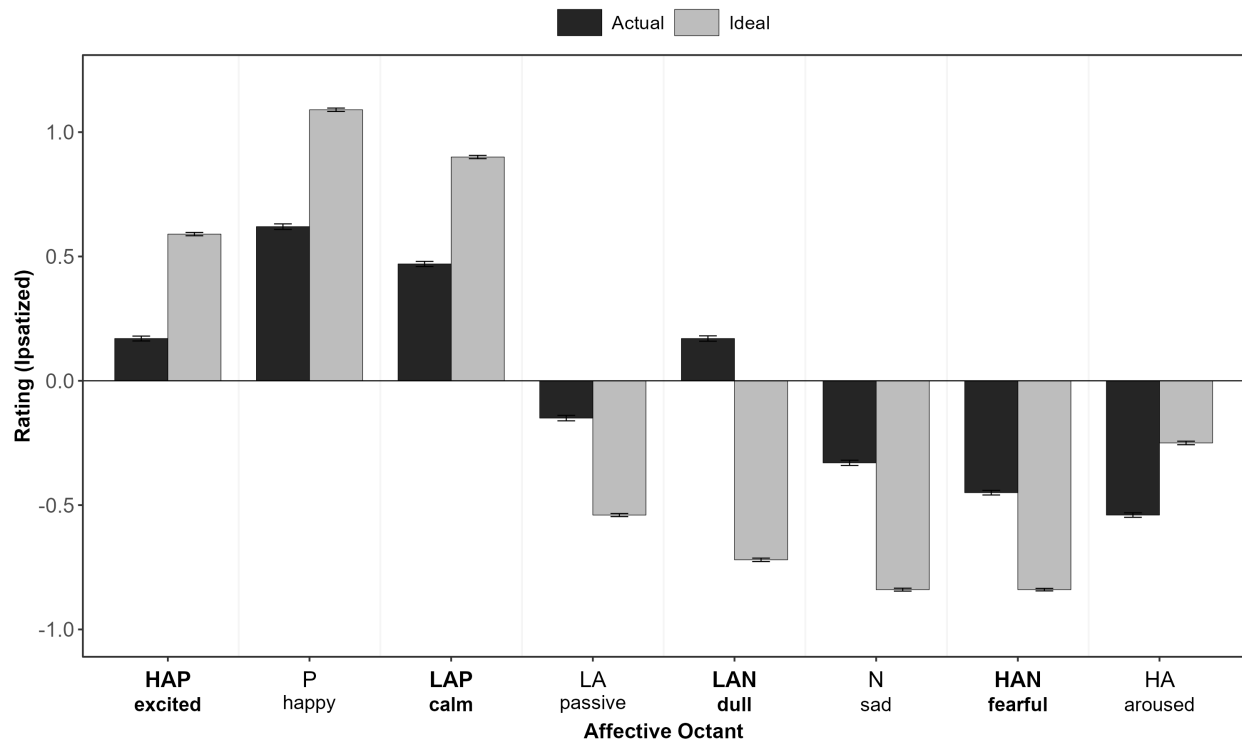
Δ (robust)				.34			447.00	1	< .001
N									
2-Factor	.08	1.00	.91	.97	209811.25	209958.21	993.70	8	16893
1-Factor	.33	.94	.26	.55	225052.33	225191.55	16236.77	9	16893
Δ (robust)				.42			437.77	1	< .001
HAN									
2-Factor	.14	.99	.70	.88	270518.82	270668.87	3236.89	8	19879
1-Factor	.22	.97	.36	.67	275986.06	276128.21	8706.13	9	19879
Δ (robust)				.21			391.38	1	< .001
HA									
2-Factor	.19	.99	.47	.82	210531.83	210675.41	3966.92	8	14141
1-Factor	.20	.98	.47	.77	211595.80	211731.82	5032.89	9	14141
Δ (robust)				.05			93.41	1	< .001

Note. RMSEA < .10 indicates acceptable fit; RMSEA < .05 and GFI, IFI, and CFI > .90 indicate good fit. Δ CFI > -.01 indicates difference in model fit. Robust RMSEA, IFI, CFI, and $\Delta\chi^2$ were used. RMSEA = root-mean-square error of approximation; GFI = goodness-of-fit index; IFI = incremental fit index; CFI = comparative fit index; AIC = Akaike's Information Criterion; BIC = Bayesian Information Criteria; χ^2 = chi-square statistic; p = statistical significance of change in chi-square statistic; 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.

Mean differences between actual and ideal affect. Third, we compared the means of the actual and ideal aggregates. If actual affect and ideal affect were the same, their means should not significantly differ. As shown in Figure 3 and Table 7, people reported ideally wanting to feel more positive and less negative than they actually felt.

Figure 3

Ipsatized Actual and Ideal Affect Means Across the Entire Sample



Note. Error bars reflect 95% confidence intervals. Ipsatized values standardize scores around each participant's own mean. Sample sizes for actual affect ranged from $n = 14,213$ - $16,654$, and sample sizes for ideal affect ranged from $n = 18,122$ - $20,581$. 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.

Table 7*Means and Pairwise Comparisons of Actual and Ideal Affect (Raw and Ipsatized) for the Entire Sample*

Aggregate	Raw			Ipsatized		
	Actual Affect	Ideal Affect	Pairwise Difference ^a	Actual Affect	Ideal Affect	Pairwise Difference ^a
HAP	2.76 (0.74) (<i>n</i> = 15,971)	3.54 (0.80) (<i>n</i> = 21,707)	-0.78 (<i>z</i> = -127.83 ^{***})	0.17 (0.63) (<i>n</i> = 15,808)	0.59 (0.48) (<i>n</i> = 19,845)	-0.44 (<i>z</i> = -88.47 ^{***})
P	3.20 (0.81) (<i>n</i> = 17,283)	4.23 (0.78) (<i>n</i> = 21,349)	-1.04 (<i>z</i> = -147.96 ^{***})	0.62 (0.73) (<i>n</i> = 16,550)	1.09 (0.50) (<i>n</i> = 20,273)	-0.52 (<i>z</i> = -88.34 ^{***})
LAP	3.06 (0.78) (<i>n</i> = 16,759)	3.95 (0.79) (<i>n</i> = 22,376)	-0.91 (<i>z</i> = -132.00 ^{***})	0.47 (0.67) (<i>n</i> = 16,298)	0.90 (0.48) (<i>n</i> = 20,212)	-0.47 (<i>z</i> = -85.05 ^{***})
LA	2.41 (0.80) (<i>n</i> = 14,301)	1.88 (0.70) (<i>n</i> = 18,261)	0.56 (<i>z</i> = 82.04 ^{***})	-0.15 (0.67) (<i>n</i> = 14,213)	-0.54 (0.42) (<i>n</i> = 18,122)	0.41 (<i>z</i> = 73.28 ^{***})
LAN	2.72 (0.81) (<i>n</i> = 16,967)	1.60 (0.73) (<i>n</i> = 21,352)	1.13 (<i>z</i> = 157.43 ^{***})	0.17 (0.71) (<i>n</i> = 16,652)	-0.72 (0.50) (<i>n</i> = 20,573)	0.92 (<i>z</i> = 149.99 ^{***})
N	2.25 (0.80) (<i>n</i> = 16,969)	1.46 (0.66) (<i>n</i> = 21,222)	0.80 (<i>z</i> = 120.37 ^{***})	-0.33 (0.69) (<i>n</i> = 16,654)	-0.84 (0.43) (<i>n</i> = 20,580)	0.53 (<i>z</i> = 97.12 ^{***})
HAN	2.20 (0.73) (<i>n</i> = 19,968)	1.51 (0.62) (<i>n</i> = 24,371)	0.70 (<i>z</i> = 128.98 ^{***})	-0.45 (0.61) (<i>n</i> = 16,652)	-0.84 (0.37) (<i>n</i> = 20,576)	0.40 (<i>z</i> = 82.23 ^{***})
HA	2.06 (0.71) (<i>n</i> = 16,666)	2.35 (0.84) (<i>n</i> = 21,067)	-0.27 (<i>z</i> = -47.24 ^{***})	-0.54 (0.59) (<i>n</i> = 16,363)	-0.25 (0.52) (<i>n</i> = 20,581)	-0.29 (<i>z</i> = -60.76 ^{***})

Note. Standard deviations are reported in parentheses. 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.

^a Individual participants were used as GEE clusters instead of individual studies since ideal and actual ratings could be paired (from the same participant).

