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Exploring the East-West Divide in Prevalence of Affective Disorder: A Case for Cultural Differences in Coping With Negative Emotion

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Abstract

Lifetime rates of clinical depression and anxiety in the West tend to be approximately 4 to 10 times greater than rates in Asia. In this review, we explore one possible reason for this cross-cultural difference, that Asian cultures *think* differently about emotion than do Western cultures and that these different systems of thought help explain why negative affect does not escalate into clinical disorder at the same rate. We review research from multiple disciplines—including cross-cultural psychology, social cognition, clinical psychology, and psychiatry—to make the case that the Eastern holistic principles of contradiction (each experience is associated with its opposite), change (the world exists in a state of constant flux), and context (the interconnectedness of all things) fundamentally shape people's experience of emotions in different cultures. We then review evidence for how these cultural differences influence how successfully people use common emotion regulation strategies such as rumination and suppression.

Keywords

analytic, culture, emotion, holistic, regulation, negative emotion, affective disorder, well-being

Epidemiological studies consistently reveal lower prevalence rates of affective disorder in people from East Asian cultures compared with those from Western cultures. Reasons for these differences have been the focus of continued debate, and they remain particularly curious given that people from East Asian cultures also tend to report higher levels of negative emotion compared with those from Western cultures. In the current article, we take this apparent paradox as a starting point, and examine reasons why negative emotion may be less strongly related to affective disorders in Eastern compared with Western cultures. Drawing from research identifying cultural differences in cognitive style (Nisbett, Peng, Choi, & Norenzayan, 2001), we suggest that systems of thought characteristic of Eastern cultures provide a foundation from which people are able to develop better skills for managing negative emotion.[1]

We first review evidence that supports the notion that there is lower prevalence of affective disorder in Eastern compared with Western cultures. Second, we review core differences in systems of thought characterizing these two cultures, and explore how these differences influence the way people understand, experience, and respond to their negative emotions. We use this analysis to develop a model aiming to partially explain, and draw lessons from, cultural differences in prevalence rates. Third, we draw on this model to develop a case study analysis of cultural differences in the success with which two well-known emotion regulation strategies—suppression and rumination—are employed across cultures. We make the case that the way people think about emotion influences the adaptiveness of their response to negative emotions, helping account for (a) the lower prevalence of affective disorder in the East, and (b) the steep rise of Eastern philosophies and principles in third-wave psychotherapies in the West.

Evidence for Cultural Differences in Affective Disorder

When completing self-report measures of depression or anxiety, such as culturally validated versions of the Beck Depression Inventory, the Zung self-rating scale, or The

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Social Phobia and Anxiety Inventory, East Asians and Asian Americans tend to report more negative affect compared with European Americans (Hymes & Akiyama, 1991; Lee, Okazaki, & Yoo, 2006; Leong, Okazaki, & Tak, 2003; Okazaki, 2000; Stewart et al., 1999; Yang, Zuo, Su, & Eaton, 1987). Self-reported life satisfaction and well-being also tend to be lower in East Asian compared with Western European nations (Wirtz, Chiu, Diener, & Oishi, 2009).

National surveys of affective disorder, however, tell a different story. These surveys, such as the World Mental Health Survey conducted by the World Health Organization, typically use one-on-one structured interviews. The World Mental Health Surveys employ the Composite International Diagnostic Interview, which is designed to accurately classify disorders based on both the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) and the International Classification of Diseases (ICD) diagnostic categories that have been validated against psychiatric diagnosis (Haro et al., 2006; Kessler & Üstün, 2004, 2008).

These studies have long shown dramatic differences in clinical rates of depression and anxiety between Eastern and Western nations, but not in the direction one might expect based on what we know from self-reported emotion and well-being (Steel et al., 2014). For example, the 12-month prevalence of social anxiety disorder in Japan was 0.5% (Kawakami et al., 2008) compared with 6.8% in the United States (Kessler, Berglund, et al., 2008). Other epidemiological studies confirm the same pattern: 12-month prevalence rates of social anxiety disorder are vastly lower in Asian cultures (<1%) compared with South America (approximately 6%-9%) and the United States (2.8%-7.9% depending on survey; see Hofmann, Asnaani, & Hinton, 2010, for a review). Lifetime prevalence of any anxiety disorder in China is 4.8% (Shen et al., 2006), compared with 28.8% in the United States (Kessler, Berglund, et al., 2008). Even within the United States, cultural differences are apparent: White Americans are more likely to be diagnosed with social anxiety disorder, generalized anxiety disorder, and panic disorder than Asian Americans (Asnaani, Richey, Dimaite, Hinton, & Hofmann, 2010).

Prevalence of depression also tends to be lower in East Asia compared with other cultures. Twelve-month prevalence rates of mood disorder are 2.5% in Japan (Kawakami et al., 2008) and less than 2% in China (Huang et al., 2008; Lee et al., 2009) compared with 20.8% in the United States (Kessler, Berglund, et al., 2008). In a 10-nation epidemiological survey (Weissman et al., 1996), lifetime prevalence of major depression was lowest in the two Asian samples (Taiwan, 1.5%; Korea, 2.9%), dramatically lower than in North America (Canada, 9.6%; the United States, 5.2%), Europe (France, 16.4%; Germany, 9.2%; Italy, 12.4%), the Middle East (Lebanon, 19.0%), and New Zealand (11.6%).

There is a long and robust debate about whether these differences reflect "real" differences in psychopathology or whether they represent a methodological artifact. There are at least three threads to this argument. First, it has been argued that *DSM*- or ICD-based measures fail to capture affective disorders across diverse cultures due to culture-specific forms of disorder (e.g., Chang et al., 2008; Norasakkunkit, Kitayama, & Uchida, 2011). *DSM* and ICD interviews are designed to minimize misdiagnoses by using country-specific, culturally competent expert collaborators (Chang, 2012; Kessler & Üstün, 2008). It is acknowledged, however, that these experts are often Western-trained, or have been exposed to a categorical *DSM*-style way of thinking for so long that clear-cut inferences about cultural competence are difficult to make.

Reassuringly, item response analyses have revealed consistency across countries in both the latent structure of depression and the association between specific depressive symptoms and this latent structure (Simon, Goldberg, VonKorff, & Üstün, 2002; Üstün & Sartorius, 1995). Furthermore, cross-national variation in estimated prevalence is positively associated with variation in the reported level of impairment associated with affective disorders, suggesting that the low prevalence observed in Asian nations is not the result of higher symptoms thresholds in the World Mental Health surveys (Bromet et al., 2011; Kessler, Aguilar-Gaxiola, et al., 2008). In a review of the data, Kessler and Bromet (2013) concluded that the "results argue indirectly for a substantive rather than a methodological interpretation of the cross-national differences found in the surveys" (p. 123).

Second, it is argued that Easterners vary in their willingness to acknowledge clinical symptoms, and that greater stigma attached to mental disorders in East Asia leads to conscious nondisclosure (for a discussion, see Mak & Chen, 2010; Ryder et al., 2008). However, Compton et al. (1991) found no consistent evidence that disorders perceived to be more stigmatizing had lower reported prevalence. In addition, schizophrenia—which is highly stigmatizing for the Chinese (Ryder, Bean, & Dion, 2000)—is reported at similar rates in China to the rest of the world (Huang et al., 2008). This suggests that response bias may not be a major contributor to cross-cultural differences in prevalence.

