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# Cultural Differences in Expectations of Change and Tolerance for Contradiction: A Decade of Empirical Research

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**Abstract**

Since the publication of Peng and Nisbett's seminal paper on dialectical thinking, a substantial amount of empirical research has replicated and expanded on the core finding that people differ in the degree to which they view the world as inherently contradictory and in constant flux. Dialectical thinkers (who are more often members of East Asian than Western cultures) show greater expectation of change in tasks related to explanation and prediction and greater tolerance of contradiction in tasks involving the reconciliation of contradictory information. The authors show how these effects are manifested in the domains of the self, emotional experience, psychological well-being, attitudes and evaluations, social categorization and perception, and judgment and decision making. They note important topics in need of further investigation and offer predictions concerning possible cultural differences in unexplored domains as a function of the presence or absence of naïve dialecticism.

**Keywords**

culture/ethnicity, lay theories, self/identity, attitudes, emotion, social cognition

In this article, we review the research on naïve dialecticism that has emerged in the past decade, since Peng and Nisbett's (1999) original article on this topic. This literature demonstrates that individuals who hold dialectical lay beliefs (who are more often members of Japanese, Chinese, Korean, and other Confucian-influenced cultures than North American or Western European cultures) are inclined to expect change and tolerate contradiction, cultural differences that have broad implications for cognition, emotion, and behavior (Cheng, 2009; Nisbett, Peng, Choi, & Norenzayan, 2001; Peng & Nisbett, 1999; Spencer-Rodgers, Boucher, Mori, Peng, & Wang, 2009; Spencer-Rodgers & Peng, 2004).

Because naïve dialecticism provides laypeople with epistemic guidance as they confront ostensibly incompatible information or predict patterns of change, we would expect the effects of naïve dialecticism to be particularly pronounced in tasks that involve perceptions of contradiction or change. In our lab, we have examined these effects primarily within the domains of the self, emotional experience, and psychological well-being; other researchers have investigated attitudes and evaluations, social categorization and perception, and judgment and decision making. We review this work in the following sections and further speculate, with the aim of stimulating future research, about how naïve dialecticism may influence perception in a variety of psychological domains that have yet to be examined from a dialectical perspective.

## Naïve Dialecticism

As one aspect of naïve dialecticism, the concept of change asserts that the universe is in a state of flux and that objects, events, and states of being in the world are forever alternating between two extremes or opposites (Peng & Nisbett, 1999). For example, hot becomes cold, light becomes dark, and love becomes hatred. Each element is transformed into its opposite in a perpetual cycle of change and reversal. As a result, East Asians, in comparison with their Western counterparts, are more likely to expect phenomena to undergo a change from the status quo. For example, Chinese college students estimate a higher probability than do American college students that a given romantic couple will break up or that two childhood adversaries will become lovers in adulthood (Ji, Nisbett, & Su, 2001). In Western cultural traditions, change is viewed as

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more linear in nature and emphasis is placed on progress, the future, and incremental and permanent adjustments.

Second, according to the related concept of contradiction, objects, events, and states of being in the universe are thought to comprise opposing elements. If the universe exists in a state of flux, and all people, objects, and events are thought to be perpetually changing, then what is true of someone or something at one moment in time may not be true of that person or thing at another moment in time. In a world that is perceived as changing abruptly and rapidly (e.g., good becomes bad, but then bad becomes good), contradiction must be assumed and accepted (e.g., what is good is also bad). Naïve dialecticism is characterized by the *doctrine of the mean*, or the belief that the truth is always somewhere in the middle, whereas Western folk theories are guided by the *law of non-contradiction*, or the notion that a proposition cannot be both true and false, and the *law of the excluded middle*, or the belief that all propositions must be either true or false (Peng & Nisbett, 1999). Because a single truth is thought to exist, Westerners seek to reconcile apparent contradictions. Using formal logic to evaluate propositions (Norenzayan, Smith, Kim, & Nisbett, 2002), Westerners tend to examine both sides of an opposing argument and reject the least, in favor of the most, plausible proposition, even to the point of polarizing their initial preferences for one proposition over another (Isenberg, 1986), as seen, for example, in the phenomena of cognitive dissonance (Festinger, 1957), disconfirmation bias (Lord, Ross, & Lepper, 1979), and group polarization (Stoner, 1968). The end result of this reasoning process is synthesis and the resolution of seeming contradiction.