*** *p* < .001.

Subsample of European Americans, East Asian Americans, and East Asians

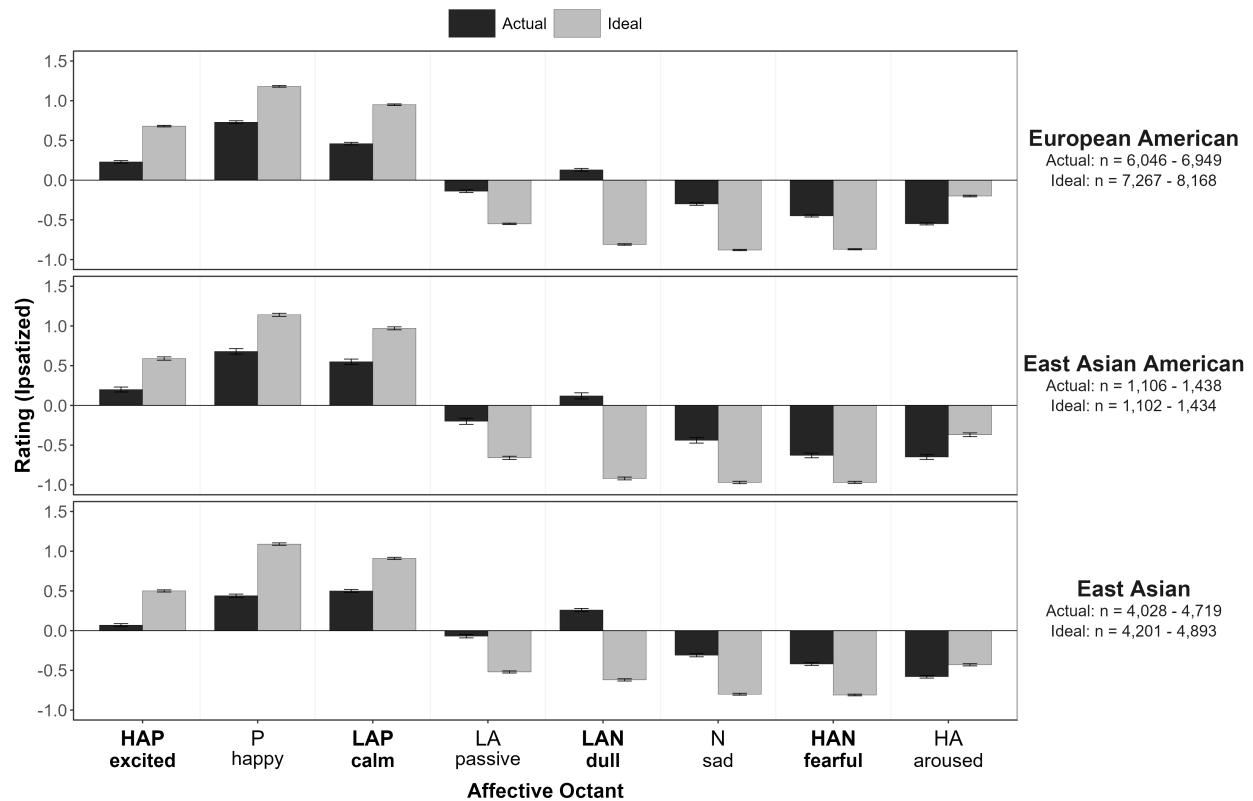
To examine whether actual and ideal affect were distinct for each of the cultural groups, we conducted similar analyses as we did for the entire sample. To save space, we provide most of the details of these analyses in the Supplementary Materials (Sections 5-6).

Pearson product-moment correlational analyses. Consistent with the distinct construct hypothesis, correlations between actual and ideal affect of the same octants were weak to moderate, ranging from .16 to .47 for European Americans, from .16 to .52 for East Asian Americans, and from .22

to .46 for East Asians, suggesting that although they share variance, ideal and actual affect also have distinct variance (see Supplementary Materials, Section 5d for more details).

Two- vs. one-factor model. Next, we conducted two multilevel confirmatory factor analyses specifically focused on the subsample of European Americans, East Asian Americans, and East Asians (collapsed across cultural groups) that compared the fit of two nested models. To maintain independence among the ratings, we conducted these analyses on raw rather than ipsatized scores, following the same procedures as described for the entire sample. Although there were cases where the fit was poor, the two-factor model provided a consistently better fit than the single-factor model for all octants. The two-factor model had smaller RMSEA values, fit indices, chi-square values, AIC values, and BIC values than the single-factor model. In addition, the robust delta in chi-square between the two models suggested that the two-factor model was a significantly better fit than the single-factor model (Satorra & Bentler, 2001). Finally, change in CFI exceeded -.01, providing additional support for the distinct construct hypothesis (see Supplementary Materials, Section 6 for more details).

Mean differences between actual and ideal affect. Finally, we compared actual and ideal affective octants to test hypotheses that for each cultural group, individuals would report ideally wanting to feel more positive and less negative than they actually felt. As shown in Figure 4, for European Americans, East Asian Americans and East Asians, means of ideal HAP, LAP and P were higher than those actual HAP, LAP and P, respectively (all $ps < .001$), and means of ideal HAN, LAN and N were lower than those of actual HAN, LAN and N, respectively (all $ps < .001$) for each cultural group. For the valence-neutral octants of LA and HA, ideal HA was higher than actual HA, and ideal LA was lower than actual LA for all three groups (all $ps < .001$). Values are provided in Supplementary Materials, Section 5c.

Figure 4*Ipsatized Actual and Ideal Affect by Cultural Group*

Note. Error bars reflect 95% confidence intervals. 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.

In summary, findings from three types of analyses (i.e., correlational analyses, confirmatory factor analyses, and mean comparisons) reveal that actual affect and ideal affect comprise two distinct constructs rather than one single construct for the entire sample and for the subsample of European Americans, East Asian Americans, and East Asians. These findings support the first premise of AVT.

Aim 2b: Are Cultural Differences in Ideal Affect Greater Than Cultural Differences in Actual Affect?

Next, we examined whether previously observed cultural differences in ideal HAP and LAP, ideal HAN and LAN, and ideal POS vs. NEG (i.e., wanting to maximize the positive and minimize the

negative) were replicated in this larger dataset. To account for cultural differences in response styles, we compared ipsatized means (see Supplementary Materials, Section 8 for results with raw scores). To maintain consistency with Tsai et al. (2006) and our other work, we controlled for actual affect when comparing ideal affect, and we controlled for ideal affect when comparing actual affect (see Supplementary Materials, Section 9 for results without controlling for actual or ideal affect).

Ideal HAP and LAP

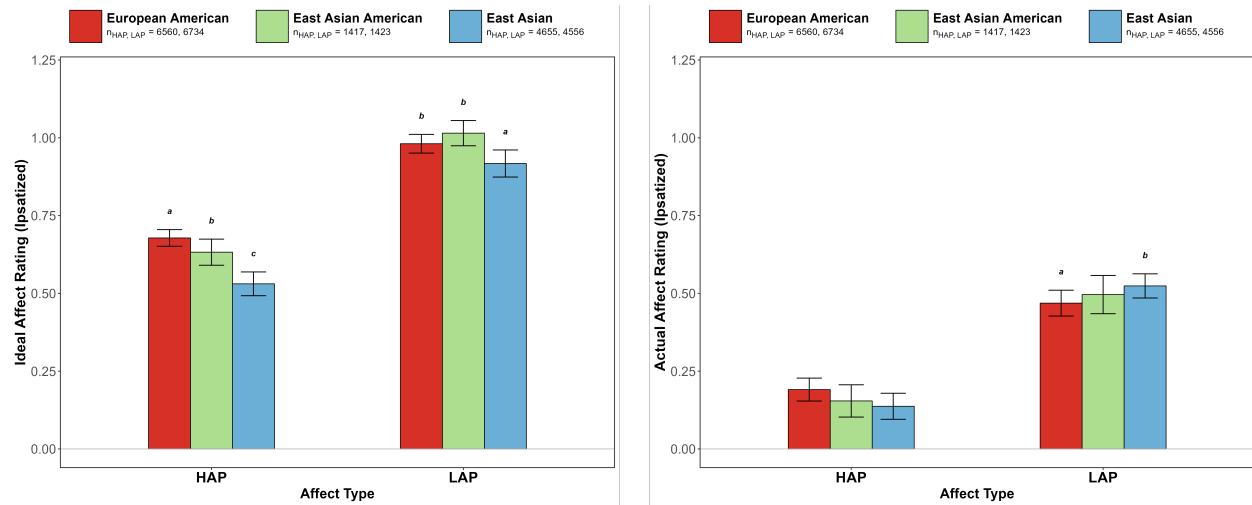
To examine whether there were cultural group differences in ideal HAP and LAP, we fit two models regressing ipsatized ideal HAP and LAP on cultural group (European American, East Asian American, East Asian), controlling for ipsatized actual HAP and actual LAP, respectively. The main effects of cultural group were significant for ideal HAP ($Wald \chi^2(2) = 60.28, p < .001$) and ideal LAP ($Wald \chi^2(2) = 21.46, p < .001$).

As shown in Figure 5 (left) and Table 8 (top), pairwise comparisons revealed that as predicted, European Americans valued HAP more than East Asian Americans, who valued HAP more than East Asians, and East Asian Americans valued LAP more than East Asians. Contrary to predictions and previous results, European Americans valued LAP more than East Asians.

Actual HAP and Actual LAP

We fit two models regressing ipsatized actual HAP and LAP on cultural group (European American, East Asian American, East Asian), controlling for ipsatized ideal HAP and LAP, respectively. There were *no* significant main effects of cultural group for actual HAP ($Wald \chi^2(2) = 4.19, p = .123$) or actual LAP ($Wald \chi^2(2) = 5.05, p = .080$), as shown in Figure 5 (right) and Table 8 (bottom), although pairwise comparisons revealed differences in actual LAP, with East Asians experiencing more LAP than European Americans. East Asian Americans did not differ from the other two groups.

Thus, more cultural group differences emerged for ideal affect than actual affect, and the magnitude of the differences was greater for ideal affect (mean effect size = 0.18, $SD = 0.09$, ranging from 0.08 to 0.32) than actual affect (mean effect size = 0.06, $SD = 0.02$, ranging from 0.03 to 0.08), supporting the hypothesis that cultural factors shape ideal affect more than actual affect.

Figure 5*Ipsatized Ideal (left) and Actual (right) HAP and LAP by Cultural Group*

Note. Means of ipsatized ideal affect control for ipsatized actual affect (left) and means of ipsatized actual affect control for ipsatized ideal affect (right). Error bars reflect 95% confidence intervals. Ipsatized values standardize scores around each participant's own mean; raw values are provided in Supplementary Materials, Section 8. Groups with different letters (a, b, c) indicate significant differences at $p < .05$. *ns* for each cultural group are listed in the legend in the form $n_{\text{HAP, LAP}} = n$ for HAP comparison, n for LAP comparison. HAP = high arousal positive; LAP = low arousal positive.