Third, it is suggested that symptoms interpreted as intrapsychic disturbances in the individualistic West are expressed as somatic disturbances in some Asian cultures (Kleinman, 1982; Pfeiffer, 1968), leading to underestimates of prevalence of disorder in the East. Although it is commonly assumed that Eastern cultures (and especially Chinese cultures) are more likely to use physical symptoms as an idiom of distress than Western cultures, systematic cross-cultural studies are relatively rare. Interestingly, the data examining the Chinese somatization hypothesis have been mixed. For example, the World Health Organization's study of psychological problems in general health care demonstrated that, although the prevalence of depressive symptoms varied greatly across the 14 primary care centers examined, prevalence of somatization did not differ predictably as a function of geography (Simon, VonKorff, Piccinelli, Fullerton, & Ormel, 1999). In a

comparison of Chinese, Chinese American, and Caucasian American students, Yen, Robins, and Lin (2000) found somatic depressive symptom endorsement was *lowest* among the Chinese sample. In contrast, Parker, Cheah, and Roy (2001) revealed a modest tendency for Malaysian Chinese to self-report somatization more than Caucasian Australians when presenting with depression (but could not identify a culture-specific somatic factor that acted as a proxy for depression). Finally, a comparison of Chinese- and Euro-Canadian outpatients found that the former reported somewhat more somatic symptoms than the latter, although the effect was weak and disappeared altogether when symptoms were assessed via private questionnaire (Ryder et al., 2008). Furthermore, there were very low numbers of people in this study who exclusively presented somatic symptoms.[2]

In sum, it may be impossible to determine definitively the extent to which cultural differences in psychopathology rates are "real" or not. But in the absence of firm evidence that the statistics are wholly artifactual, the precautionary principle alone would suggest value in exploring alternative accounts of the observed cultural differences with a view to distilling lessons that can be learned in terms of promoting mental health in the West (if there are "secrets" to warding off affective disorders that can be extracted from observing cross-cultural differences, then this is important to know).

In what follows, we draw on a growing body of evidence, distributed across multiple disciplines, to advance the argument that people across cultures think differently about emotion, and so respond differently to their negative emotional experiences. Different responding, in turn, influences the impact of negative emotions on mental health, creating cross-cultural differences in prevalence of depression. We propose a model to help account for how differences in systems of thought might explain cross-cultural differences in affective disturbance described above (as well as within-culture differences in responding to negative emotions). The goal of this article is to review and synthesize evidence for this model.

A Systems of Thought Perspective on Emotion

There is a growing body of research demonstrating that cultural differences exist in how people interpret and respond to negative emotion (e.g., Boiger, Mesquita, Uchida, & Barrett, 2013; Eid & Diener, 2001; Mesquita, De Leersnyder, & Albert, 2014; Mesquita & Delvaux, 2013). Although there is broad consensus that the experience of positive or negative emotion is considered critical for mental health (Gross & Muñoz, 1995; Seligman & Csikszentmihalyi, 2000), negative emotions are assigned the most critical role (e.g., Barlow, Sauer-Zavala, Carl, Bullis, & Ellard, 2014). Here, we advance the more specific claim that differences in how negative emotions are understood and responded to have implications for risk of affective disorder. We argue that these differences are underpinned by fundamental and profound differences in the way people conceptualize the world.

In doing so, we frame our review around Nisbett et al.'s (2001) notion of systems of thought. According to this perspective, Easterners are more likely to engage in a *holistic* style of processing, which includes attending to the entire field during information processing and assigning causality to the context. Holistic thinkers also make little use of categories and formal logic, focusing on the relations between the parts and the whole. Westerners, in contrast, tend to rely on an *analytic* style of processing, focusing attention on objects (as opposed to contexts), emphasizing the categories to which those objects belong, and using rules and formal logic to develop insights into what governs an object's behavior.[3]

Nisbett et al. (2001) proposed that these differences are deeply embedded within lay theories and tacit epistemologies regarding the nature of the world. As such, these systems of thought have implications for what is attended to, how causality is understood, and the ways in which people believe knowledge can be obtained. To this extent, the system of thought through which people perceive their world can shape the development of some cognitive processes at the expense of others. A good deal of evidence suggests that these differences do indeed influence what is attended to (e.g., Masuda & Nisbett, 2001), how people deal with contradiction (Peng & Nisbett, 1999), and how people explain behavior (Morris, Nisbett, & Peng, 1995).

In this review, we focus on how differences in ways of thinking shape how people understand and respond to their negative emotional experiences. We argue that a holistic orientation (as compared with an analytic orientation) may provide a foundation for more adaptive regulation of negative emotion, and that understanding this relationship helps explain differences in prevalence of affective disorder between Eastern and Western cultures.

Our approach is summarized in Figure 1, which shows a cascade of influence from broad cultural cognitive styles on how people think about their negative emotions, which in turn shapes how people respond to those emotions, and which ultimately contributes to their likelihood of developing affective disorders. We highlight three key ways of thinking that can be mapped onto a holistic (vs. analytic) cultural dimension: acceptance of contradiction (vs. rejection of contradiction), expectation of change (vs. expectation of continuity), and an understanding of the self in context (vs. an understanding of self that is abstracted from context). As seen in Figure 1, these ways of thinking can be applied to how people view emotions in general, that positive and negative emotions can co-occur (acceptance of contradictory emotions vs. rejection of co-occurrence), that emotions are likely to change (vs. remain stable into the future), and that emotions are in part caused by, and therefore are best understood by, attending to one's context (vs. attending to the self).

Although these ways of thinking are separable, we acknowledge that they share variance and may have overlapping effects

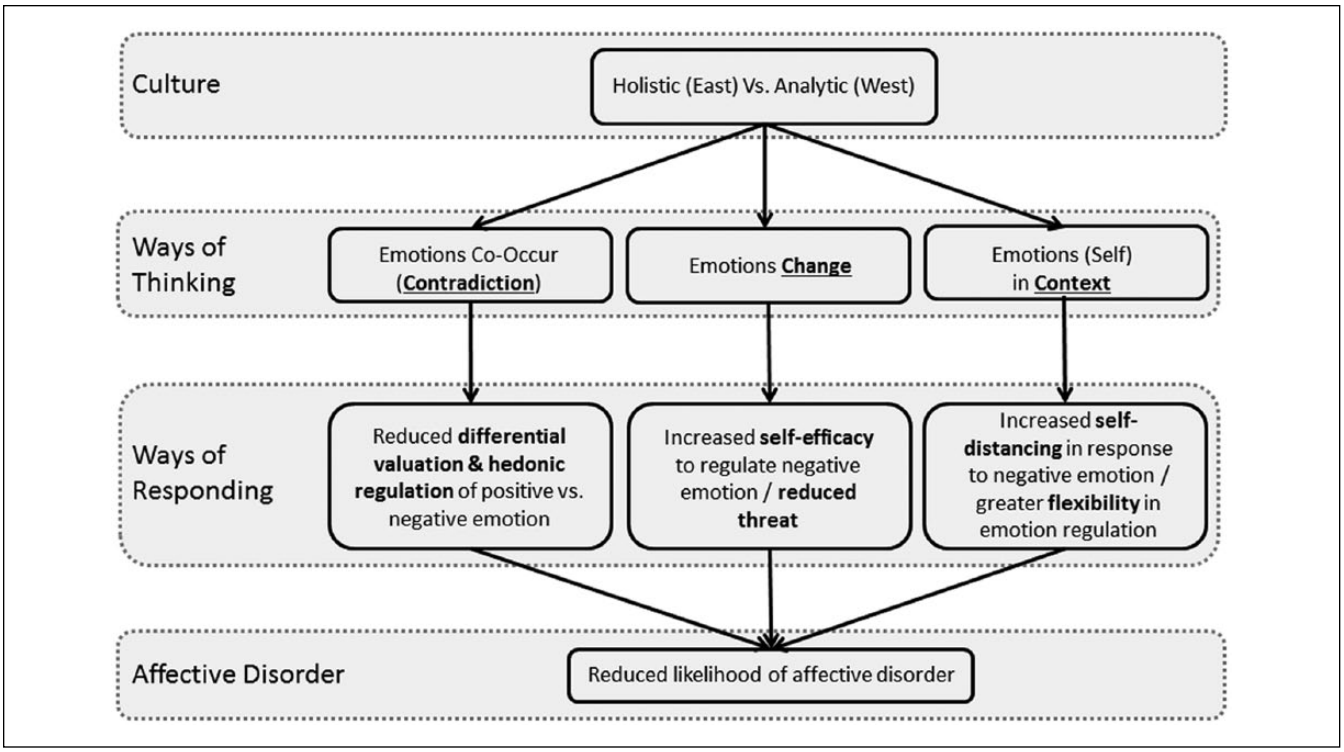


Figure 1. Cultural systems of thought shape (a) how people think about negative emotion, which (b) shapes how people respond to negative emotion, and which (c) has implications for likelihood of affective disorder.

in how people think about and respond to their negative emotions. Our approach is not to adjudicate between the relative effects of each way of thinking, or to imply a conceptual firewall between them. Rather, our goal is to identify some of the pathways through which cultural beliefs or thinking styles that differentiate between East and West might contribute to affective disorders, and in turn shed light on why such disorders are more prevalent in some cultural contexts relative to others.