The construct of naïve dialecticism (Peng, Spencer-Rodgers, & Zhong, 2006) represents an expansion and theoretical clarification of earlier work on dialectical thinking (Peng & Nisbett, 1999), in which dialecticism was conceptualized as a domain-general thinking style. We understand naïve dialecticism to be a constellation of lay beliefs about the nature of the world rather than a cognitive style or orientation such as a need for cognition (Cacioppo & Petty, 1982). Lay theories differ from cognitive styles in that they are domain specific, activated in specific contexts (Levy, Plaks, Hong, Chiu, & Dweck, 2001; Oyserman & Sorensen, 2009), and comprise situated *beliefs* about the world rather than a *motivation* to perceive the world in a particular way. Last, it is important to note that naïve dialecticism (i.e., the expectation of change and the tolerance of contradiction) can be reliably measured and experimentally manipulated in both Western and East Asian samples (Alter & Kwan, 2009; Chen, English, & Peng, 2006; Cheng, 2009; English & Chen, 2007; Paletz & Peng, 2009; Spencer-Rodgers, Boucher, Mori, et al., 2009; Spencer-Rodgers, Peng, Wang, & Hou, 2004). For example, when primed with the yin/yang symbol, European Americans who were very familiar with East Asian culture anticipated greater change in stock market predictions and weather forecasts (relative to those who were less familiar with East Asian culture; Alter & Kwan, 2009), suggesting that naïve dialecticism serves similar psychological functions in different cultural groups.

## Three Main Traditions in Cultural Psychology

Research on cultural psychology can be classified according to three core traditions (Peng, Ames, & Knowles, 2001): norms and values (e.g., collectivism/individualism, which emerged in the 1970s and 1980s; Triandis, 1995), self-construals (e.g., interdependence/independence, which emerged in the 1990s; Markus & Kitayama, 1991), and most recent, culture and cognition (e.g., holistic/analytic thinking; Nisbett, 2003). Collectivism refers to a cultural system of norms and values that emphasizes community, duty, respect for authority, and the maintenance of group harmony, in contrast to the norms of individual freedom, autonomy, personal fulfillment, and free choice that are valued in individualism (see Triandis, 1995). Interdependence is a culture-specific manner of defining the self that emphasizes interpersonal relations and conceptualizes the self as inextricably linked with important in-group members, such as family and friends, in contrast to an independent view of the self as separate from others and bounded by the individual person (see Markus & Kitayama, 1991). The literature reviewed here, on naïve dialecticism, has arisen principally, although not exclusively, from the holistic/analytic thinking tradition.

## Holistic/Analytic Thinking

The culture and cognition literature, which has focused largely on elucidating East–West variation in basic cognition (i.e., thinking styles and lay belief systems), has characterized East Asian thought as emphasizing *holistic thinking* and Western thought as emphasizing *analytical thinking*. Holistic and analytical thinking can be conceptualized as broad, overarching interpretive constructs or "cultural syndromes" (Triandis, 1995) that can help illuminate behavior both across and within cultures (Nisbett, 2003; Triandis, 1995; see also Kashima, 2009; Oyserman & Sorensen, 2009, for a discussion of hierarchical constructs in cultural psychological theories). Holism is a loose association of cognitive tendencies or lay beliefs that is more frequently found in East Asian than in Western cultures and that perhaps can be depicted best by the yin/yang symbol (see Figure 1).

A central element of the yin/yang symbol is the outer circle that represents the concept of context; holistic thinkers tend to emphasize the "big picture" rather than the focal object. Second, the inner elements of the circle are inextricably linked to one another, representing the holistic thinker's view that all aspects of the world are interconnected (Hansen, 1992; Peng & Nisbett, 1999; Peng, et al., 2006). In addition, and especially germane to the present review, the symbol is conceptualized as turning, representing the concept of change.

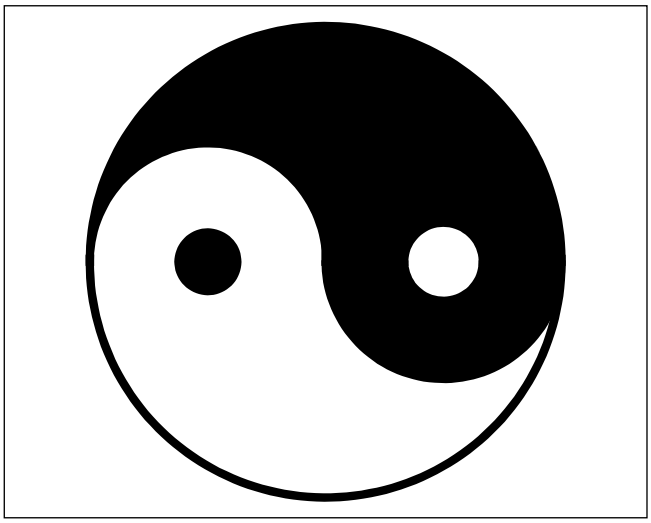

**Figure 1.** Yin/yang symbol.

According to holistic epistemologies, all things in the universe are perpetually changing and exist in a state of flux. If so, one must consider time and history from a much broader perspective, relative to that of an analytic thinker—looking farther upstream and downstream for the causal antecedents and consequences of events (Maddux & Yuki, 2006). Finally, the concept of contradiction, represented by the black dot and white dot, follows naturally from the concept of change. These dots represent the "seeds of their opposite"; every element in the universe includes something of its opposite (Peng & Nisbett, 1999; Peng et al., 2006). Furthermore, the white dot will become the black dot over time (and vice versa), in a never-ending cycle of change and renewal. Because the universe is always changing, what is true of something today may not be true of that same thing tomorrow, and contradiction must be tolerated and even embraced. This duality is reflected in the symmetry of the symbol. In a universe that is perceived as context dependent, inextricably interconnected, constantly changing, and inevitably contradictory, individuals are more inclined to anticipate change and to adopt a compromise rather than an extreme approach.