Table 8*Means and Pairwise Comparisons for Ipsatized Ideal and Actual HAP and LAP by Cultural Group*

Affect (Ipsatized)	Cultural Group	European American	East Asian American	East Asian
Ideal HAP				
	European American	0.68 [0.65, 0.70]	-0.05 ($d = 0.11$)*	-0.15 ($d = 0.32$)***
	East Asian American		0.63 [0.59, 0.67]	-0.10 ($d = 0.22$)***
	East Asian			0.53 [0.49, 0.57]
Ideal LAP				
	European American	0.98 [0.95, 1.01]	0.03 ($d = 0.08$)	-0.06 ($d = 0.15$)**
	East Asian American		1.01 [0.97, 1.06]	-0.10 ($d = 0.22$)***
	East Asian			0.92 [0.87, 0.96]
Actual HAP				
	European American	0.19 [0.15, 0.23]	-0.04 ($d = 0.06$)	-0.05 ($d = 0.08$)
	East Asian American		0.15 [0.10, 0.21]	-0.02 ($d = 0.03$)
	East Asian			0.14 [0.10, 0.18]
Actual LAP				
	European American	0.47 [0.43, 0.51]	0.03 ($d = 0.04$)	0.06 ($d = 0.08$)*
	East Asian American		0.50 [0.43, 0.56]	0.03 ($d = 0.04$)
	East Asian			0.52 [0.49, 0.56]

Note. Means and 95% confidence intervals are reported in diagonal cells. Pairwise comparisons are reported with effect sizes in off-diagonal cells. HAP = high arousal positive; LAP = low arousal positive.
 *** $p < .001$. ** $p < .01$. * $p < .05$.

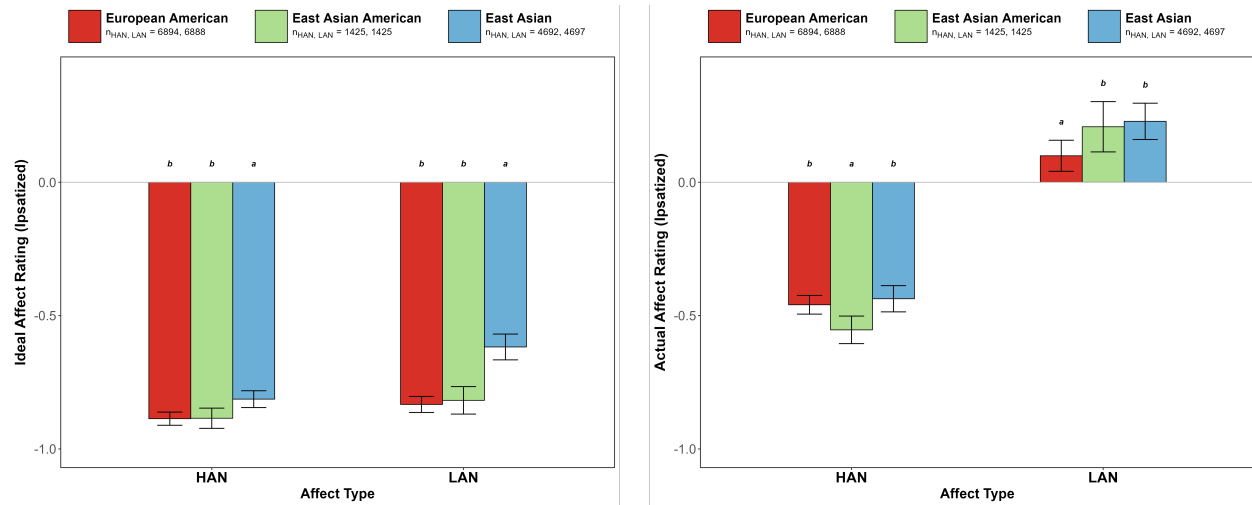
Ideal HAN and Ideal LAN

To examine whether there were cultural group differences in ideal HAN and LAN, we fit two models regressing ipsatized ideal HAN and LAN on cultural group (European American, East Asian American, East Asian), controlling for ipsatized actual HAN and LAN, respectively. The main effects of cultural group were significant for ideal HAN ($Wald \chi^2(2) = 21.62, p < .001$) and ideal LAN ($Wald \chi^2(2) = 57.99, p < .001$). As shown in Figure 6 and Table 9, East Asians valued HAN and LAN more than both European Americans and East Asian Americans, who did not significantly differ from each other.

Actual HAN and Actual LAN

We fit two models regressing ipsatized actual HAN and LAN on cultural group (European American, East Asian American, East Asian), controlling for ipsatized ideal HAN and LAN, respectively. There were significant main effects of cultural group for actual HAN ($Wald \chi^2(2) = 18.46, p < .001$) and actual LAN ($Wald \chi^2(2) = 13.09, p = .001$). As shown in Figure 6 and Table 9, pairwise comparisons revealed that East Asian Americans felt less HAN than did the other two groups, who did not differ from each other, and European Americans felt less LAN than did the other two groups, who did not differ from each other.

Although group differences emerged in both ideal and actual HAN and LAN, the magnitude of the differences in actual HAN and LAN (mean effect size = 0.12, $SD = 0.07$, ranging from 0.03 to 0.19) was smaller than the magnitude of differences in ideal HAN and LAN (mean effect size = 0.24, $SD = 0.20$, ranging from 0.01 to 0.51), again supporting the premise that cultural differences are greater for ideal affect than actual affect.

Figure 6*Ipsatized Ideal (left) and Actual (right) HAN and LAN By Cultural Group*

Note. Means of ipsatized ideal affect control for ipsatized actual affect (left) and means of ipsatized actual affect control for ipsatized ideal affect (right). Error bars reflect 95% confidence intervals. Groups with different letters (a, b) indicate significant differences at $p < .05$. *ns* for each cultural group are listed in the legend in the form $n_{HAN, LAN} = n$ for HAN comparison, n for LAN comparison. HAN = high arousal negative; LAN = low arousal negative.

Table 9*Means and Pairwise Comparisons for Ipsatized Ideal and Actual HAN and LAN by Cultural Group*

Affect (Ipsatized)	Cultural Group	European American	East Asian American	East Asian
Ideal HAN				
	European American	-0.89 [-0.91, -0.86]	0.002 ($d = 0.01$)	0.07 ($d = 0.22$)***
	East Asian American		-0.88 [-0.92, -0.85]	0.07 ($d = 0.20$)***
	East Asian			-0.81 [-0.84, -0.78]
Ideal LAN				
	European American	-0.83 [-0.86, -0.80]	0.02 ($d = 0.04$)	0.22 ($d = 0.51$)***
	East Asian American		-0.82 [-0.87, -0.77]	0.20 ($d = 0.43$)***
	East Asian			-0.62 [-0.67, -0.57]
Actual HAN				
	European American	-0.46 [-0.49, -0.42]	-0.09 ($d = 0.16$)***	0.02 ($d = 0.04$)
	East Asian American		-0.55 [-0.61, -0.50]	0.12 ($d = 0.19$)***
	East Asian			-0.44 [-0.49, -0.39]
Actual LAN				
	European American	0.10 [0.04, 0.16]	0.11 ($d = 0.15$)**	0.13 ($d = 0.18$)***
	East Asian American		0.21 [0.11, 0.30]	0.02 ($d = 0.03$)
	East Asian			0.23 [0.16, 0.30]

Note. Means and 95% confidence intervals are reported in diagonal cells. Pairwise comparisons are reported with effect sizes in off-diagonal cells. HAN = high arousal negative; LAN = low arousal negative.

*** $p < .001$. ** $p < .01$.

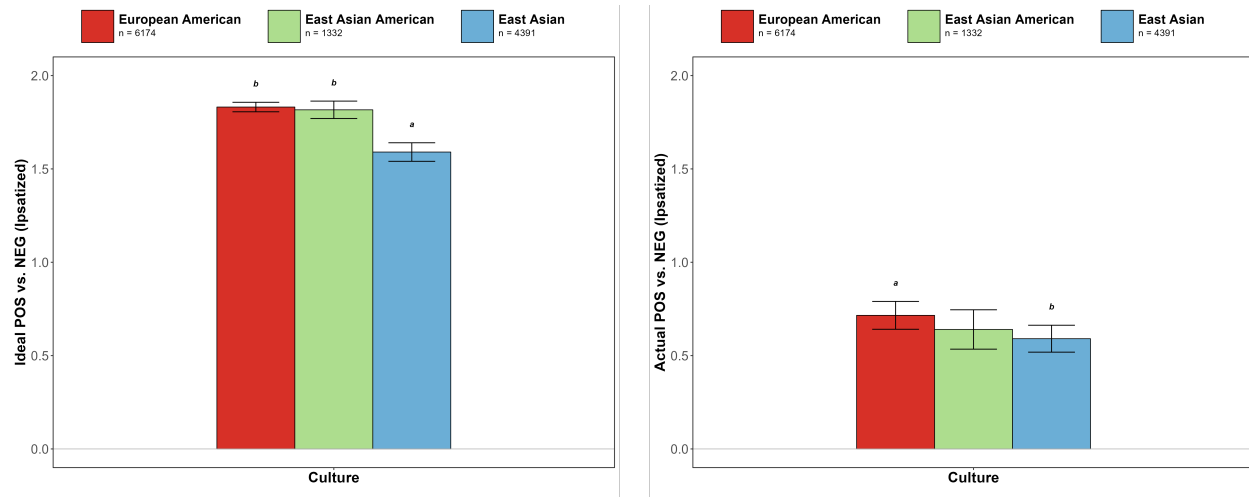
Ideal POS vs. NEG

We calculated a difference score (“POS vs. NEG”) by calculating the mean of ipsatized HAP, LAP, and P and then subtracting the mean of ipsatized HAN, LAN, and N for both ideal and actual affect. The regression model indicated that there were significant cultural differences in ideal POS vs. NEG when controlling for actual POS vs. NEG ($Wald \chi^2(2) = 94.73, p < .001$). Planned comparisons revealed that East Asian Americans and European Americans valued positive vs. negative more than did East Asians but did not differ from each other (see Figure 7 and Table 10).