Positive and Negative Emotions Co-Occur (Contradiction)

A key feature of the holistic way of thinking is the acceptance of contradiction. In a classic study, Peng and Nisbett (1999) provided Chinese and American participants with apparently contradictory arguments. When provided with just one of the arguments, both groups of participants agreed on which statement seemed the most plausible. When provided with both statements at once, however, ratings revealed a different pattern across culture. Whereas Americans continued to differentiate the more plausible from the less plausible argument, the ratings of Chinese participants converged for both statements, suggesting a compromise approach. The Chinese participants behaved as if they believed that both statements may be (somewhat) true.

These cultural differences in how contradiction is managed should theoretically have implications for how emotions are understood and experienced. Supportive of this, research shows that members of holistic cultures are more likely to experience their positive and negative emotions as covarying, and therefore have more mixed affective experiences (Bagozzi, Wong, & Yi, 1999; Miyamoto & Ryff, 2011; Sims et al., 2015). Consistent with this perspective, research has shown that people who approach the world and themselves from a dialectical perspective—specifically, to see contradiction as acceptable and change as likely—tend to report a higher co-occurrence of positive and negative emotions (Grossmann, Huynh, & Ellsworth, 2016; Hui, Fok, & Bond, 2009; Spencer-Rodgers, Peng, & Wang, 2010). Furthermore, members of holistic cultures show more mixed emotional responses to pleasant experiences than do members of analytic cultures (Leu et al., 2010; Miyamoto, Uchida, & Ellsworth, 2010). Associations found in the structure of happiness and unhappiness across culture mirror the same dialectical influence on the co-existence of pleasant and unpleasant emotions (Schimmack, Oishi, & Diener, 2002; Uchida & Kitayama, 2009).

In contrast, the analytic way of thinking is associated with seeking knowledge and understanding by breaking wholes into their component parts, and by categorizing discrete experiences by the features that differentiate them (Bagozzi et al., 1999). The tendency to focus on category distinctiveness lends itself to negative correlations between positive and negative emotions (Scollon, Diener, Oishi, & Biswas-Diener, 2005) and an emphasis on resolution of contradiction (Goetz, Spencer-Rodgers, & Peng, 2008). As such, for Westerners,

emotional experiences of contrasting valence are understood in isolation (disconnected from other things) and as bipolar opposites.

We argue that there are two reasons that acceptance of contradiction—and in turn the perception that positive and negative emotions are able to co-occur—predicts more adaptive responses to negative emotion. The first is that viewing positive and negative emotions as non-exclusive and co-occurring reduces the tendency to value positive emotions over negative emotions. The second (related) reason is that reduced differential valuation of positive and negative emotion should reduce motivation to upregulate positive emotions and downregulate negative emotions.

Valuation of positive versus negative emotion. We argue that an outcome of the analytic perspective on emotional experience is the tendency to value different emotions to different degrees (Eid & Diener, 2001). When negative emotions are viewed as likely to preclude the possibility of experiencing positive emotions, both now and into the future (e.g., Fredrickson, 1998; Garland et al., 2010), they are likely to be viewed as threatening and, as a consequence, negatively valued. In turn, when positive emotions are understood as protecting against the possibility of discomfort associated with negative emotions, they are likely to be relatively prized. This divergence in the value placed on positive and negative emotions is reduced when both types of emotion are viewed as co-occurring or as predictive of their opposites. From an analytic perspective, negative emotions are viewed as a hindrance to hedonic goals, reducing happiness and well-being.

There is broad support for a differential valuing of positive relative to negative emotion across cultures. Evidence suggests that in Western cultures, positive emotions are highly valued (Bastian, Kuppens, de Roover, & Diener, 2014; Gruber, Mauss, & Tamir, 2011; Mauss, Tamir, Anderson, & Savino, 2011) whereas negative emotions are viewed as undesirable (Bastian et al., 2012; Suh, Diener, Oishi, & Triandis, 1998). In contrast, from a holistic viewpoint, negative emotions are not necessarily malignant, but can lead to positive outcomes. This is consistent with the finding that, for Chinese people, experiences of failure are more likely to be associated with thoughts of self-improvement and success than they are for Americans (Zhang & Cross, 2011). In holistic cultural contexts, happiness is less valued or emphasized (Heine, Lehman, Markus, & Kitayama, 1999; Joshanloo & Weijers, 2014; Sims et al., 2015), and being too happy is viewed as having potentially negative consequences (Uchida & Kitayama, 2009).

Converging evidence for cultural differences in how positive and negative emotions are understood comes from work on feedback and self-improvement. For example, Uchida and Kitayama (2009) asked Japanese and American participants to spontaneously write about "the different aspects, features, or effects" of happiness and unhappiness. When writing about unhappiness, Americans were more likely to focus on anger and aggression, whereas Japanese respondents were more likely to focus on transcendental reappraisal and self-improvement. Consistent with this, induced negative self-reflection following recall of interpersonal rejection or achievement failure promotes greater distress but more insight in East Asian compared with European American participants (Tsai & Lau, 2013). Similarly, achievement motivation is associated with self-critical views in East Asians, but with positivity and optimism in Westerners (Heine, Kitayama, & Lehman, 2001). This holistic way of thinking about negative emotion has also been associated with a greater likelihood of Japanese accepting negative feedback (Heine et al., 2001), making use of experiences of failure and self-criticism, and affirming the highly valued ethic of self-improvement (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). Independent of culture, individuals high in dialecticism display a preference for negative self-verifying feedback compared with those lower in dialecticism (Chen, English, & Peng, 2006).

Further evidence for the devaluation of negative emotion in analytic cultures comes from the finding that American students, when asked to talk about their emotions in response to a video designed to elicit negative emotions, rated themselves as more neurotic than did students who had been asked to talk about their previous day's activities (Yip & Kelly, 2008). This implies that simply talking about negative emotions in the United States can leave people feeling that they are anxious and unstable. Consistent with this, members of analytic cultures find embarrassment, social anxiety, and shyness to be more aversive than do members of holistic cultures, and their experience of these emotions impacts more negatively on their quality of life (Essau et al., 2011; Singelis, Bond, Sharkey, & Lai, 1999). Furthermore, Japanese children experience more shame and guilt, but these emotions are less likely to lead to anger or blame compared with American children (Bear, Uribe-Zarain, Manning, & Shiomi, 2009).

If members of analytic cultures devalue negative emotions more than members of holistic cultures, they should also be more influenced by these negative emotions in terms of their subjective well-being. Consistent with this notion, negative emotions are more strongly related to judgments of life satisfaction in Western cultures than in Eastern cultures (Kitayama, Markus, & Kurokawa, 2000; Kuppens, Realo, & Diener, 2008; Suh et al., 1998). Interestingly, the benefit of valuing negative emotions can be seen in physical as well as psychological outcomes. For example, the tendency to value negative emotion (measured as an individual difference) reduces the negative impact of negative emotion on incidence of health conditions, incidence of health complaints, hand grip strength, and momentary physical well-being (Luong, Wrzus, Wagner, & Riediger, 2016). Furthermore, the experience of negative emotion has been shown to predict higher levels of pro-inflammatory biomarkers in Americans, whereas there was no relationship among Japanese adults (Miyamoto et al., 2013).

Hedonic regulation of emotion. Valuing positive emotion and devaluing negative emotion have downstream consequences in terms of how people seek to regulate their emotions. When positive emotions are prized, and negative emotions are viewed as undesirable, these value assignments motivate efforts to upregulate positive emotion and downregulate negative emotion. This is consistent with research showing that the desire to upregulate positive emotion and downregulate negative emotion differs across cultures. Compared with Americans, East Asian students both living in America and Japan are less likely to upregulate positive emotions. This tendency appears to be mediated by dialectal beliefs about positive emotions (i.e., that too much happiness can have negative consequences), including the belief that positive and negative events tend to co-occur (Miyamoto & Ma, 2011) and the importance of achieving a balanced and moderate experience of both (Miyamoto & Ryff, 2011).