To summarize, a number of empirically documented cognitive tendencies can be interpreted under the overarching construct of holism, including locus of attention (with holistic thinkers emphasizing the broader context vs. a focal object; Abel & Hsu, 1949; Masuda & Nisbett, 2001), a focus on interrelationships among all social and nonsocial objects (with holistic thinkers regarding all people, objects, and events in the universe as inextricably related; Ji, 2008; Ji, Peng, & Nisbett, 2000), expectations of change (with holistic thinkers predicting greater change and more cyclical patterns of change, rather than stability or gradual linear change), and the concomitant tolerance of contradiction (with holistic thinkers more comfortable with and accepting of contradiction; Choi, Koo, & Choi, 2007; Nisbett, 2003; Nisbett, Peng, Choi, & Norenzayan, 2001; Norenzayan, 2006; Peng & Nisbett, 1999). Holistic thinking styles and lay beliefs have been more frequently found in East Asian (relative to North American) societies and are thought to derive from East Asian Taoist, Confucian, and Buddhist philosophical traditions (Nisbett, 2003). In this review, we focus on the cognitive tendency to expect change and the associated tolerance for contradiction that, together, are known as naïve dialecticism (Peng & Nisbett, 1999).

## Change, Contradiction, and the Cultural Syndrome Approach

Many aspects of holism (e.g., focus on interrelationships, locus of attention, preference for compromise) and their implications for cognition and social judgment have been examined and reviewed extensively elsewhere (e.g., Nisbett, 2003; Nisbett et al., 2001; Norenzayan, 2006). In this article, we focus on naïve dialecticism (Peng et al., 2006), a lay belief system that can be viewed as a facet of the broader, overarching interpretive construct of holism, as it derives from the same general East Asian Taoist, Buddhist, and Confucian epistemologies. Naïve dialecticism has been the topic of a great deal of new research since it was originally described by Peng and Nisbett (1999). In particular, we consider empirical work on the expectation of change and the related concept of tolerance of apparent contradiction, as these constructs have received relatively less attention in the literature.

Although cultural theories such as holistic/analytic thinking, interdependent/independent self-construal, and collectivism/individualism were originally conceptualized as coherent cultural systems that directly influence the thoughts, feelings, and behaviors of their cultural members, contemporary theorizing in cultural psychology (e.g., the semiotic model; Kashima, 2009; the situated cognition model; Oyserman & Sorensen, 2009, Oyserman, Sorensen, Reber, & Chen, 2009) has suggested that these higher level cultural constructs (e.g., holism) should be viewed as interpretive concepts or "cultural syndromes" that, although they are generally more accessible in some cultures (e.g., East Asian) than in others (e.g., Western), can help illuminate behavior both across and within cultures (Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009). This perspective is positioned in contrast to a view of these dimensions as domain-general causal variables that produce monolithic, invariant, mean-level differences at the national level, across time and situations.

### *Origins of Cultural Syndromes*

Large-scale multicountry studies have shown that these cultural syndromes are found in different "amounts" in different national and ethnic subgroups. For example, Chileans are highly collectivist but are not dialectical (Schimmack, Oishi, & Diener, 2002). These findings suggest that different cultural

syndromes may have different causal origins. To illustrate, geographically influenced factors, such as social arrangements that developed in agrarian rural communities, were thought to give rise to the cultural tendencies of collectivism and interdependent self-construals, which in turn gave rise to holistic thinking (Nisbett, 2003). Furthermore, Taoist, Buddhist, and Confucian belief systems are thought to have reinforced holistic and dialectical worldviews among East Asians in particular. More research is needed to clarify the sources of variability in collectivism and holism around the world.

### *Relationship Between Expectations of Change and Tolerance of Contradiction*

In support of the cultural syndrome perspective, theorists note that cultural constructs that ostensibly should be correlated within the same cultural group (such as the degree to which East Asians hold both an interdependent self-construal and a holistic worldview) are often only weakly associated when assessed with questionnaire measures (e.g., $r = .09$, *ns*, between interdependent self-construal and holistic worldview among Koreans; Choi et al., 2007, Study 2). Similarly, lower-level cultural constructs that purportedly should cohere as part of a general latent factor such as holism are frequently only weakly related to each other (e.g., "locus of attention" and "perception of change," $r = .13$, $p < .05$, among Koreans; Choi et al., 2007, Study 1).