Actual POS vs. NEG

We also observed significant cultural differences in ipsatized actual POS vs. NEG scores when controlling for ipsatized ideal POS vs. NEG ($Wald \chi^2(2) = 8.60, p = .014$). European Americans felt positive (vs. negative) more than did East Asians, while East Asian Americans did not significantly differ from the other groups.

The differences in actual affect were smaller in magnitude than those in ideal affect (mean effect size for actual POS vs. NEG = 0.09, $SD = 0.04$, ranging from 0.05 to 0.13; mean effect size for ideal POS vs. NEG = 0.31, $SD = 0.24$, ranging from 0.03 to 0.48), again supporting the second premise of AVT that cultural differences in ideal affect are greater than cultural differences in actual affect.

Figure 7*Ipsatized Ideal (left) and Actual (right) POS vs. NEG by Cultural Group*

Note. Means of ipsatized ideal affect control for ipsatized actual affect (left) and means of ipsatized actual affect control for ipsatized ideal affect (right). Error bars reflect 95% confidence intervals. Groups with different letters (a, b) indicate significant differences at $p < .05$. *ns* for each cultural group are listed in the legend. POS vs. NEG = the mean of high arousal positive, low arousal positive, and positive aggregates minus the mean of high arousal negative, low arousal negative, and negative aggregates.

Table 10*Means and Pairwise Comparisons for Ipsatized Ideal and Actual POS vs. NEG by Cultural Group*

Affect (Ipsatized)	Cultural Group	European American	East Asian American	East Asian
Ideal POS vs. NEG				
	European American	1.83 [1.81, 1.86]	-0.01 ($d = 0.03$)	-0.24 ($d = 0.48$)***
	East Asian American		1.82 [1.77, 1.86]	-0.23 ($d = 0.42$)***
	East Asian			1.59 [1.54, 1.64]
Actual POS vs. NEG				
	European American	0.72 [0.64, 0.79]	-0.08 ($d = 0.08$)	-0.13 ($d = 0.13$)**
	East Asian American		0.64 [0.53, 0.75]	-0.05 ($d = 0.05$)
	East Asian			0.59 [0.52, 0.66]

Note. Means and 95% confidence intervals are reported in diagonal cells. Pairwise comparisons are reported with effect sizes in off-diagonal cells. POS vs. NEG = the mean of high arousal positive, low arousal positive, and positive aggregates minus the mean of high arousal negative, low arousal negative, and negative aggregates.

*** $p < .001$. ** $p < .01$.

Importantly, the cultural differences described above held after controlling for year of data collection, age, and gender (see Supplementary Materials, Section 10).

Aim 2c: Do these premises hold across research team, participant population, and publication status?

Next, we examined whether the first two premises of AVT varied by research team (Tsai team vs. non-Tsai team), participant population (university vs. community), or publication status (published vs. unpublished).

Actual vs. ideal affect

As reported in Supplementary Materials, Sections 19-21, the correlations, CFAs, and differences in means of actual and ideal affect did not vary by research team, participant population, or publication status.

Cultural differences in ideal affect

For each moderator (research team, participant population, publication status), we separately examined whether a model regressing each ipsatized ideal affect variable (HAP, LAP, HAN, LAN, and POS vs. NEG) on the interactions of Cultural Group (European American, East Asian American, East Asian) $\times$ Moderator fit the data better than the regression model without the interaction terms. Regression models controlled for ipsatized actual affect.

As shown in Table 11, the Cultural Group $\times$ Moderator interactions differed depending on the type of ideal affect. For ideal HAP, the interaction was significant for participant population only. For ideal LAP, the interaction was significant for research team only. For ideal HAN, the interaction was significant for research team and participant population. For ideal LAN, the interaction was significant for research team and publication status. For ideal POS vs. NEG, the interaction was significant for publication status only. To break down these interactions, we performed subgroup analyses on the cultural differences (using the same regression model) for each moderator.

Table 11*Interactions Between Moderator and Cultural Group on Ipsatized Ideal Affect*

Moderator	Ideal Affect (Ipsatized)	Wald $\chi^2(2)$	<i>p</i>
Research Team			
	Ideal HAP	0.46	.793
	Ideal LAP	6.29	.043
	Ideal LAN	11.49	.003
	Ideal HAN	10.30	.006
	Ideal POS vs. NEG	3.47	.176
Participant Population			
	Ideal HAP	9.77	.008
	Ideal LAP	2.51	.285
	Ideal LAN	4.67	.097
	Ideal HAN	10.03	.007
	Ideal POS vs. NEG	4.60	.100
Publication Status			
	Ideal HAP	1.11	.575
	Ideal LAP	1.90	.387
	Ideal LAN	11.51	.003
	Ideal HAN	0.66	.720
	Ideal POS vs. NEG	6.03	.049

Note. HAP = high arousal positive; LAP = low arousal positive; LAN = low arousal negative; HAN = high arousal negative; POS vs. NEG = high arousal positive, low arousal positive, and positive minus high arousal negative, low arousal negative, and negative.

European Americans vs. East Asians. The differences between European Americans and East Asians in ipsatized ideal HAP, ideal HAN, ideal LAN, and ideal POS vs. NEG held across research team, participant population, and publication status (see Supplementary Materials, Sections 19-21). Only the cultural difference in ideal LAP varied by research team: in studies conducted by the Tsai team, European Americans and East Asians did *not* differ in their ideal LAP, whereas in studies conducted by non-Tsai teams, European Americans valued LAP *more* than East Asians. Importantly, these patterns differed from Tsai et al. (2006) in which East Asians valued LAP more than European Americans, suggesting a change in ideal LAP among European Americans over time.

East Asian Americans vs. European Americans and East Asians. The findings for East Asian American ideal affect, however, varied by research team, participant population, *and* publication status and were the primary reason for the significant interactions reported above (see Supplementary Materials, Sections 19-21). In the studies conducted by the Tsai team, with university student samples, and that were published, East Asian Americans largely resembled their European American peers in their ideal affect. For the studies conducted by non-Tsai teams, with community samples, and that were unpublished, the pattern of results was more mixed. Depending on the ideal affect type, East Asian Americans either resembled their European American peers, resembled their East Asian peers, or fell in between the other two groups, and in the unpublished datasets, East Asian Americans mostly did *not* significantly differ from the other cultural groups in their ideal affect. These discrepancies likely reflect the tremendous heterogeneity among East Asian Americans in their orientation to U.S. and East Asian cultures.

In summary, previously documented European American-East Asian differences in ideal HAP, ideal LAN and HAN, and ideal POS vs. NEG endured in this larger data set. These findings held after considering potential moderators including research team, participant population, and publication status. There was one exception: whereas in Tsai et al. (2006), East Asians and East Asian Americans valued LAP more than European Americans, in this combined data file, European Americans valued LAP more than East Asians, suggesting that European Americans' ideal LAP has increased over time, which we directly tested next. Unlike European Americans and East Asians, East Asian American ideal affect significantly varied by moderator, likely due to the cultural heterogeneity of this group.

Aim 3a: Has Ideal LAP Changed Over Time for European Americans?

We had predicted that ideal LAP would be positively associated with year of data collection for European Americans. To examine the association between year of data collection and ideal affect, and whether this varied by cultural group, for each type of ideal affect, we examined whether a regression model containing the Cultural Group (European American, East Asian American, East Asian) $\times$ Year of Data Collection interaction terms fit the data better than the regression model without the interaction

terms. We used raw ideal affect since these were correlational analyses with continuous variables. Both regression models controlled for raw actual affect.

We compared the two models described above and observed that the model with the Cultural Group $\times$ Year of Data Collection interaction terms provided a better fit than the model without the interaction terms for raw ideal LAP, although the test did not achieve conventional significance (*Wald* $\chi^2(2) = 5.87, p = .053$). Because we had specific predictions about the association between raw ideal LAP and year of data collection, we further examined the slopes for each cultural group. As predicted, raw ideal LAP increased with year of data collection for European Americans ($b = 0.009, 95\% \text{ CI} = [0.001, 0.017], p = .035$). The association between raw ideal LAP and year of data collection was not significant for the other two cultural groups (see Table 12).

The model with the Cultural Group $\times$ Year of Data Collection interaction terms did *not* provide a significantly better fit for raw ideal HAP (*Wald* $\chi^2(2) = 1.59, p = .451$), raw ideal LAN (*Wald* $\chi^2(2) = 0.23, p = .890$), or raw ideal HAN (*Wald* $\chi^2(2) = 0.07, p = .965$). Moreover, slopes from the reduced model without the interaction terms indicated that raw ideal HAP, ideal LAN, and ideal HAN did *not* significantly change over time for the three cultural groups (ideal HAP: $b = 0.00001, 95\% \text{ CI} = [-0.006, 0.006], z = 0.003, p = .998$; ideal LAN: $b = 0.001, 95\% \text{ CI} = [-0.006, 0.009], z = 0.39, p = .697$; ideal HAN: $b = -0.001, 95\% \text{ CI} = [-0.005, 0.004], z = -0.26, p = .794$).

We also performed similar model comparisons for raw actual affect (HAP, LAP, HAN, and LAN; see Supplementary Materials, Section 12). We predicted that we would observe patterns similar to those documented in previous work (e.g., DeWall et al., 2011; Helliwell et al., 2022; Twenge et al., 2016), and as summarized in Supplementary Materials, Section 17, we largely did. Across cultural groups, participants reported feeling more low arousal negative states over time. Culture-specific associations also emerged: for instance, actual HAP and LAP decreased and actual HAN increased over time for European Americans only. Indeed, this may be related to the increase in ideal LAP for European Americans: European Americans increasingly feel more negative, which makes them want to feel more calm and other LAP states more.

In sum, as predicted, ideal LAP increased over time for European Americans. In contrast, for East Asian Americans and East Asians, there were no significant changes in ideal LAP over time. Moreover, across the cultural groups, there were *no* changes in ideal HAP, ideal LAN, or ideal HAN, suggesting that except for ideal LAP for European Americans, levels of ideal affect remained largely stable over time.