In line with this, Miyamoto, Ma, and Petermann (2014) found that Asians engaged less in hedonic regulation (i.e., upregulation of positive and downregulation of negative emotion) after receiving poor grades than did European Americans. Furthermore, Asians recalled using fewer hedonic regulation strategies than European Americans when asked to reflect on a past negative event, an effect that was mediated by dialectical beliefs about the utility of negative emotions. This finding supports the argument that cultural differences in hedonic regulation are the outcome of how negative emotions are viewed. Viewing negative emotions as useful and informative is likely to increase acceptance and tolerance of negative emotion, reducing the need for hedonic regulation.

In addition, the dialectical view of negative emotion has been argued to underpin differences in how emotions are experienced across the life span. In the United States, there is a tendency for older adults to report improvements in emotional well-being as they get older (Carstensen et al., 2011); however, these age-related changes in emotional experience are less pronounced in holistic cultures: Whereas American adults increasingly and successfully distance themselves from negative emotions as they age, Japanese do not have this same goal because negative emotions are viewed as less problematic and more consistent with positive emotion (Grossmann, Karasawa, Kan, & Kitayama, 2014).

Critical to our argument is evidence showing that the effortful regulation of emotion to align with a culturally normative emphasis on happiness tends to reduce well-being. For instance, the more Americans value happiness, the less happiness they experience, particularly when life stress is low (Mauss et al., 2011). Focusing specifically on culturally prescribed values, Bastian et al. (2012) found that when people perceived social pressure not to experience negative emotion, they were more likely to experience those same emotions with greater frequency and intensity, an effect that was stronger in Australia than Japan. Recent evidence even suggests that perceiving such social pressure to devaluate negative emotion plays a central role in predicting symptoms of depression on a day-to-day basis (Dejonckheere, Bastian, Fried, Murphy, & Kuppens, 2017). Consequently, living in cultural environments where the valuation of positive emotion and devaluation of negative emotion is salient becomes especially problematic when individuals inevitably experience negative events. When people experience emotional setbacks in such environments, they feel more lonely (Bastian et al., 2015), pay more attention to negative emotional information (Bastian, Pe, & Kuppens, 2017), and engage in increased levels of unhelpful rumination (McGuirk, Kuppens, Kingston, Bastian, in press).

One reason for these ironic effects is that devaluing negative emotions makes the experience of them more threatening; specifically, they threaten the goal of happiness (see below for a discussion of how threat is also linked to beliefs about change). This serves to increase people's motivation to avoid negative emotion. Prior research has shown that attempts to avoid negative emotion (especially emotions like fear and anxiety that naturally trigger avoidance motivational states) can have ironic down sides: People who dislike such emotions tend to experience them more frequently (Harmon-Jones, Harmon-Jones, Amodio, & Gable, 2011). In contrast, viewing negative emotions as less threatening—and in turn liking them more—should theoretically reduce the tendency to experience them.

Overall, there is good evidence to show that people living in analytic Western cultures are less able to accommodate contradiction, and that this in turn feeds into how they think about and seek to regulate their emotional states. Consistent with the predictions of our model, programs of research from a cross-cultural perspective and an individual differences perspective converge to reveal that those with a more analytic orientation are less likely than those with a holistic orientation to experience mixed emotional states. Furthermore, those with an analytic orientation are relatively more likely to differentially value positive emotion over negative emotion, and more likely to strive to upregulate positive and downregulate negative emotion. Emerging evidence suggests that relating to negative emotions in these ways has negative implications for well-being.

Emotions Change

Another key feature of the holistic way of thinking is the expectation of change. In Chinese philosophical thinking, change is taken for granted and the world is understood to be in constant flux (Peng & Nisbett, 1999). As such, concepts that reflect reality are also active and changeable as opposed to fixed and identifiable, the latter viewpoint being aligned with an analytic way of viewing the world. One example of this is provided by Alter and Kwan (2009; Studies 4-6) who showed that culturally priming people with Eastern symbols led them to predict a greater likelihood of change in stock market trends and weather patterns. This basic belief that the

world is constantly changing is also relevant for understanding how positive and negative emotions are understood from a holistic perspective; not only do positive and negative emotions co-occur, they are also likely to change. From this perspective, negative emotions do not last and are likely to be followed by positive emotions. In contrast, from an analytic perspective, emotions are viewed as discreet events that become "sticky," and perceived as likely to persist to the exclusion of other emotional experiences. This is consistent with research showing that Chinese participants were more likely to select nonlinear patterns as representative of their lifetime happiness, compared with Americans who were more likely to see their lives getting better or worse in linear fashion (Ji, Nisbett, & Su, 2001).

Further evidence comes from work by Leu and colleagues (2010), who showed students standardized scenarios in which protagonists were in positive, negative, or mixed situations. When asked what they thought the protagonist was feeling, East Asian participants were more likely than other participants to presume neither-pleasant-nor-unpleasant feelings within the protagonist. The authors argued that this may reflect the fact that East Asians defer assigning positive or negative valence to emotional experiences in general due to their anticipation that the situation may change.

We argue that a holistic way of thinking improves one's ability to effectively regulate emotion because it renders the perception that emotions *can* and *do* change. This increases perceived efficacy in one's ability to change unwanted emotions, while also reducing the perceived need to struggle against them. We elaborate on these two consequences below.[4]

Self-efficacy in emotion regulation. There is emerging evidence for an association between perceptions that emotions change and improved capacity to regulate emotion. People who believe that emotions can change also feel more efficacious in their ability to guide and direct their own emotional experiences. A good example of how this approach to emotion may have implications for emotion regulation is research on incremental versus entity views of emotion (Dweck & Leggett, 1988). Incremental theories—the belief that person attributes are malleable and change—are aligned with holistic patterns of thought. Entity theories—the view of person attributes as fixed and stable—are characteristic of essentialist patterns of thought (Bastian & Haslam, 2006). Research on those holding incremental versus entity views of emotion suggest that those who believe that emotions can be changed are more likely to be effective reappraisers of events. In a longitudinal study of an ethnically mixed college student sample in the United States, Tamir, John, Srivastava, and Gross (2007) demonstrated that those who believed emotions were malleable (vs. fixed) experienced fewer negative emotions in an initial 10-week diary study, and at 12-month follow-up reported improved well-being and less depression. These improvements were mediated by emotion regulation self-efficacy beliefs and reappraisal, which were greater in those that believed emotions were malleable compared with those who believed they were fixed.

Subsequent experimental evidence has shown that manipulating a belief in the malleability of emotions (vs. their fixedness) was associated with greater use of reappraisal in participants facing social anxiety in public speaking (Kneeland, Nolen-Hoeksema, Dovidio, & Gruber, 2016b). Similarly, participants primed to see emotions as malleable (vs. fixed) were more likely to engage in efforts to regulate emotion after recalling an unpleasant experience (Kneeland, Nolen-Hoeksema, Dovidio, & Gruber, 2016a). Importantly, the prime had a particularly big effect on the extent to which participants responded to negative emotion with self-blame, highlighting the fact that although viewing emotions as changeable increases perceived self-efficacy in emotion regulation, this can also leave people feeling personally responsible for changing their emotions. This suggests a downside that might be problematic when people experience emotions that are hard to change, such as prolonged episodes of depression or anxiety. However, in cases of normal daily emotional functioning, feeling capable of effectively regulating one's emotions reduces pathological distress (see Kneeland, Dovidio, Joormann, & Clark, 2016, for a review).

The threat of negative emotion. A second consequence of viewing emotions as changeable is that it makes negative emotions less threatening. A reduced threat value attached to negative emotion allows for increased acceptance of negative emotion, which itself is an effective emotion regulation strategy (Hayes, 2004). Furthermore, feeling less threatened and more accepting of negative emotion should theoretically increase one's capacity to switch focus from, or disengage from, emotional material. This is referred to as affective flexibility and has been show to enhance adaptive reappraisal (Davis & Nolen-Hoeksema, 2000; Malooly, Genet, & Siemer, 2013). Such beliefs have also been implicated in the efficacy of cognitive behavioral therapy (CBT). Using a randomized control trial, de Castella et al. (2015) examined the role of implicit beliefs about the malleability versus fixed nature of anxiety on outcomes of CBT for social anxiety. Compared with baseline, patients post-CBT reported lower fixed beliefs about anxiety, and these changes in belief explained treatment-related reductions in social anxiety. In addition, emotion beliefs explained unique variance in post-treatment social anxiety, and predicted social anxiety symptoms at 12-month follow-up. The authors suggest that a perceived inability to control one's emotional response may help foster social anxiety.