According to the cultural syndrome approach, one would not necessarily predict that change expectations and tolerance for contradiction—the two constructs reviewed here—would be correlated. We discuss them together in this review because they have a close theoretical connection and a hypothesized causal relationship. As discussed previously, the tendency to expect change gives rise to the view that no one truth can be seen as permanent and reliable; contradiction among multiple truths is therefore inevitable. Our perspective is that these cultural constructs should be most strongly associated when both judgments are made in the same domain. For example, a person who views his or her own personality as changeable (*sometimes I am extraverted and sometimes I am introverted*) might be expected to also view it as comprising contradictory elements (*I am both extraverted and introverted*). On the other hand, in keeping with the context-dependent nature of cultural influence described by the cultural syndrome approach, we would anticipate the relationship between expectations of change and tolerance for contradiction to be weaker when the constructs are compared across domains (e.g., tolerating contradiction in the behaviors of a romantic partner may be unrelated to expecting change in the weather).

The empirical data seem to suggest a significant but relatively small relationship between change and contradiction that likely depends on the domain of measurement. For example, Choi and colleagues reported a significant association, $r = .15$, $p < .01$, between general beliefs about contradiction (as measured by the Attitude toward Contradictions subscale of the Analysis-Holism Scale) and general beliefs about change (as measured by the Perception of Change subscale; Choi et al., 2007). Thus, Korean participants who endorsed change items (e.g., "Current situations can change at any time") were generally more inclined to endorse contradiction items (e.g., "It is more desirable to take the middle ground than go to extremes"). Similarly, the emotion literature has shown that emotional lability, or the tendency for one's emotions to change, is correlated with emotional complexity, or the tendency to experience opposing emotions simultaneously (Goetz, Spencer-Rodgers, & Peng, 2008). Finally, in our research in the domain of the self, we have found that beliefs about change (e.g., "I often find that my beliefs and attitudes will change under different contexts") and contradiction (e.g., "When I hear two sides of an argument, I often agree with both") are correlated across various national and ethnic groups ($r$s $\approx .20$). One limitation of these data, of course, is their correlational nature; experimental studies are needed to fully establish the relationship between the expectation of change and tolerance of contradiction. For example, participants could be led to believe that a domain is highly unstable and changeable (e.g., that personality is malleable over the life course) and then provide ratings indicating the relative consistency or inconsistency of their views in that domain.

### *Relationship Between Naïve Dialecticism, Collectivism, and Interdependent Self-Construal*

As outlined earlier, naïve dialecticism is distinct from other prominent cultural theories, such as collectivism/individualism (Triandis, 1995) and interdependent self-construal (Markus & Kitayama, 1991). Consistent with the cultural syndrome model, measures of naïve dialecticism are only weakly related to other culture-specific measures. For instance, the correlation between a measure of dialectical self-beliefs (Spencer-Rodgers, Srivastava, et al., 2010) and interdependent self-construals (Singelis, 1994) was only $r = .08$ among American college students at the University of California, Berkeley, and $r = .06$ among Chinese college students at Peking University (Spencer-Rodgers, Srivastava, et al., 2010). Thus, although one would expect to see mean-level differences *between* East Asian and Western cultures on naïve dialecticism as well as collectivism and interdependent self-construal, these dimensions are theoretically and empirically independent when measured *within* cultures. In this light, then, a Japanese citizen could espouse dialectical folk theories (or not), hold collectivist values (or not), and construe herself in an interdependent manner

(or not); all three mechanisms could uniquely influence her thoughts and behaviors in relevant domains (Kashima, 2009; Oyserman & Sorensen, 2009).

### *Context-Activated Behavior and the Cultural Syndrome Approach*

The cultural syndrome perspective views culture as influencing and activating cognitions and beliefs within specific contexts, rather than as a motivation to perceive the world a certain way or to behave consistently across all contexts. As a consequence, we anticipate boundary conditions on the extent to which East Asians will expect change and tolerate contradiction in all domains and aspects of life. For example, when rating their perceptions of various national groups, Chinese participants were inclined to regard the groups as possessing internally consistent (i.e., stereotypic) and homogeneous characteristics, rather than as possessing contradictory traits (Spencer-Rodgers, Williams, Hamilton, Peng, & Wang, 2007). In this case, the context of group perception may have been most relevant to the cultural syndrome of collectivism, activating views of groups as relatively agentic and entitative. The fit between the group-perception context and collectivistic worldviews may in this case have "trumped" the Chinese participants' dialectical tendency to expect relatively greater contradiction in their environment. In sum, the dialectical tendencies to expect change and tolerate contradiction, although more frequent overall in East Asian cultures, are likely to be contextually sensitive and most relevant to tasks involving prediction or the resolution of apparently conflicting ideas.