Table 12*Associations Between Year of Data Collection and Raw Ideal Affect by Cultural Group*

Ideal Affect (Raw)	European American				East Asian American				East Asian			
	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>N</i>
HAP ^a	0.001 [-0.007, 0.008]	0.18	.856	6657	-0.006 [-0.017, 0.005]	-1.04	.299	1423	0.001 [-0.010, 0.012]	0.16	.874	4719
LAP	0.009 [0.001, 0.017]	2.11	.035	6990	-0.005 [-0.017, 0.006]	-0.88	.378	1523	0.004 [-0.006, 0.014]	0.77	.439	4621
LAN ^a	0.003 [-0.003, 0.008]	0.86	.387	7054	0.002 [-0.011, 0.014]	0.27	.784	1524	-0.001 [-0.016, 0.014]	-0.14	.889	4733
HAN ^a	-0.001 [-0.006, 0.005]	-0.20	.840	7111	0.0002 [-0.008, 0.009]	0.04	.970	1525	-0.001 [-0.007, 0.005]	-0.32	.745	4937

Note. Betas represent the slope of Year of Data Collection for each cultural group, derived from the Culture $\times$ Year of Data Collection model predicting raw ideal affect, controlling for raw actual affect. *b* = *beta*; CI = confidence interval. HAP = high arousal positive; LAP = low arousal positive; LAN = low arousal negative; HAN = high arousal negative.

^a Interaction was not significant. Refer to the main text (“Aim #3a: Changes in Ideal LAP Among European Americans”) for the slopes of the model with no interaction for the indicated type.

Aim 3b: Are There Differences in Ideal HAP Among Specific East Asian Subgroups?

To examine whether there were East Asian subgroup differences in ideal HAP and LAP, we fit two models regressing ipsatized ideal HAP and LAP on East Asian subgroup (Chinese, Taiwanese, Japanese, South Korean), controlling for ipsatized actual HAP and LAP, respectively. Significant main effects emerged for ipsatized ideal HAP ($Wald \chi^2(3) = 236.34, p < .001$) and ideal LAP ($Wald \chi^2(3) = 19.80, p < .001$).

As predicted, South Korean participants valued HAP significantly more than Japanese and Chinese did, but they did not differ from Taiwanese, as shown in Figure 8 and Table 13. Japanese valued HAP the least. Although South Koreans also had the lowest levels of ideal LAP, they did not significantly differ from the other groups likely because of their large within-group variance. Instead, both Japanese and Taiwanese participants valued LAP more than Chinese participants.

Next, to examine whether there were differences in actual HAP and LAP among Chinese, Taiwanese, Japanese, and South Koreans, we fit two models regressing ipsatized actual HAP and LAP on East Asian subgroup (Chinese, Taiwanese, Japanese, South Korean), controlling for ipsatized ideal HAP and LAP, respectively. Significant main effects emerged for actual HAP ($Wald \chi^2(3) = 73.16, p < .001$) and actual LAP ($Wald \chi^2(3) = 13.42, p = .004$). Both Taiwanese and Chinese participants felt more HAP than Japanese participants, but South Korean participants did not significantly differ from the other groups. South Korean participants felt less LAP than all the other East Asian subgroups.

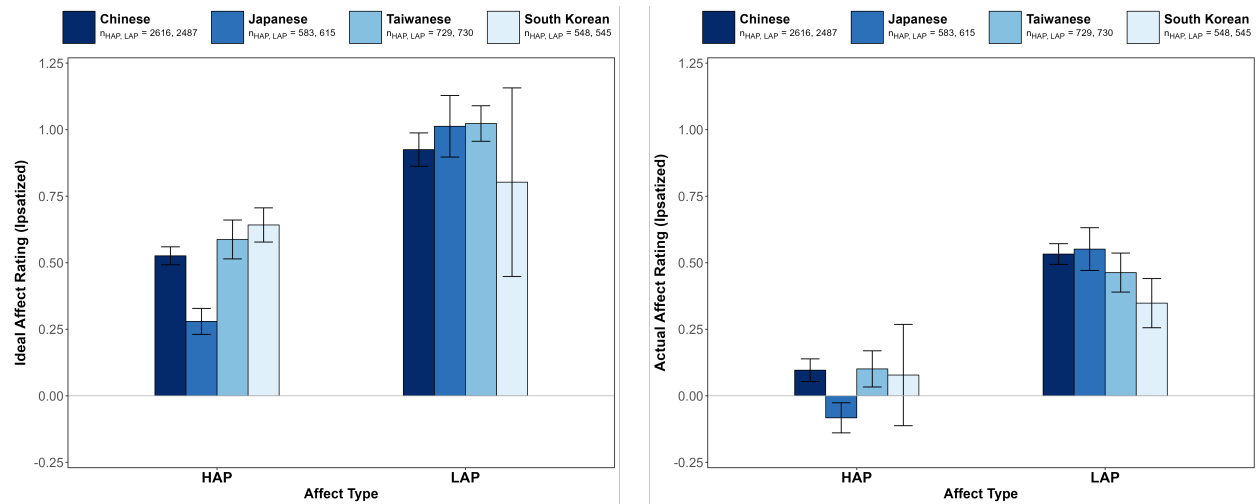
The overall magnitude of the differences in ideal affect were greater than those in actual affect (mean effect size for ipsatized ideal HAP and LAP = 0.35, $SD = 0.26$, ranging from 0.02 to 0.85; mean effect size for ipsatized actual HAP and LAP = 0.17, $SD = 0.12$, ranging from 0.01 to 0.32), again supporting the second premise of AVT.

In summary, there was some variation in ideal HAP and LAP among the East Asian subgroups. South Koreans, as predicted, valued HAP the most, and Japanese valued HAP the least. Meanwhile, Taiwanese and Japanese valued LAP the most. There was also variation in actual HAP and LAP among the East Asian subgroups, but these differences were smaller in magnitude than the cultural differences in

ideal HAP and LAP. Differences among East Asian subgroups in ipsatized ideal HAN, ideal LAN, and ideal POS vs. NEG are reported in Section 11 of the Supplementary Materials.

Figure 8

Ipsatized Ideal (left) and Actual (right) HAP and LAP Among East Asian Subgroups



Note. Means of ipsatized ideal affect control for ipsatized actual affect (left) and means of ipsatized actual affect control for ipsatized ideal affect (right). Error bars reflect 95% confidence intervals. Pairwise indicators (a, b, c, d) for significantly different East Asian subgroups are not included due to the complexity of four-way comparisons; please refer to Table 13 for specific pairwise comparison tests. *ns* for each cultural group are listed in the legend in the form $n_{\text{HAP, LAP}} = n$ for HAP comparison, n for LAP comparison. HAP = high arousal positive; LAP = low arousal positive.

Table 13*Means and Pairwise Comparisons for Ipsatized Ideal and Actual HAP and LAP by East Asian Subgroup*

Affect (Ipsatized)	Cultural Group	Chinese	Japanese	Taiwanese	South Korean
Ideal HAP					
	Chinese	0.53 [0.49, 0.56]	-0.25 ($d = 0.53$)***	0.06 ($d = 0.13$)	0.12 ($d = 0.24$)***
	Japanese		0.28 [0.23, 0.33]	0.31 ($d = 0.71$)***	0.36 ($d = 0.85$)***
	Taiwanese			0.59 [0.51, 0.66]	0.05 ($d = 0.12$)
	South Korean				0.64 [0.58, 0.71]
Ideal LAP					
	Chinese	0.93 [0.86, 0.99]	0.09 ($d = 0.20$)*	0.10 ($d = 0.21$)*	-0.12 ($d = 0.26$)
	Japanese		1.01 [0.90, 1.13]	0.01 ($d = 0.02$)	-0.21 ($d = 0.50$)
	Taiwanese			1.02 [0.96, 1.09]	-0.22 ($d = 0.47$)
	South Korean				0.80 [0.45, 1.16]
Actual HAP					
	Chinese	0.10 [0.05, 0.14]	-0.18 ($d = 0.29$)***	0.005 ($d = 0.01$)	-0.02 ($d = 0.03$)
	Japanese		-0.08 [-0.14, -0.03]	0.18 ($d = 0.30$)***	0.16 ($d = 0.26$)
	Taiwanese			0.10 [0.03, 0.17]	-0.02 ($d = 0.03$)
	South Korean				0.08 [-0.11, 0.27]
Actual LAP					
	Chinese	0.53 [0.49, 0.57]	0.02 ($d = 0.03$)	-0.07 ($d = 0.11$)	-0.18 ($d = 0.29$)***
	Japanese		0.55 [0.47, 0.63]	-0.09 ($d = 0.14$)	-0.20 ($d = 0.32$)**
	Taiwanese			0.46 [0.39, 0.54]	-0.11 ($d = 0.18$)*
	South Korean				0.35 [0.26, 0.44]

Note. Means and 95% confidence intervals are reported in diagonal cells. Pairwise comparisons are reported with effect sizes in off-diagonal cells. HAP = high arousal positive; LAP = low arousal positive.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Aim 4: Is Ideal Affect Associated with SES, Age, and Gender for European Americans, East Asian Americans, and East Asians?

This combined data file also afforded us the opportunity to examine associations between different types of ideal affect and SES, age, and gender at the individual participant level. These results are summarized in Figure 9. We focused on the cultural subsample of European Americans, East Asian Americans, and East Asians because for many nations in the entire sample, there were not enough participants to allow meaningful comparison within nations. Therefore, to examine the associations of these variables with ideal affect, and whether these associations varied by cultural group, for each type of

ideal affect we examined whether a regression model containing Cultural Group (European American, East Asian American, East Asian) $\times$ SES (or Age or Gender) interaction terms fit the data better than the regression model without the interaction terms. For SES and age, we used raw ideal affect since these were correlational analyses with continuous variables. However, for gender, we used ipsatized ideal affect since these analyses involved group comparisons. The models controlled for raw and ipsatized actual affect, respectively.