Overall, it is well accepted that holistic versus analytic cultures focus more on change relative to stability. As can be seen in our review above, our prediction that this tendency has implications for emotion regulation, via increased self-efficacy and reduced threat, is borne out by work on emotion beliefs (i.e., whether they are fixed vs. malleable).

Although consistent, the evidence is limited to a small number of studies and populations. Replication of these effects across a broader sample of populations and well-being outcomes would be important. Furthermore, although theoretically tapping the same construct, there is limited evidence to show that beliefs about the malleability of emotion are culturally prescribed and systematically vary along the holistic versus analytic distinction that we draw on here. Additional studies showing cross-cultural differences in the endorsement of, and downstream implications of, emotion beliefs are needed. Furthermore, more research is required to show that those living in holistic cultures do indeed feel more self-efficacious in their emotion regulation efforts, and feel less threatened by the experience of negative emotion.

Emotions (Self) in Context

Whereas analytic thinkers pay more attention to an object to understand its behavior, holistic thinkers are more likely to pay attention to the context or field (Nisbett et al., 2001). This same tendency is evident in how people understand the self. Holistic thinkers tend to understand the self as connected with the social context, as flexible and variable. In contrast, analytic thinkers tend to view the self as separate from the social context, as bounded and stable.

One implication of these different approaches to understanding the self is that they can have implications for who is thought to be responsible for emotional events. Analytic thinkers understand emotions as determined by internal qualities, rather than external circumstance, and therefore they become the individual's responsibility (Kitayama et al., 2000; Uchida, Townsend, Markus, & Bergsieker, 2009). As such, negative emotions may be viewed as a signal of moral failing (e.g., Wierzbicka, 1994)—it is my fault that I feel bad—leading people to fear that others will similarly disapprove of, and blame them for, their negative emotional states (Bastian et al., 2012). On this basis, the experience and expression of negative emotion is generally construed as a sign that something is wrong, such as an inability to control one's life (Kotchemidova, 2005). Compounding this is the tendency for analytic thinkers to amplify their private emotional experiences as a source of meaning. Negative emotions therefore reflect poorly on the self and interrupt the (especially Western) motivation to maintain a positive view of the self (Kitayama & Duffy, 2004). For holistic thinkers, however, emotions are more likely to be understood within the context of relationships rather than as the result of personal failings.

We argue that viewing oneself as tied to the sociocultural context reduces perceived ownership of one's emotions. This offers two critical advantages in responding effectively to negative emotion. First, it allows people to more easily self-distance from their emotional states because they can see them from different perspectives and as arising from different causes, rather than as being solely determined by internal qualities. In turn, this facilitates perspective taking which has been shown to be an effective response to negative emotion. Second, and for similar reasons, it allows for a more flexible use of emotion regulation strategies. These advantages are elaborated below.

Self-distancing. Those with an interdependent self-construal—characteristic of holistic cultures—understand the self as public and external, with a tendency to take a third-person perspective on their experiences (Cohen & Gunz, 2002; Cohen, Hoshino-Browne, & Leung, 2007; Masuda et al., 2008; Nisbett & Masuda, 2003). In contrast, those with an independent construal (a construal associated with analytic cultures) tend to view the self as private and internal (Markus & Kitayama, 1991; Triandis, 1989). This suggests that the capacity to take another's perspective on one's own emotional experiences may be greater for those with a holistic way of thinking.

In turn, the ability to view one's experiences form another's perspective (referred to as "self-distancing") should facilitate reconstrual of events, allowing people to make new meaning out of their experiences rather than merely recounting those experiences during episodes of distress. Indeed, research suggests that those who self-distance engage in relatively more reconstrual, relatively less recounting, and experience lower levels of distress compared with those who self-immerse (i.e., those who view experiences from their own perspective). Furthermore, the balance between creating new meaning versus recounting meaning mediated the effect of self-perspective on distress (Ayduk & Kross, 2010; Kross & Ayduk, 2011). Self-distancing is also associated with shorter duration of both positive and negative emotions (Verduyn, Van Mechelen, Kross, Chezzi, & Van Bever, 2012) and an improved ability to think through the meaning of distressing experiences, with decreased risk of becoming overwhelmed by negative emotions (Huynh, Yang, & Grossmann, 2016; Kross, Gard, Deldin, Clifton, & Ayduk, 2012).

Experimental evidence for the differential effects of self-distancing compared with self-immersion comes from a study on Israeli university students, who watched an emotion-arousing film clip. While watching the film clip, participants were either instructed to fully engage with their emotions (to mimic self-immersion) or practice disengagement (similar to self-distancing). Those instructed to engage fully showed almost twice the latency of retrieval of mood-incongruent memories than those given disengaging instructions (Greenberg & Meiran, 2014). This suggests that self-immersion (in contrast to self-distancing) not only increases the intensity and duration of negative emotion but also makes it more difficult to downregulate negative emotion and upregulate positive emotion.

Indirect evidence for the adaptive value of self-distancing also comes from work on temporal distancing, the tendency to place negative experiences into a broader future time perspective. Higher capacity for temporal distancing is associated with more positive views of one's capacity for

appraisal, less intense negative emotion, less rumination, and reduced reactivity to stressful events (Bruehlman-Senecal, Ayduk, & John, 2016). Together, these effects suggest the possibility that self-distancing leads people to view the eliciting event within a broader context, lessening personal salience, reducing the impact of negative emotions, and facilitating meaning-making.

Although we make the argument that cultural differences might determine the extent to which (and with what effect) people employ self-distancing, as yet, the evidence for this is sparse. One exception is a study comparing Russians, who tend to be more interdependent than Westerners (Realo & Allik, 1999), with Americans, the quintessential analytic culture. This study revealed that self-reflection was related to fewer depressive symptoms among Russians compared with Americans (Grossmann & Kross, 2010). The authors argued that this difference was due to the tendency for Russians to self-distance more when analyzing their negative feelings compared with Americans.

Flexible Use of Emotion Regulation Strategies

Until recently, it has been common to assume that some kinds of emotion regulation strategies are universally better than others. However, there is an emerging perspective—referred to as the *strategy-situation fit hypothesis* (see Bonanno & Burton, 2013; Haines et al., 2016)—that challenges this view. From this perspective, optimal emotion regulation consists of being able to flexibly adapt emotion regulation efforts to match contextual information (Aldao, 2013). For instance, recent work by Haines et al. (2016) found that people who were more flexible in their use of reappraisal—applying it more in uncontrollable situations and less in controllable situations—had higher levels of well-being. Possessing the wisdom to know whether an event is controllable requires that an individual not only understands the self, but has also taken account of context. With this insight in hand, people are able to apply emotion regulation strategies that best suit contextual demands.

Building on the enhanced ability to self-distance from one's negative emotional states—and the broader tendency to take account of the social context—we suggest that holistic thinkers are more capable of flexibly adapting emotion regulation strategies to meet situational demands. In line with Kross et al. (2012), we argue that the tendency to self-distance and to focus on the surrounding context allows holistically oriented people to engage with a broader and more inclusive causal analysis of an emotional event. This means that they will have more information at their disposal for understanding the most appropriate response to emotional situations. Evidence consistent with this possibility comes from Cheng (2009), who observed that dialectical thinking was associated with greater coping flexibility in Chinese undergraduates. Specifically, dialectical thinking was associated with the tendency to adopt a more balanced and differentiated approach to relying on primary, secondary, or avoidant coping, and greater strategy-situation fit. In addition, Chinese adults primed with a vignette on dialectical thinking showed increased cognitive flexibility compared with a control group, and higher capacity for dialectical thinking in Chinese adults was predictive of increased coping flexibility and reduced state anxiety over 12 months.

Overall, there are pockets of evidence supporting our prediction that those living in holistic cultures are more likely to understand their emotions in context, and so have a greater capacity for self-distancing and flexibility in their use of emotion regulation strategies. While there is good evidence for the well-being benefits of self-distancing, and growing evidence that flexibility in use of emotion regulation strategies is adaptive, less evidence links these two tendencies to the broad cultural dimension of holistic versus analytic thinking. Studies like those of Cheng (2009)—which draw on individual difference measures of dialectical thinking or individualism and collectivism—would provide evidence that this broader thinking style is related to self-distancing and flexibility in strategy use. Furthermore, showing that such differences exist in broad cross-cultural samples would provide direct evidence that living in such cultures can shape these responses to negative emotion.