The utility of naïve dialecticism is that it allows for the integration of many known findings in the cross-cultural literature and for the generation of specific predictions concerning how cognitive, emotional, and behavioral processes will differ between individuals with and without dialectical lay theories. For instance, although collectivism and interdependent self-construal can readily explain why a person from an East Asian culture might be expected to conform to a group's norms and rules more readily than would someone from a Western culture, these models do not provide a clear explanation for why a person from an East Asian culture might exhibit greater internal inconsistency in his or her personality traits at a single moment in time (Choi & Choi, 2002; Spencer-Rodgers, Boucher, Mori, et al., 2009) or expect greater change in the stock market (Ji, Zhang, & Guo, 2008), relative to a Westerner. Moreover, dialectical self-beliefs—but not interdependent self-construals—have been related to such findings as cultural differences in emotional complexity (Hui, Fok, & Bond, 2009), thus further highlighting the utility of measuring naïve dialecticism. In the following sections, we review the emerging research on expectations of change and tolerance of contradiction within the domains of the self, emotional experience, psychological well-being, attitudes, social categorization, and judgment and decision making.

## Conceptions of the Self

A sizable body of cross-cultural research has shown that Western and East Asian conceptual selves differ in important ways (Campbell et al., 1996; Cousins, 1989; Heine & Lehman, 1999; Markus & Kitayama, 1991; Triandis, 1995). Western folk epistemologies and lay theories of knowing, which are largely based in Aristotelian formal logic (Lewin, 1951), tend to emphasize stability, coherence, and the resolution of contradiction through integration and synthesis (Festinger, 1957; Heider, 1958; Lewin, 1951; Peng & Nisbett, 1999). Likewise, the "Western self-concept" can be characterized by cross-situational consistency (stability across contexts), internal consistency (congruence among its various parts), and temporal consistency (stability over time). For members of Western societies, the cultural mandate is to identify and define one's unique set of internal attributes and to express and affirm those attributes consistently over time and context (Kanagawa, Cross, & Markus, 2001; Markus & Kitayama, 1991). Moreover, a clear, coherent, and stable sense of self is largely associated with psychological well-being in the West (Campbell, 1990; Suh, 2002). The Western self-perspective is perhaps best reflected in the Shakespearian adage: "To thine own self be true" (Orgel & Braunmuller, 2002).

Conversely, East Asian folk epistemologies and lay theories of knowing tend to emphasize the concepts of contradiction and change. As a consequence, the East Asian conceptual self is generally less clearly and confidently defined, internally consistent, and cross-situationally and temporally stable (Campbell et al., 1996; Choi & Choi, 2002; Spencer-Rodgers et al., 2004; although see English & Chen, 2007). Japanese, Chinese, and Koreans tend to show less cognitive dissonance (Heine & Lehman, 1997a), self-congruence (e.g., congruence between the actual, ideal, and ought selves; Heine & Lehman, 1999), and cross-situational self-consistency than do North Americans (Church et al., 2008; Spencer-Rodgers, Boucher, Mori, et al., 2009; Suh, 2002). According to cognitive dissonance theory (Festinger, 1957), people will adjust their attitudes to match discrepant behaviors because they possess a fundamental need for self-consistency. Yet, Japanese participants generally do not experience dissonance with respect to their private thoughts, emotions, and behaviors (Heine & Lehman, 1997a; Kitayama, Snibbe, Markus, & Suzuki, 2004; although they do when there are social costs or repercussions, such as making inconsistent choices on behalf of important others; Hoshino-Browne et al., 2005; Kitayama et al., 2004). For members of dialectical societies, the cultural mandate is to acknowledge the transience of all things and to accept

opposing self-aspects. Moreover, these qualities of the self are regarded as normative and adaptive and are less strongly associated with psychological well-being (Bond, 1986; Markus & Kitayama, 1991; Suh, 2002). The dialectical self-perspective is perhaps best reflected in the words of Buddha (cited in Carus & St. Ruth, 1998): "Where self is, truth is not. Where truth is, self is not."

### *Cross-Situational and Cross-Role Consistency*

If the "dialectical self" is malleable and ever-changing, then it is reasonable to expect that East Asians would exhibit less consistency in their self-beliefs across roles and situations. Scholars have referred to this phenomenon as greater "self-concept inconsistency" (Spencer-Rodgers, Boucher, Mori, et al., 2009), or inversely, as less "identity consistency" (Suh, 2002), "cross-role consistency" (Church et al., 2008), or "self-concept unity" (Campbell et al., 1996). Relative to Westerners (i.e., American, British, German, and Australian participants), East Asians (i.e., Chinese, Japanese, Korean, and Malaysian participants) possess more contextualized self-views (Kanagawa et al., 2001; Kashima et al., 2005; Suh, 2002), expect personality to be malleable rather than fixed (Chiu, Hong, & Dweck, 1997; Norenzayan, Choi, & Nisbett, 2002), and show less agreement when judging others' personalities (Malloy, Albright, Diaz-Loving, Dong, & Lee, 2004). Although Asian Americans do not exhibit less consistency than European Americans in their self-beliefs across physical settings (e.g., the gym, cafeteria, etc.; English & Chen, 2007), Asian Americans, Koreans, and Japanese describe themselves differently when asked to think of themselves in different roles or relationship contexts (e.g., with close friends, professors, strangers, etc.; Church et al., 2008; English & Chen, 2007; Suh, 2002). Kanagawa and colleagues (2001) advanced this premise a step further and showed that Japanese actually describe themselves differently when in the presence of different people.