Subjective SES

We predicted that higher SES would be associated with greater ideal HAP and HAN, and lesser ideal LAP and LAN across cultural groups. Analyses revealed that for all four ideal affect types, the model with the Cultural Group $\times$ SES interaction did *not* provide an improved fit (ideal HAP: $Wald \chi^2(2) = 1.01, p = .604$; ideal LAP: $Wald \chi^2(2) = 1.53, p = .465$; ideal LAN: $Wald \chi^2(2) = 3.48, p = .175$; and ideal HAN: $Wald \chi^2(2) = 1.20, p = .548$), indicating that there were no cultural differences in the associations between subjective SES and ideal affect. Regressions from the reduced model revealed that as predicted, higher SES was associated with lesser ideal LAP ($b = -0.037, 95\% \text{ CI} = [-0.062, -0.011], z = -2.83, p = .005$) and greater ideal HAN ($b = 0.025, 95\% \text{ CI} = [0.010, 0.040], z = 3.19, p = .001$). Contrary to prediction, higher SES was *not* associated with ideal HAP and was associated with *greater* ideal LAN (ideal HAP: $b = -0.001, 95\% \text{ CI} = [-0.024, 0.021], z = -0.09, p = .925$; ideal LAN: $b = 0.020, 95\% \text{ CI} = [0.004, 0.036], z = 2.43, p = .015$).

In sum, across cultures, higher SES was associated with lesser ideal LAP and greater ideal HAN and ideal LAN (see Supplementary Materials, Section 14 for results for all affective octants, slopes by cultural group, and pairwise comparison of slopes).

Age

We predicted that the associations between age and ideal affect would vary across cultural groups, but given the mixed nature of previous findings, we did not make specific predictions about the direction of the associations. As predicted, the model with the Cultural Group $\times$ Age interaction terms provided a significantly better fit than the model without the interaction terms for ideal LAP ($Wald \chi^2(2)$

= 11.16, $p = .004$), ideal LAN ($Wald \chi^2(2) = 7.83, p = .020$), and ideal HAN ($Wald \chi^2(2) = 8.01, p = .018$). Further examination of the slopes by cultural group (Table 14) revealed culture-specific associations with age. While ideal LAP was not associated with age for European Americans, ideal LAP decreased with age for East Asian Americans and East Asians. Whereas ideal HAN was not associated with age for European Americans and East Asians, ideal HAN increased with age for East Asian Americans. Analyses also indicated that while ideal LAN increased with age across cultural groups, the magnitude of the increase varied by cultural group.

The regression model with the Cultural Group $\times$ Age interaction terms did *not* provide a significantly better fit for ideal HAP ($Wald \chi^2(2) = 5.45, p = .066$), with the slope from the reduced model indicating that ideal HAP decreased with age across cultural groups ($b = -0.006$, 95% CI = $[-0.007, -0.004]$, $z = -5.83, p < .001$). Thus, the older participants were, the less they wanted to feel high arousal positive states.

In sum, while there were cultural differences in the associations between age and ideal affect, across cultural groups, age was consistently associated with decreases in ideal HAP and increases in ideal LAN, although the magnitude of these increases varied by cultural group (see Supplementary Materials, Section 15 for results for all affective octants and pairwise comparison of slopes). Moreover, East Asian Americans showed the greatest change in ideal affect with age: older East Asian Americans ideally wanted to feel positive (ideal HAP and LAP) less and negative (ideal LAN and HAN) more than their younger counterparts.

Table 14*Associations Between Age and Raw Ideal Affect by Cultural Group*

Ideal Affect (Raw)	European Americans				East Asian Americans				East Asians			
	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>
HAP ^a	-0.005 [-0.007, -0.002]	-3.42	< .001	6439	-0.012 [-0.017, -0.006]	-3.84	< .001	1367	-0.005 [-0.007, -0.003]	-4.59	< .001	4627
LAP	0.001 [-0.001, 0.002]	0.54	.587	6764	-0.009 [-0.015, -0.002]	-2.61	.009	1469	-0.003 [-0.005, -0.0003]	-2.22	.027	4529
LAN	0.004 [0.002, 0.006]	4.00	< .001	6846	0.010 [0.005, 0.014]	4.43	< .001	1468	0.004 [0.0004, 0.008]	2.15	.031	4642
HAN	0.001 [-0.001, 0.002]	0.89	.374	6901	0.004 [0.002, 0.007]	3.06	.002	1470	-0.001 [-0.003, 0.001]	-0.72	.474	4842

Note. Betas represent the slope of Age for each cultural group, derived from the Cultural Group $\times$ Age model predicting raw ideal affect, controlling for raw actual affect. *b* = beta; CI = confidence interval; HAP = high arousal positive; LAP = low arousal positive; LAN = low arousal negative; HAN = high arousal negative.

^a Interaction was not significant. Refer to the main text (“Age of Participants”) for the slopes of the model with no interaction for the indicated type.

Gender

We had predicted that females would report wanting to feel LAP and LAN more and HAP and HAN less than males across cultures. For ipsatized ideal LAP and ideal LAN, the model with the Cultural Group $\times$ Gender interaction terms did not provide a significantly better fit (ideal LAP: $Wald \chi^2(2) = 0.93$, $p = .628$; ideal LAN: $Wald \chi^2(2) = 2.39$, $p = .303$). As predicted, females (coded as 0) ideally wanted to feel more LAP than males (coded as 1) across cultural groups (slope from reduced model without interaction terms: $b = -0.063$, 95% CI = $[-0.084, -0.043]$, $z = -6.08$, $p < .001$). Contrary to prediction, males ideally wanted to feel more LAN than females (slope from reduced model without interaction terms: $b = 0.028$, 95% CI = $[0.005, 0.050]$, $z = 2.43$, $p = .015$).

Analyses also revealed that the model with the interaction terms did *not* provide a better fit for ipsatized ideal HAN ($Wald \chi^2(2) = 0.26$, $p = .878$). Across cultural groups, as predicted, males ideally wanted to feel more HAN than females (slope from reduced model: $b = 0.043$, 95% CI = $[0.025, 0.060]$, $z = 4.74$, $p < .001$). The model with the interaction terms, however, was a significantly better fit for ideal HAP ($Wald \chi^2(2) = 12.15$, $p = .002$). Consistent with predictions, East Asian American females valued HAP less than East Asian American males. Contrary to predictions, for European Americans, there were no gender differences in ideal HAP, and East Asian females valued HAP more than East Asian males (see Table 15).

In summary, as predicted, females ideally wanted to feel more LAP and less HAN than males, but contrary to prediction, females wanted to feel less LAN than males. Gender differences in ideal HAP varied across cultures, with European Americans showing no gender differences, but East Asians and East Asian Americans showing gender differences in opposite directions (See Supplementary Materials, Section 16 for results for all affective octants).

Figure 9 summarizes the associations between ideal affect and year of data collection, SES, age, and gender by cultural group.

We also performed similar model comparisons for actual affect (HAP, LAP, HAN, and LAN), but to conserve space, these results are reported in Supplementary Materials, Sections 14-16). We predicted that we would observe patterns that were similar to those already documented in the literature, and as summarized in Supplementary Materials, Section 17, we largely did. Across cultural groups: (1) higher SES was associated with greater low and high arousal actual positive affect and lesser low arousal negative actual affect, (2) older adults reported feeling greater low arousal positive affect and lesser low and high arousal negative affect than younger adults, and (3) females reported lesser low arousal positive and greater low arousal negative affect compared to men.

Table 15*Associations Between Gender and Ipsatized Ideal Affect by Cultural Group*

Ideal Affect (Ipsatized)	European Americans				East Asian Americans				East Asians			
	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>	<i>b</i> [95% CI]	<i>z</i>	<i>p</i>	<i>n</i>
HAP	-0.015 [-0.039, 0.010]	-1.15	.252	6390	0.034 [0.005, 0.062]	2.28	.023	1320	-0.033 [-0.060, -0.006]	-2.42	.015	4644
LAP ^a	-0.061 [-0.084, -0.037]	-5.08	< .001	6554	-0.080 [-0.114, -0.047]	-4.70	< .001	1329	-0.062 [-0.107, -0.017]	-2.70	.007	4545
LAN ^a	0.013 [-0.013, 0.038]	0.98	.325	6708	0.009 [-0.029, 0.047]	0.45	.655	1327	0.054 [0.003, 0.105]	2.08	.038	4687
HAN ^a	0.041 [0.018, 0.064]	3.48	< .001	6716	0.050 [0.023, 0.076]	3.71	< .001	1331	0.043 [0.004, 0.082]	2.15	.031	4681

Note. Betas represent the difference score between genders (males minus females) for each cultural group, derived from the Cultural Group × Gender model predicting ipsatized ideal affect, controlling for ipsatized actual affect. *b* = beta; CI = confidence interval; HAP = high arousal positive; LAP = low arousal positive; LAN = low arousal negative; HAN = high arousal negative.

^a Interaction was not significant. Refer to the main text (“Gender”) for the slopes of the model with no interaction for the indicated type.

Figure 9

Summary of Associations Between Ideal Affect and Year of Data Collection, SES, Age, and Gender by Cultural Group

Legend + significant* positive correlation – significant* negative correlation <i>ns</i> not significant		European American	East Asian American	East Asian
Year of Data Collection	Ideal HAP	<i>ns</i>		
	Ideal LAP	+	<i>ns</i>	<i>ns</i>
	Ideal LAN	<i>ns</i>		
	Ideal HAN	<i>ns</i>		
SES	Ideal HAP	<i>ns</i>		
	Ideal LAP	–		
	Ideal LAN	+		
	Ideal HAN	+		
Age	Ideal HAP	–		
	Ideal LAP	<i>ns</i>	–	–
	Ideal LAN	+	+	+
	Ideal HAN	<i>ns</i>	+	<i>ns</i>
Gender (gender with higher scores shown)	Ideal HAP	<i>ns</i>	M	F
	Ideal LAP	F		
	Ideal LAN	M		
	Ideal HAN	M		

Note. For cells that are merged across the three cultural groups, the models containing the interaction terms were not a significantly better fit than the models without the interaction terms, and therefore, we collapsed across cultural groups for our analyses of these types (see text). SES = socioeconomic status; HAP= High arousal positive, LAP =Low arousal positive, LAN = Low arousal negative, HAN = High arousal negative.