A Case Study: Understanding Cultural Differences in Rumination and Suppression

A system of thought perspective highlights that a holistic (compared with analytic) approach to understanding the world—including the acceptance of contradiction, expectation of change, and an understanding of the self within a social context—facilitates a suite of more adaptive responses to negative emotion. This analysis provides insight into one reason for why prevalence of affective disturbance varies across culture. In this next section, we apply our model to understanding known cultural differences in the success with which people employ two well-known emotion regulation strategies: suppression and rumination. There is now a body of work showing that these two strategies (among others) can be employed in ways that are either adaptive or maladaptive. We draw on our model to provide insight into how cultural differences in ways of thinking and ways of responding to negative emotion can shed light on when and why these emotion regulation strategies are maladaptive. In so doing, we provide further evidence for how our model can explain differences in rates of affective disturbance across cultures.

Culture and Suppression

Suppression has been defined as the conscious inhibition of one's own emotionally expressive behavior while emotionally aroused (Gross & Levenson, 1993). Evidence suggests

that habitual suppression of negative emotion is frequently associated with poor psychological outcomes in Western participants. Consequences of suppression include paradoxically maintained or even increased experiences of troubling thoughts and negative emotion, lowered experience of positive emotions, poorer interpersonal functioning, reduced social support, and reduced well-being (Brans, Koval, Verduyn, Lim, & Kuppens, 2013; Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Gross & John, 2003). The habitual use of suppression has been associated with increased risk of depression (Dalgliesh, Yiend, Schweizer, & Dunn, 2009; Ehring, Tuschen-Caffier, Schnülle, Fischer, & Gross, 2010), increased blood pressure (Quartana & Burns, 2010), impaired pain management (Burns et al., 2012), and impaired memory of events (Richards & Gross, 2006).

These negative consequences of suppression have led to suppression being defined as a maladaptive emotion regulation strategy. More recently, however, researchers have begun to show that in some contexts suppression is not necessarily maladaptive, and the relative (social) usefulness of suppression may depend on context (Aldao, Jazaieri, Goldin, & Gross, 2014; Aldao, Sheppes, & Gross, 2015; Kalokerinos, Greenaway, & Casey, 2017). Whereas those in Western cultures may be likely to suffer poor social outcomes as a result of suppression, those from Eastern cultures may not (Hu et al., 2014; Markus & Kitayama, 1991; Matsumoto, Yoo, & Nakagawa, 2008). Consistent with this suggestion, suppression has been found to facilitate the task of maintaining interrelatedness (Heine & Lehman, 1999; Lau, Fung, Wang, & Kang, 2009; Wei, Su, Carrera, Lin, & Yi, 2013) and emotional control in the service of interconnection, and as such is valued unambiguously in East Asian contexts (Soto, Chentsova-Dutton, & Lee, 2013). In contrast to suppression in the West, suppression in the East is understood as an attempt to maintain appropriate restraint in the service of adaptive goals.

Drawing on our systems of thought model (see Figure 1), we argue that differences in how people think about, and their basic response to, their negative emotional experiences determine the effectiveness of suppression. One reason that suppression may be more effective for holistic thinkers is that they view negative emotions more positively. As we argue above, when negative emotion is viewed as compatible with positive emotion, people are less likely to experience those negative emotions as aversive or threatening. For example, when sadness is viewed as threatening one's ability to experience pleasant emotional states, we become motivated to avoid it. We argue that when the motivation to avoid negative emotion is high, attempts to suppress such emotions are more likely to fail. Just as disliking negative emotions that are high in avoidance motivation is associated with an increased tendency to experience them (Harmon-Jones et al., 2011), attempts to suppress all negative emotions, when we feel motivated to avoid them, are more likely to lead to ironic backfire effects (Wegner, 1994; Yap & Tong, 2009).

Some evidence for the cultural moderation of threat associated with the suppression of negative emotion comes from work on anger. Mauss and Butler (2010) found that the more Asian American participants valued emotional control, the more they showed a cardiovascular challenge response to an anger provocation, characteristic of those who feel equipped to handle a demand. In contrast, the more European Americans valued emotional control, the more they showed a cardiovascular stress response to the anger provocation, characteristic of perceived difficulty coping with demands. In addition, whereas suppression of anger for East Asians decreased the experience of anger, for European Americans, it decreased only the expression (not the experience) of anger. Subsequent physiological work confirmed this pattern (Zhou & Bishop, 2012). After an anger induction, Chinese participants displayed stronger cardiovascular responses when they were asked to express their anger than when they were asked to suppress it. Caucasian participants, however, displayed the opposite effect, implying that suppression was more stressful for them than it was for the Chinese participants.

Other work has found an improved ability to downregulate emotional experience for East Asian Americans versus European Americans, despite the initial emotional response being just as pronounced across both groups. In explaining these findings, Murata, Moser, and Kitayama (2013) argued that East Asians are more "culturally trained" to suppress, because emotional control is more highly valued in Eastern compared with Western cultures. Western cultures tend to place a higher value on emotional expression (Matsumoto, Yoo, & Fontaine, 2008) and view suppression as simply an attempt to cope with unwanted and inappropriate negative emotion (Gross, 2001). In contrast, suppression is valued in holistic cultures due to its role in facilitating interrelatedness and maintaining appropriate restraint in the service of adaptive goals (Heine & Lehman, 1999; Lau et al., 2009; Soto et al., 2013; Wei et al., 2013). This is perhaps why suppression is more habitual and likely to be automatized in holistic thinkers, demanding fewer cognitive resources as a result and enabling increased social responsiveness (Butler, Lee, & Gross, 2007; Soto, Perez, Kim, Lee, & Minnick, 2011).

Although a "cultural training" explanation is not immediately consistent with our threat explanation above, it is consistent with the tendency of holistic thinkers to focus on the surrounding context. This in turn fosters the tendency to self-distance from one's individual emotions and to engage in the flexible use of emotional regulation strategies. As such, suppression becomes a valuable and adaptive tool for meeting contextual demands. Indeed, choosing suppression to meet contextual demands is associated with decreased psychological costs compared with adopting suppression in service of self-protection motives (Butler et al., 2007). In contrast, analytic thinkers see emotional expression as a unique affirmation of individuality, enabling others to appreciate both the person and the significance of that person's experiences (Matsumoto et al., 2008). Because suppression conflicts with

the accepted norm of personal authenticity, demonstrated by open expression of emotion (Butler et al., 2007), analytic thinkers are less likely to "practice" suppression. Instead, they are more likely to seek to express their emotions inflexibly, irrespective of contextual demands.

Culture and Rumination

Rumination has been defined as the outcome of failed attempts to make meaning from misfortune and unpleasant experiences (Nolen-Hoeksema, 1991). Rumination captures the extent to which people get "stuck" with recirculating thoughts about possible reasons for experiences of pain and unpleasantness. Such thoughts are often encapsulated by questions such as "why me?" or "why did it happen?" and the inability to adaptively respond to the distress accompanying these questions (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). The hallmark of rumination is that any attempt to think through distress only escalates distress for those ruminating.

Relevant to our analysis is the finding that European Americans tend to suffer worse outcomes of rumination compared with East Asians, even though the latter report ruminating more frequently. For example, European American college students ruminate less than Asian Americans, yet their levels of rumination are approximately twice as predictive of anxious and depressive symptoms and life satisfaction (Chang, Tsai, & Sanna, 2010). Furthermore, the death of a spouse or child was more likely to result in prolonged distress and rumination in Americans compared with Chinese, despite higher levels of initial distress in Chinese participants (Bonanno, Papa, Lalande, Zhang, & Noll, 2005).

To understand cultural differences in how people cognitively respond to negative events, it is useful to distinguish between two broad categories: "brooding" and "reflecting" (Nolen-Hoeksema et al., 2008; Trapnell & Campbell, 1999; Treynor, Gonzalez, & Nolen-Hoeksema, 2003, see also Watkins, 2008). Reflection (or "pondering") is the result of thoughts about the nature of mental content, such as "thoughts are just thoughts." This perspective leads to purposeful engagement in cognitive problem solving to decrease negative mood. Brooding, in contrast, consists of analytical inquiry into the various truths suggested by thoughts permeated by low mood, such as in the questions "why me?" or "why do I always react this way?" and "how sad" or "how lonely" I feel. Brooding, then, is a response to the appraisal that negative emotions are self-relevant, and is directed toward the resolution of painful self-discrepancies and negative self-evaluation. Reflection, on the contrary, is focused on appraising the nature or process of thoughts and emotions; it holds a more objective mirror to the nature of emotions and the experiences they bring.