### *Internal Consistency*

In addition to exhibiting less consistency across roles and contexts, East Asians possess more contradictory self-beliefs, attitudes, and values at any given moment in time (Campbell et al., 1996; Choi & Choi, 2002; Spencer-Rodgers, Boucher, Mori, et al., 2009; Wong, Rindfleisch, & Burroughs, 2003), compared with Westerners. Members of dialectical cultures tend to embrace opposing aspects of the self, with contrasting components of the self-concept existing in active harmony. Hence, when asked to rate their personality characteristics and values on semantic opposites (e.g., "How shy are you?" vs. "How outgoing are you?"), they tend to exhibit less internally consistent responses (Choi & Choi, 2002; Hamamura, Heine, & Paulhus, 2008; Kim, Peng, & Chui, 2008; Wong et al., 2003).

Dialectical tendencies toward tolerance of contradiction influence the manner in which East Asians respond to Likert-type scales about the self and other attitude objects (Hamamura et al., 2008). Participants in East Asian countries (Japan, China, Thailand, Singapore, and Korea) provide less internally consistent answers to positively keyed and negatively keyed questionnaire items than do North Americans, resulting in lower scale reliabilities. This phenomenon, however, does not appear to be simply due to response biases, such as acquiescence (Schimmack, 2009; Wong et al., 2003; although see Locke & Baik, 2009), but rather reflects substantive cultural variation in lay belief systems. Naïve dialecticism, as assessed by the Dialectical Self Scale (DSS; Spencer-Rodgers, Srivastava, et al., 2010), is correlated with more ambivalent responding on Likert-type measures of self-esteem (Spencer-Rodgers et al., 2004) and personality traits (Hamamura et al., 2008). Furthermore, cultural differences in ambivalent responding are mediated by dialectical beliefs about the self (Hamamura et al., 2008).

One limitation of early research on the topic of self-concept inconsistency is that participants were presented with explicit stimulus questions concerning their personality traits, attitudes, and values. As a consequence, the results could easily have been influenced by social desirability and self-presentation concerns. Spencer-Rodgers and colleagues (Spencer-Rodgers, Boucher, Mori, et al., 2009) recently examined whether East Asians exhibit greater contradiction in their self-beliefs on a timed computer task, an open-ended assessment (Twenty Statements Test; Kuhn & McPartland, 1954), and a free-recall implicit measure. On the computer task, Japanese participants exhibited less internally consistent responses than did European Americans when making rapid self-judgments about semantic opposites (e.g., *shy* and *outgoing*). In two other studies, Chinese participants spontaneously reported (Study 2) and spontaneously recalled (Study 3) more contradictory personal attributes than did European Americans. Thus, cultural variation in self-concept inconsistency is not simply due to cultural differences in self-presentation or self-expression, in which Americans—but not East Asians—strive to provide internally consistent responses to explicit questions about the self. Rather, these findings suggest that a greater amount of inconsistent self-knowledge is stored in memory or is cognitively accessible among dialectical perceivers.

### *Temporal Consistency*

Less empirical research has examined whether East Asians, compared with Westerners, hold less consistent self-conceptions over time. On the open-ended Twenty Statements Test (Kuhn & McPartland, 1954), Chinese and Japanese participants use more dynamic self-statements (e.g., "I am someone who tries hard not to lie" vs. the static self-statement "I am honest"; Spencer-Rodgers, Boucher, Mori, et al., 2009) and

situational/temporal modifiers (e.g., "I am outgoing *when* . . ."; Cousins, 1989), which reflect some type of transition—recent, ongoing, or desired change—in the self-concept. In a longitudinal study, English and Chen (2007) found that Asian Americans demonstrate inconsistency in their self-beliefs across relationship contexts but temporal stability in their context-specific relational selves (e.g., self-with-friends, self-with-parents). In the affect domain, however, Oishi, Diener, Scollon, and Biswas-Diener (2004) used experience sampling to assess stability in Japanese and American participants' emotional experiences and found that Japanese participants' self-reported positive and negative emotions varied more over relationship contexts and over time, relative to Americans. Further research is needed to reconcile these findings.