* $p < .05$.

Discussion

In “Cultural variation in affect valuation,” we conducted our first study of ideal affect to test two premises of Affect Valuation Theory: (1) how people actually feel (their actual affect) differs from how they ideally want to feel (their ideal affect), and (2) cultural factors shape ideal affect more than actual affect (Tsai, Knutson, & Fung, 2006). To do this, we developed the Affect Valuation Index (AVI), which asks respondents to indicate how much they actually feel different states on average (actual affect) and how much they would ideally like to feel those same states on average (ideal affect). Since then, the AVI has been administered to thousands of participants across the globe. In this report, we had four aims: (1) to assess the reliability of the AVI, especially given prior low values for ideal high arousal negative states (ideal HAN), (2) to review evidence for these two premises of AVT using ideal affect data collected by multiple teams across two decades of research, (3) to answer questions about cultural differences in ideal affect that have emerged since Tsai et al. (2006), and (4) to examine associations between ideal affect and SES, age, and gender, which have received relatively little attention in the empirical literature.

Aim 1: The Affect Valuation Index (AVI) remains a reliable measure of ideal affect, including ideal HAN.

Our analyses revealed that the AVI is an internally consistent measure of actual and ideal affect. Cronbach’s alphas ranged from .67 to .83 for actual affect, and from .63 to .83 for ideal affect in the entire sample (Table 5), and between .63 to .83 for actual affect and between .61 to .84 for ideal affect in the subsample of European Americans, East Asian Americans, and East Asians (Supplementary Materials, Section 5). These values are as high as, and for ideal HAN even higher than, those originally reported by Tsai et al. (2006). Moreover, these findings held regardless of research team (Tsai team and non-Tsai team, participant population (university student and community), and publication status (published and unpublished) (Supplementary Materials, Sections 19-21). Although Tsai et al. (2006) reported test-retest reliability, discriminant validity, and convergent validity for their specific samples, more research is needed to provide similar psychometric data for other samples. Despite this, our findings suggest that the AVI continues to be a reliable way of assessing actual and ideal affect.

Aim 2: Consistent with AVT, actual affect and ideal affect are distinct constructs, and cultural differences in ideal affect are greater than cultural differences in actual affect.

Like Tsai et al. (2006), we assessed the distinction between actual and ideal affect. Because most prior research had focused on actual affect, or conflated actual with ideal affect, we (Tsai et al., 2006) wanted to show that ideal affect was distinct from actual affect. We did so in three ways: (1) by showing that the two were weakly to moderately correlated with each other; (2) by comparing the fit of one-factor models that treated actual and ideal affect as the same against two-factor models that treated them as distinct; and (3) by comparing the means of actual and ideal affect. In this combined data file, for both the entire sample (Table 5, Table 6, Figure 3) and the subsample of European Americans, East Asian Americans, and East Asians (Supplementary Materials, Sections 5-6), all three types of analyses revealed that actual affect and ideal affect are distinct constructs. These findings held regardless of research team, participant population, and publication status.

We originally distinguished actual affect from ideal affect because we predicted that cultural factors would shape ideal affect more than actual affect. We found consistent support for this prediction in the present meta-analysis. Consistent with Tsai et al. (2006), European Americans valued excitement and other high arousal positive states (HAP) more than East Asian Americans, and both groups valued HAP more than East Asians (Figure 5 and Table 8). Consistent with other findings (e.g., Tsai & Clobert, 2019; Sims et al., 2015), European Americans and East Asian Americans also valued LAN and HAN *less* than East Asians (Figure 6 and Table 9), and consistent with Sims et al. (2015) and work by Miyamoto and colleagues (Choi et al., in press; Miyamoto, Ma, & Petermann, 2014; Miyamoto, Ma, & Wilken, 2017; Yoo et al., 2022), European Americans and East Asian Americans wanted to maximize positivity and minimize negativity more than East Asians (Figure 7 and Table 10). These findings held when we controlled for year of data collection, SES, age and gender. Moreover, most of these differences—especially between European Americans and East Asians—held regardless of research team, participant population, and publication status, suggesting that most cultural differences in ideal affect are robust and enduring.

Although we also found cultural differences in actual affect, these differences were fewer in number and smaller in effect size than the differences in ideal affect, supporting the premise that cultural factors shape ideal affect more than actual affect. We did not assess the premise that temperamental factors shape actual more than ideal affect because only a few studies have tested this prediction (Tsai et al., 2006), but this is an important direction for future research.

Aim 3: European Americans value LAP more over time, and South Koreans value HAP more than Chinese and Japanese

This meta-analysis also revealed some change in ideal affect. Contrary to Tsai et al. (2006), in the present meta-analysis, European Americans valued LAP *more* than East Asians (Figure 5 and Table 8). This was particularly true for the studies that were not conducted by the Tsai team (Supplementary Materials, Section 19, Figure S19b and Table S19g). An informal comparison of the means suggested that this was driven by increases in European American ideal LAP, perhaps due to particularly stressful events that have occurred in the United States since 2001-2002, when the first ideal affect data were collected, including the 9/11 attacks, financial crises, gun violence, political polarization, and the spread of negative affect on social media (e.g., Knutson et al., 2024). Indeed, people's actual negative affect has increased, while their actual positive affect has decreased over time (e.g., DeWall et al., 2011; see Supplementary Materials, Section 12). This interpretation was supported by the present results, which showed that year of data collection was positively associated with ideal LAP for European Americans but *not* the other two cultural groups (Table 12). It is also possible that over the last two decades, European Americans have had greater exposure to meditation and other practices that have increased their valuation of LAP (Davies et al., 2024). Importantly, there were no significant associations with year of data collection for any of the other types of ideal affect. With the exception of ideal LAP for European Americans, most types of ideal affect have remained fairly stable over time for European Americans, East Asian Americans, and East Asians.

Future research is needed to examine whether and how these observed increases in the self-reported valuation of LAP among European Americans translate into behavior. For instance, in Cachia et

al. (2024a) and Blevins et al. (2023), when playing behavioral economic games based on the Trust Game, East Asians invested in calm more than excited or neutral targets, which is consistent with their greater valuation of LAP over HAP. In contrast, even though European Americans reported valuing LAP more than HAP, they gave *equally* to excited and calm targets relative to neutral ones. These findings suggest that increases in ideal LAP among European Americans may not affect their behavioral preferences in the same way they do for East Asians. This may be because although European Americans value LAP, excitement and other high arousal positive emotions continue to pervade U.S. media, including children's storybooks and leaders' official website photos (Tsai, Louie et al., 2007; Tsai et al., 2016).

For the first time, we were also able to examine whether there were significant differences among various East Asian subgroups (Figure 8 and Table 13). As predicted, South Koreans valued HAP more than Chinese and Japanese. Although mean levels of ideal LAP were lowest for South Koreans, they were not significantly different from the other East Asian subgroups, likely because the within-group variance for South Koreans was high. These findings reflect the variation that exists among East Asian cultures. Future studies should examine the behavioral consequences of these differences as well as their sources, such as the greater popularity of Christianity in South Korea, which has been associated with higher ideal HAP (Tsai, Miao, & Seppala, 2007).

Aim 4: Ideal Affect Is Associated with SES, Age, and Gender of Participant

As shown in Figure 9, among European Americans, East Asian Americans, and East Asians, consistent patterns emerged in terms of the associations between ideal affect and SES, age, and gender. There are likely multiple explanations for these associations, none of which we were able to test directly in this report. Below we discuss the findings in terms of our predictions as well as in the context of actual affect (Supplementary Materials, Sections 14-16).

Subjective SES

As predicted, lower SES was associated with greater ideal LAP. We had predicted that because people living in lower SES contexts have more interdependent models of self (e.g., Snibbe et al., 2005; Stephens et al., 2007), they may value adjustment more, and because valuing adjustment is associated

with valuing LAP (Tsai, Miao, Seppala, et al., 2007), people living in lower SES contexts might value LAP more. Another possible explanation, of course, is that people in lower SES contexts value LAP more because they experience more fatigue and stress from work and resource scarcity. In line with this argument, lower SES was associated with greater actual LAN (tired, dull, sluggish) across cultural groups. In addition, lower SES was associated with greater actual HAN for European Americans (Supplementary Materials, Section 14).

Also as predicted, higher SES was associated with increased valuation of HAN across cultural groups. These results are consistent with previous research demonstrating that individual agency and influence increase with wealth (e.g., Snibbe et al., 2005), and that anger, a highly arousing negative state, reinforces individual agency and influence (Boiger et al., 2013; Mesquita & Schouten, 2022). Another possible explanation is that people of higher SES may be more informed about the importance of experiencing negative emotions, which may explain why they valued LAN more than people of lower SES as well. Contrary to prediction, though, higher SES was *not* significantly associated with ideal HAP, despite links between SES and individualism, individualism and influence goals, and influence goals and ideal HAP (Tsai et al., 2007). This result was somewhat surprising and may be due to limited SES variability in our sample.

Age

Older adults valued HAP less than younger adults across the cultural groups, perhaps because they value influence less, have greater difficulty regulating or attaining high arousal states, and/or find high arousal states more taxing than younger adults (Charles, 2010; Scheibe et al., 2013). Interestingly, we did not find this association among the European Americans in Tsai et al. (2018); instead, European American older adults in that study valued HAP *as much as* their younger peers perhaps because the older adults were a particularly healthy sample. The discrepancy in findings from this meta-analysis and our previous work (Scheibe et al., 2013) reveals the importance of examining these associations in more diverse samples.