We suggest that the cultural dimensions of holistic versus analytic thinking provide insight into when and why people respond with reflection versus brooding, and more generally whether rumination tends to be adaptive or not. Starting with the tendency to differentially value positive versus negative emotion, we argue that holistic thinkers should be less likely to become "stuck" in negative emotional content and to engage in brooding. This is because they view negative emotions as less problematic, less threatening, and more likely to change. In short, there is less to worry about (and brood over) when it comes to the experience of negative emotion for holistic thinkers. Furthermore, the tendency for holistic thinkers to experience greater self-efficacy and flexibility in their capacity for emotion regulation should encourage more adaptive reflection and less brooding.

Another reason that holistic thinkers are less likely to experience maladaptive outcomes of rumination is due to their increased tendency to self-distance from their emotional experiences. Viewing the causes and consequences of one's emotional states within a broader context (rather than as simply pertaining to the self) should lead to less negative self-reflection and a reduced tendency to ask unhelpful questions such as "why me?" Consistent with this, although Russians tend to brood over their negative emotional experiences, they do so in a more self-distanced way compared with Americans, and this leads to fewer depressive symptoms (Grossmann & Kross, 2010). Whereas holistic thinking facilitates the capacity to adopt a self-distanced perspective on distressing events, analytic thinkers are more likely to become immersed in their own internal processes, in turn elevating threats to self-esteem and increasing repetitive distress-focused thinking (Cohen et al., 2007; Grossmann & Kross, 2010; Watkins, 2008).

Limitations, Clarifications, and Future Directions

The goal of our model was to use the notion of systems of thought to frame an argument about how culture influences people's relationship with their negative emotions. By definition, issues that lie outside these parameters lie outside the scope of our review, but this is not to say that these issues are not important, or that they would not be worthwhile topics for theoretical elaboration in their own right. In this section, we highlight five of these issues.

First, in considering how cultural dimensions impact on emotion functioning, we note there are two candidate factors: how people *think* about the world and how they *interact* with others. The current review focuses on the former. But recent work by Ford et al. (2015) highlights the importance of the latter factor, showing that people living in collectivistic cultures understand and pursue happiness through their relationships with others. Similarly, other work suggests that social support is associated with better health outcomes (Campos, 2015) and that how this support is provided and whether it is effective may be determined by cultural differences (e.g., Campos et al., 2014; Chen, Kim, Sherman, & Hashimoto, 2015). Although patterns of interaction are clearly important and may provide an alternative account of

how cultural differences impact on emotional functioning, we take seriously the notion that there is a symbiotic relationship between patterns of social interaction and patterns of thinking (Nisbett et al., 2001; Varnum, Grossmann, Kitayama, & Nisbett, 2010). Such a relationship suggests that one cannot easily tease apart the influence of these two factors, yet building a testable theory of how cultural patterns of interacting may shape emotional functioning is clearly a worthwhile task.

Second, although we identify three lay beliefs or thinking styles that are key to our analysis, we are not arguing that they provide an exhaustive account of the differences between holistic and analytic cultural dimensions, or that other dimensions may not also be relevant. Overlapping with the distinction between analytic and holistic ways of thinking is the parallel distinction between interdependent and independent cultures. As outlined by Markus and Kitayama (1991), independent cultures emphasize independence from others and the desire to discover and express unique attributes. In contrast, interdependent cultures emphasize attending to others, fitting in, and maintaining harmony within the social world. These understandings clearly share overlap with some aspects of the systems of thought perspective—in particular, the extent to which the self is contextually defined—and have implications also for understanding the role of social interaction described above. The importance of these divergent self-construals have been borne out in a large body of work showing that they have specific consequences for cognition, emotion, and motivation. Indeed, some of this work has directly focused on implications for emotional functioning (e.g., Kuppens et al., 2008).

Third, the goal of our review was to focus on how culturally ingrained systems of thought might explain national differences in prevalence of affective disorder. However, the cultural dimension of holism versus analytic thinking implies a specific set of psychological, "under-the-skull" mechanisms through which culture might influence intrapsychic functioning. Furthermore, researchers have developed self-report measures such as the Independent and Interdependent Self-Construal Scale (Singelis, 1994), the Dialectical Self Scale (Spencer-Rodgers et al., 2015), and the Analysis-Holism Scale (Choi, Koo, & Choi, 2007), which theoretically allow us to capture individual differences in these constructs independent of culture. This raises the following question: Can individual differences in holism and analytical orientations be abstracted from their cultural context and still be useful in predicting rates of disorder? For example, would Westerners who think holistically have an adaptive advantage in terms of managing their negative emotion compared with Easterners who think analytically? Some evidence suggests that this may be the case: Westerners who spontaneously reason in a dialectical fashion about social events show less negative affect and less depressive rumination (Grossmann, 2017; Grossmann, Gerlach, & Denissen, 2016; Grossmann, Na, Varnum, Kitayama, & Nisbett, 2013).

This question taps into an old debate about whether cultural differences are reducible to individual differences (see McCrae, 2000, and Schweder, 1973, for divergent perspectives) and resolution of the question is beyond the scope of this article. Particularly pertinent, however, is a study by Na et al. (2010), who collected a representative sample of Americans and administered 20 individual difference measures tapping independent versus interdependent social orientations and holistic versus analytic cognitive styles. Although these measures had been found to distinguish between cultural dimensions at the group level, the measures correlated negligibly with each other and did not cohere into meaningful dimensions at the individual differences level. As such, one should be cautious to assume that an analysis of cultural patterns can be relied on to understand those same patterns at the level of individuals. In the account of cultural differences in affective disturbance presented here, we rely on an individual-level analysis to understand how specific ways of thinking might shape how people respond to their own negative emotional experiences, but we do not suggest that the cultural-level dimensions of holistic and analytic are fully represented at the individual level. Rather, we argue that individuals shaped by their cultural contexts exhibit specific thinking styles which map onto these dimensions, and that we can understand cultural differences in affective disturbance based on the increased prevalence of culturally influenced thinking styles at the group level.[5]

Fourth, a critical issue is whether the holistic perspective is always protective. For example, being sensitive to the context may trigger anxiety by increasing the pool of information evaluated as relevant (Nisbett & Masuda, 2003). In addition, dialectical thinkers may be more likely to recognize the uncertainties and contradictions in their environment than non-dialectical thinkers (Cheng, 2009). This possibility is consistent with high self-reported distress on anxiety measures in East Asians (Okazaki, 2000). Furthermore, the dominant form of social anxiety in Japan is Taijin Kyofusho, or the relatively externally focused fear of offending others. This is compared with the relatively more internally focused social phobia diagnosed in Americans (Norasakkunkit et al., 2011). Indeed, Norasakkunkit et al. (2011) found that those displaying Taijin Kyofusho had increased holistic thinking compared with those displaying social phobia. Nonetheless, as noted, prevalence measures do not support the likelihood of greater vulnerability to anxiety disorders within holistic cultures. Evidence for a more complex view of the association between holistic thought and anxiety comes from Cheng (2009), who found that dialectical thinking in Chinese participants is associated with higher state anxiety, but that increased coping flexibility in responding to negative emotions (linked to dialecticism) reduced anxiety over time.

Finally, because our starting point was to understand cultural paradoxes in prevalence of affective disorder, we restricted our analysis to negative emotions. As such, the

model is agnostic about how systems of thought might influence people's relationships with their positive emotions. Two broad perspectives on this question are possible, however. On one hand, it is plausible that the same principles that theoretically lead members of holistic cultures to have a more adaptive approach to their negative emotions might lead them to have a less adaptive orientation to their positive emotions, for example, a failure to internalize positive emotions or to embrace positive experiences in a pure and wholehearted way (see, for example, Leu et al., 2010). Alternatively, it is possible that those with analytic systems of thought will be more prone to experiencing the "dark side" of the pursuit of happiness in terms of impaired well-being (Gruber et al., 2011). Indeed, recent evidence suggests that the paradoxical negative relationship between the pursuit of happiness and well-being typically found among Americans reverses among East Asians (Ford et al., 2015).