### *Self-Verification*

Research and theorizing on self-verification, studied largely with European American samples, suggests that people value feedback that confirms their existing views of themselves, in part out of epistemic needs to ensure consistency of perception between the self and others (Swann, Rentfrow, & Guinn, 2003). Yet, East Asians, who do not have a strong need to see themselves in a consistent manner across roles and through the eyes of multiple perceivers, may show less evidence of self-verification. Indeed, people high in dialecticism do not seek to verify their global self-views when presented with self-discrepant feedback (rather, they verify only situational or contextualized self-views; Chen et al., 2006). In one study (Spencer-Rodgers, Boucher, Peng, et al., 2009), Chinese and American participants completed a series of personality tests and received bogus feedback concerning their level of extraversion. The Chinese participants rated themselves as significantly less extraverted on a second personality test after receiving contradictory feedback indicating that they were introverted. Moreover, they adjusted their self-beliefs regardless of whether the introversion feedback was framed in a positive or negative way, indicating that the results were not simply driven by a greater willingness to accept self-criticism among the Chinese participants. Conversely, European Americans resisted the feedback if it conflicted with their existing self-conceptions. In sum, European Americans tended to self-verify when their prevailing view of themselves was challenged, whereas Chinese more readily accepted contradictory conceptions of the self. These findings suggest that a greater amount of contradictory self-knowledge is available or cognitively accessible among members of dialectical cultures.

### *Proximal Mediators*

To summarize, mounting evidence indicates that East Asians show greater expectation of change and tolerance of contradiction in their self-conceptions, relative to Westerners. Two cultural variables have been put forth as proximal mediators of these effects: dialecticism and collectivism (or interdependence). Members of collectivist cultures also should exhibit less consistency in their trait-related behaviors, because their actions are more strongly influenced by role requirements, and the ability to flexibly adjust to the situation and needs of others is more highly valued (Markus & Kitayama, 1991). Given that most psychological phenomena are multiply determined, both cultural variables likely contribute to the aforementioned findings. However, evidence based on comparative studies provides greater empirical support for the causal role of dialecticism.

For example, Church et al. (2008) examined cross-role trait consistency among college students living in non-dialectical, individualist countries (e.g., Australia); non-dialectical, collectivist countries (e.g., Mexico); and a prototypical dialectical, collectivist country (Japan). Participants rated themselves on 40 traits tapping the Big Five personality dimensions, with assessments made for the self generally and when with close friends, parents, professors, younger siblings/relatives, and strangers. Participants from the dialectical culture (Japan) showed the least cross-role consistency in their self-reported trait ratings. It is important to note that participants from the non-dialectical, collectivist cultures (e.g., Mexicans) showed greater consistency than both the Japanese participants and those from individualist cultures. This suggests that it is East Asian dialecticism—rather than collectivism—that is associated with self-concept inconsistency. Parallel results have been obtained with observer ratings of personality. Participants from China (a dialectical, collectivist culture), but not those from Mexico (a non-dialectical, collectivist culture), show less interobserver agreement in trait ratings, compared with Americans (Malloy et al., 2004).

In addition to comparing the responses of dialectical and collectivist national groups, scholars have measured dialectical self-beliefs directly via the DSS. Participants' scores on the DSS mediate cultural differences in the internal consistency of the global self-concept (Spencer-Rodgers, Boucher, Mori, et al., 2009) and in self-verification (Spencer-Rodgers, Boucher, Peng, et al., 2009), and they predict more contextualized self-views (Chen et al., 2006). Furthermore, the Behavioral Change subscale of the DSS mediates cultural variation in the consistency of self-beliefs across relationship contexts (English & Chen, 2007). Thus, substantial empirical support exists for the influence of dialecticism on self-concept consistency, including experimental studies that have established a causal relationship (Spencer-Rodgers et al., 2004).

## Emotional Experience

Another important consequence of the dialectical folk theory of contradiction is that East Asians more comfortably tolerate opposing or "mixed" emotions. Scholars have referred to this tolerance as "emotional complexity" (e.g., Goetz et al., 2008),

"hedonistic balance" (Diener, Suh, Lucas, & Smith, 1999), or "dialectical emotions" (e.g., Leu et al., in press; Lindquist & Feldman Barrett, 2008; Miyamoto, Uchida, & Ellsworth, in press). East Asians emphasize balance over positivity, moderation over intensity, and complexity over purity in their emotional experiences. Whereas good feelings (especially ego-focused emotions, such as happiness) are idealized and maximized in the West, purely positive emotions are often regarded as socially and personally undesirable in East Asian contexts (Tsai, 2007; Tsai, Knutson, & Fung, 2006).