In this meta-analysis, older adults also valued LAN more, perhaps because they value adjustment more, or perhaps because age was associated with decreases in actual LAN. Because these data were not longitudinal, it is also possible that these associations reflect cohort differences: today's younger adults are more anxious and stressed than younger adults were decades ago (Twenge, 2023), and our data reveal this pattern as well (see Supplementary Materials, Section 15). As a result, today's cohort of younger adults may value HAP more and LAN less than earlier cohorts.

Gender

As for gender differences, we predicted that because females value adjustment more and influence less than males, females would value LAP and LAN more and value HAN and HAP less than males. As predicted, females valued LAP more and HAN less than males (Cross & Madson, 1997; Gabriel & Gardener, 1999, Yang & Girgus, 2019). Contrary to predictions, however, females valued LAN *less* than males, perhaps because they actually felt more LAN than males (see. Supplementary Materials, Section 16). Gender differences in actual affect have been attributed to a variety of societal and physiological factors, which may also influence ideal affect. Future research is needed to test these possible links more directly.

Notably, most of our predictions about the associations between SES, age, and gender and ideal LAN were not supported, suggesting that ideal LAN may not be as strongly associated with adjustment goals as ideal LAP. There were also cultural differences in the associations of SES, age, gender, and year of data collection with ideal affect. Future studies are clearly needed to examine how robust these interactions are, and to test specific hypotheses about why they might occur. Nonetheless, these results reveal intriguing associations with ideal affect, some documented for the very first time.

Limitations and Future Directions

This meta-analysis has several limitations that could be addressed in future research. First, our meta-analysis did *not* include studies that assessed momentary ideal affect, preferences for single discrete emotions, or situation-specific emotion and emotion regulation goals (e.g., Tamir, 2021). Although it would be important to examine whether the premises of AVT hold for these related constructs as well, we

could not do so in the current study. Future studies should also examine the relationship between global ideal affect and more situation-specific emotion goals, linking AVT with theories of motivated emotion regulation (Tamir, 2021) to understand cultural differences in emotion regulation (e.g., Ma, Tamir, & Miyamoto, 2018; Soto et al., 2011; Zhu et al., 2023). Future studies could also examine how ideal affect relates to or interacts with other ‘meta-aspects’ or evaluations of emotion (see Lee et al., 2022, for work along these lines).

Second, our search ended in early 2023, which means that studies published afterwards were not included in this meta-analysis. There were also 27 datasets that we did not include either because the data were not available or because the authors did not join this meta-analysis. We do not know whether the patterns observed here hold in those data sets, although the fact that our findings held across published and unpublished datasets suggests that they might. Moreover, by conducting an IPD meta-analysis, we combined datasets that included ideal affect data for a variety of purposes that often did not overlap with the purposes of this meta-analysis. In other words, the present work is a meta-analysis of “non-headline” results, which are less susceptible to publication bias (Mathur & VanderWeele, 2020).

Third, because we included data from many different research teams who were interested in a variety of research questions, there was significant variation in how researchers recruited their samples, in the cultural criteria they used when recruiting participants in their studies, in the demographics they measured, and in the specific affect items they included. Although this variability allowed us to examine associations that we otherwise would not have been able to examine, it also meant that we had to exclude several datasets and data points. Because not all studies had all variables that we were interested in, we often could not control for other factors when assessing the effects of one specific factor on ideal affect without reducing the sample size considerably. In an ideal world, we would have had the same variables in all the datasets to allow more complete and controlled comparisons.

Fourth, there was significant diversity in how researchers measured the cultural orientation of their samples, in part because researchers differed in their focus on cultural variation. While some researchers merely collected information about the geographic location of their sample (“in the United

States”), others collected ethnic group membership (“White American”). Still others had specific criteria related to culture (“born and raised to European American parents”) that participants had to meet to be part of the study. Thus, it was very difficult to know which groups to combine and compare when examining whether cultural similarities or differences replicated across studies and time. This is likely why East Asian Americans varied so much across studies. Indeed, one would not expect that 2nd and 5th generation Chinese Americans would report the same ideal affect. We tried to include as many cultural codes as possible in our cultural groups, but this likely introduced greater cultural heterogeneity in each group. Moving forward, researchers might agree on a standard battery of items that would provide a more comprehensive and consistent assessment of participants’ cultural orientations across studies.

Fifth, the data were correlational and cross-sectional, and therefore, we cannot make any claims about causality or within-person change. Clearly, future experimental and longitudinal studies are needed for this purpose.

Sixth, European Americans, East Asian Americans, and East Asians were the most well-represented in the combined data file, and much more research is needed that samples other parts of the world. Although some studies have recruited samples from Latin America and Africa (e.g., Salvador et al., 2020; Senft et al., 2021; Tamir et al., 2016), much more of this research is needed, not only on self-reported ideal affect, but also on how ideal affect is reflected in and reinforced by the “culture cycle,” or the institutions, products, and practices of these contexts (Markus & Conner, 2014; Markus & Kitayama, 2010). In addition, more work is needed to examine the diversity *within* cultures (e.g., Talhelm et al., 2014). In the present study, we did not compare the means for nations with a few hundred participants or less; however, we are currently collecting data in other parts of Asia (e.g., India) and different countries in the Middle East (e.g., Turkey and Jordan). Other researchers have also broadened their examinations to include the valuation of other emotional states that may be more relevant to other cultural and religious contexts (e.g., Parker et al., 2017; Tamir et al., 2016), and more work is clearly needed along these lines.

Seventh, like all self-report measures, the AVI has its limitations. Reporting on one’s ideal affect requires people to be aware of their ideal states and of their emotions, which some individuals may not be.

To address this limitation, we and other researchers have asked participants to choose between pairs of exciting and calm smiles, consumer projects, pictures, and music (e.g., Millgram et al., 2015; Mizrahi Lakan et al., 2022; Tamir et al., 2008; Tsai, Louie et al., 2007; Tsai, Miao, Seppala et al., 2007; Tsai et al., 2015). Nonetheless, more research is needed to examine the links between self-reports and behavioral expressions of ideal affect. Whereas valuing LAP translated into greater preference for calm vs. excited targets and objects for East Asians, in recent studies, this has not been true for European Americans, despite their increasing self-reports of ideal LAP (e.g., see Cachia et al., 2024a). Similar discrepancies between self-report and behavior have been reported in Lakan et al. (2022) and Millgram et al. (2021), suggesting that more research is needed to identify when self-reports of ideal affect and related constructs like desired emotion align with behavioral preferences, when they do not, and why.

Last, but not least, this meta-analysis revealed gaps in the literature that should be filled through future research. For instance, while we were interested in examining whether our findings held for clinical samples, only a handful of researchers have examined ideal affect in clinical populations, and more studies are clearly needed in this domain. Similarly, it would be interesting to examine how discrepancies between actual and ideal affect are linked to mental health symptoms, as in Tsai et al (2006), which found that while actual-ideal discrepancies predicted depression symptoms across cultural groups, for European Americans the discrepancy between actual and ideal HAP mattered most, whereas for Hong Kong Chinese, the discrepancy between actual and ideal LAP that mattered most. For Chinese Americans, the discrepancies for both actual and ideal HAP and LAP mattered, reflecting their orientation to both cultures. Future studies should pay greater attention to the discrepancy between actuals and ideals and their implications for mental health (Tsai, 2023).

Theoretical and Empirical Contributions to Affective Science and Cultural Psychology

Despite these limitations, this meta-analysis makes several important contributions to the literature. First, it combines ideal affect data spanning two decades of research. Second, it demonstrates that the Affect Valuation Index continues to be an internally consistent measure of actual and ideal affect. Third, it provides strong empirical support for Affect Valuation Theory, one of the few existing theories

of culture and emotion, with larger and more diverse data. More specifically, this meta-analysis clearly demonstrates that actual and ideal affect are distinct constructs, and that cultural differences are more pronounced for ideal affect than actual affect. Moreover, our findings demonstrate that these patterns largely hold regardless of research team, participant population, or publication status. Fourth, the meta-analysis illustrates the largely static but also dynamic nature of cultural differences in ideal affect as well as variation among specific East Asian groups. Fifth, while our findings support the premises of AVT, they at the same time expand its scope to include other factors that have been studied to lesser degrees in the literature, including SES, gender, and age, and demonstrate both consistencies and differences in these associations across cultures. Our hope is that this meta-analysis will provide an important synthesis of the literature on ideal affect and help direct future research on ideal affect for the decades to come.

Practical Implications: Ideal Affect in Daily Life

The third premise of Affect Valuation Theory is that people consciously and unconsciously engage in behaviors to achieve their ideal affect, and therefore, cultural and individual differences in ideal affect have important consequences for almost every aspect of daily life. Although not the focus of this meta-analysis, this third premise of AVT demonstrates the importance of the other two. Indeed, many studies have shown that how people ideally want to feel—above and beyond how they actually feel—matters individually and interpersonally, and that these processes play out in a variety of real-world settings, including at companies, hospitals, governments, and schools (Bencharit et al., under review; Bencharit et al., 2019; Sims et al., 2014; Sims & Tsai, 2015; Sims et al., 2018). Recent work also suggests that ideal affect and related constructs may play a role in national and international group conflict (Hasson et al., 2018; Porat, Halperin & Tamir, 2016; Porat et al., 2019) and even national responses to existential threats such a global pandemic (Markus et al., 2024). Together, these findings show that in order to understand the meaning and significance of people's emotional experiences for their health, well-being, job performance, and other important outcomes, researchers, employers, clinicians, teachers, and policymakers must understand how people ideally want to feel (Tsai, 2023). This meta-analysis of two decades of research on ideal affect is a good place to start.

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