It is important to note also that effective responses to negative emotion have the capacity not just to reduce affective disturbance but also to promote positive psychological states. For example, the tendency to engage productively with negative emotion, rather than attempting to focus solely on silver linings, is predictive of posttraumatic growth following traumatic events (Su & Chen, 2015; Tedeschi & Calhoun, 2004). Furthermore, embracing the experience of negative emotion can build meaning in life. For instance, reminding people of death can lead them to see their lives as more meaningful (King, Hicks, & Abdelkhalik, 2009) and lead them to seek out more meaning (Vess, Routledge, Landau, & Arndt, 2009). Other evidence suggests that negative and painful experiences can increase social bonding (Bastian, Jetten, & Ferris, 2014) and may have a range of positive consequences (Bastian, Jetten, Hornsey, & Leknes, 2014). Having the skills to engage effectively and flexibly with negative emotional states—to value them and see them as less threatening—has the capacity to not only avoid affective and psychological disorder but promote positive and beneficial psychological outcomes.

Summary and Conclusion

The evidence reviewed above supports the suggestion that the way people think about negative emotions influences how adaptively they cope with those emotions, influencing their impact on mental health. We argue that these ways of thinking can be traced back to two cultural dimensions that are commonly relied on in understanding differences in how Easterners and Westerners see themselves, their relationships, and world they live in: holistic versus analytic systems of thought. In holistic cultures, there is a tendency to embrace contradiction, to expect change, and to understand the self in context. This holistic way of thinking fundamentally influences people's orientation to negative emotions: They are seen as less negative, less threatening, more manageable, and less intrinsically tied to the individual self than in analytic cultures. Holistic thinkers develop a different *relationship* to negative emotion than do analytic thinkers; they approach negative emotion from a perspective of acceptance and curiosity rather than avoidance and fear. This allows for greater flexibility in the use of emotion regulation strategies in line with contextual demands. To illustrate our model, we detailed how and why this suite of responses are likely to shape the outcomes of two well-known emotion regulation strategies—suppression and rumination—and why these approaches to regulating negative emotion are likely to be more effective for holistic as compared with analytic thinkers.

We re-emphasize that the increased ability to cope with negative emotion in holistic cultures is not necessarily due to a capacity to habitually downregulate that emotion. In short, our analysis does not presume that people who respond well to negative emotion should overall experience less negative emotion, only that they are less likely to go on to develop affective disorders when they do. Where we note an enhanced capacity in members of holistic cultures for downregulating negative emotional responses, this does not mean that across time they will experience fewer negative emotions. In fact, an enhanced capacity to effectively manage negative emotional experiences may facilitate an increased likelihood of exposing oneself to negative emotions, as the need to avoid them is less emphasized and they are less feared. Indeed, people may benefit from increased exposure to negative emotions, and increasing exposure to extinguish fear responses has been described as "one of the most efficacious therapeutic procedures in the psychological literature" (Gloster, Hummel, Lyudmirskaya, Hauke, & Sonntag, 2012, p. 148). Exposure to negative emotional states underpins much of the standard treatment of anxiety disorders (Barlow, 2002), is considered to facilitate psychological flexibility (Kashdan & Rottenberg, 2010), and allows for the learning of adaptive behaviors in the face of aversive stimuli (Gloster, Klotsche, Chaker, Hummel, & Hoyer, 2011). On the flip side, avoidance of negative emotion increases psychological vulnerability (Kashdan, Barrios, Forsyth, & Steger, 2006) and the likelihood of depression (Mellick, Vanwoerden, & Sharp, 2016).

Our review supports the possibility that cultural differences in how people think about negative emotion may play a role in explaining an apparent paradox: that self-reports of negative emotion are relatively high in the East, but prevalence rates of anxiety and depression disorders are relatively low. According to our model, Easterners should be able to absorb relatively high levels of negative emotion before it becomes distressing or problematic, "tipping over" into a clinical disorder. Recent findings indicate that variability in coping with negative emotions across culture has far-reaching effects on mental and physical health (Curhan et al., 2014); yet, to date, there has been no detailed account of exactly why these differences may exist. While disagreement remains as to whether such differences are real, having a

theoretical account of *why* they may be real provides an important perspective on this debate.

Independent of explaining cultural differences in prevalence of affective disturbance, we also believe that our analysis has the capacity to promote insight and understanding into the promotion of mental health. In this respect, it is noteworthy that our account is consistent with the recent rise of "Eastern style" approaches to psychological therapy in the West. Third-wave cognitive therapies aim to change an individual's relationship to negative emotion, increasing acceptance of change (Segal, Williams, & Teasdale, 2002), tolerance of contradiction (Borkovec & Sharpless, 2004; Linehan, 1993), and adaptation to context (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Indeed, an emphasis on change is inherent within CBT (Beck, Rush, Shaw, & Emery, 1979) and taking a self-distanced "fly on the wall" perspective is core to mindfulness-based therapies (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Kross et al., 2012; Teasdale et al., 2002). Acceptance and Commitment Therapy teaches that gaining an appreciation of oneself as existing within a social context allows for greater objectivity and acceptance in responding to negative emotion (Chambers, Gullone, & Allen, 2009; Gloster et al., 2012; Hayes, 2004; Shapiro, Carlson, Astin, & Freedman, 2006). Furthermore, because Eastern-style interventions seek to reduce the inclination to engage in avoidance-based strategies, they do not necessarily have to involve the down-regulation of negative emotions: indeed, such approaches may increase unpleasant memories (Teasdale et al., 2002) and trigger negative emotions (Kuyken et al., 2010) challenging the view that negative emotional experiences are inherently damaging for happiness (e.g., Garland et al., 2010).

In sum, our review suggests that there is much to be learned from a cross-cultural comparison of how people think about and respond to negative emotion. We hope that by providing a model that explains these differences at the level of psychological process, we have provided the groundwork not only for understanding what determines variance in prevalence of mental illness but also for gaining insight into novel avenues for promoting mental health. The differential value placed on emotion in the West has become a double-edged sword, with the relatively high value placed on positive emotions increasing the discomfort and difficulty of coping with unwanted negative emotions. Taking a cross-cultural approach provides for reflection on this tendency, and offers a useful perspective from which to understand and relate to negative emotion.

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Notes

1. In this article, we retain the terms "East" and "West" that were used in the original paper by Nisbett and colleagues. Like any generalization, this category system obscures important subtleties and within-category variations. It also suggests a misleading certitude that holistic versus analytic systems of thought might map neatly onto a single geographical divide. Although we acknowledge that the nomenclature is imperfect, we also maintain that there are deep and enduring differences between "Western" and "Eastern" cultures on the key constructs in our model, and that retaining the original labeling system has heuristic benefit in terms of maintaining consistency with the literature in which it is situated.
2. It should be noted that the Chinese-Canadian sample did not differ from the Euro-Canadian sample in their difficulty in identifying or describing feelings; but they did rate higher on externally oriented thinking. The authors conclude that the disproportionate focus on somatic versus psychological symptoms may reflect a culturally ingrained tendency among Westerners to focus on their emotions and make them central to their life. This in itself dovetails with the self-in-context aspect of our model which we discuss later.
3. In the interests of consistency, we use the word "analytic" in this article, which is the label used by Nisbett and colleagues. In doing so, however, we acknowledge that there is a significant tradition of scholarship from Asia that can be considered analytical, and emerged independently of Western Aristotelian logic.
4. We note that there is likely to be some cross-over influence of this way of thinking on the ways of responding that we have detailed above. For instance, expecting emotions to change may reduce the tendency to differentially value positive and negative emotion, and may also reduce the motivation to engage in hedonic regulation of negative emotion. Similarly, acceptance of contradiction may reduce the threat of negative emotion, something that we also link to the belief in change. Nonetheless, acceptance of contradiction does not imply a belief in change (nor vice versa) and we have linked the ways of responding that are likely to be most impacted by each of these respective beliefs. As we note at the outset, the possibility of cross-over effects in our model does not impact on our overall aim.
5. One interesting question is whether holistic thinking styles would be more adaptive when there is a fit between this thinking style and the cultural context, that is, whether holistic thinking will be more adaptive in holistic cultures than in analytic cultures. This seems plausible, although to our knowledge there is no systematic empirical examination of this cultural fit hypothesis.

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