In Western cultures, researchers generally find a strong negative correlation between good and bad feelings, such that individuals who report experiencing pleasant emotions more intensely or frequently also report experiencing unpleasant emotions less intensely or frequently (or vice versa; Perunovic, Heller, & Rafaeli, 2007; Spencer-Rodgers et al., 2004). However, data from East Asian samples reveal a significantly weaker association, no association, or even a positive relationship between good and bad feelings. This phenomenon has been documented among Chinese (Bagozzi, Wong, & Yi, 1999; Spencer-Rodgers, Peng, & Wang, 2010; although see Yik, 2007), Koreans (Bagozzi et al., 1999), Japanese (Kitayama, Markus, & Kurokawa, 2000; Scollon, Diener, Oishi, & Biswas-Diener, 2005), and North Americans of East Asian descent (Perunovic et al., 2007; Spencer-Rodgers et al., 2004). In semistructured laboratory conversations, for example, Asian Americans report greater emotional complexity when interacting with their romantic partners than do European Americans (Shiota, Campos, Gonzaga, Keltner, & Peng, in press). Perunovic and colleagues (2007) conducted a diary study with Asian Canadian biculturals and found that when Asian cultural constructs or an Asian language was activated, positive and negative affect were uncorrelated—even at the level of online or momentary experience. When Western cultural constructs or languages were activated, on the other hand, positive and negative affect were inversely related. Similarly, Leu and colleagues (in press) asked European American, Chinese, and Japanese participants to read standardized diary entries describing positive, negative, and neutral situations and to report what the protagonist was feeling on an open-ended measure. East Asians perceived greater complexity in the target's emotions than European Americans (i.e., a weaker correlation between their reports of the target's positive and negative affect) but, interestingly, only with respect to positive situations. As Leu and colleagues noted, "While 'finding the good in the bad' is a cross-culturally shared attitude towards negative situations, 'finding the bad in the good' in positive situations is only meaningful from a dialectical perspective" (p. 8). These cultural differences in emotional complexity do not appear to be due to response styles or modesty bias, as they persist when these factors are included as moderators or covariates in statistical analyses (Hui et al., 2009; Schimmack, Oishi, & Diener, 2002), and are observed with open-ended measures (Leu et al., in press).

In addition to generally experiencing more mixed emotions (Goetz et al., 2008), East Asians hold more favorable attitudes toward them (P. Williams & Aaker, 2002) and are more comfortable with the simultaneous activation of affective opposites (Goetz et al., 2008; P. Williams & Aaker, 2002). Williams and Aaker investigated people's attitudes toward advertising photos that elicited positive, negative, or mixed (happy/sad) emotions in various scenarios (e.g., a grandmother who passed away but who lived long enough to know her grandchild). The European and Asian American participants experienced approximately equal levels of emotional complexity in the mixed scenarios, as measured by a complexity/ambivalence index. However, European Americans rated the mixed advertisements less favorably and felt significantly more "uncomfortable," "conflicted," and "confused" following stimulus exposure. Thus, although Westerners can and do experience mixed emotions (e.g., Larsen, McGraw, & Cacioppo, 2001; Schimmack, 2005), these experiences typically evoke discomfort and are relatively infrequent, unstable, and fleeting.

Several lines of research have investigated the specific cultural factors that lead to group differences in emotional complexity, including dialecticism, collectivism (or interdependence), and cultural norms and values related to emotions (e.g., those concerning "ideal affect"; Tsai, 2007). Converging empirical evidence suggests that dialecticism, and not collectivism or interdependence, accounts for the findings. In a large-scale international study (Schimmack et al., 2002), college students in 38 nations reported how frequently they had felt four positive and four negative emotions over the previous month. Using hierarchical linear modeling, the authors examined country-level effects by classifying the nations as dialectical and collectivist (e.g., China), non-dialectical and collectivist (e.g., Peru), or non-dialectical and individualist (e.g., Australia). It is notable that a dialectical classification was a more potent predictor of emotional complexity than was a collectivist classification, suggesting that national differences in emotional complexity are due to naïve dialecticism and not collectivism.

Furthermore, two recent studies have directly measured dialectical beliefs about the self via the DSS. In a 15-week longitudinal study, Hui and colleagues (2009) assessed Hong Kong Chinese participants' emotional responses to one positive and one negative event that had occurred in the preceding week. At the end of the study, participants completed measures of dialecticism and interdependent self-construals (Singelis, 1994), and emotional complexity scores were computed for each event. Dialecticism was related to greater emotional complexity in positive situations but not negative situations, again suggesting that people high in dialecticism are particularly inclined to "find the bad in the good" (Leu et al., in press). It is important that these results were obtained controlling for interdependent self-construals (Singelis, 1994), which were uncorrelated with the emotional complexity

scores. An experimental study further points to the causal influence of dialectical self-beliefs on emotional complexity. Spencer-Rodgers, Peng, & Wang, (2010) primed dialecticism among Chinese and European American participants. Participants in the prime condition obtained higher scores on the DSS and an emotional complexity index than did those in the control condition, and the DSS mediated cultural differences in emotional complexity.

## Psychological Well-Being

What consequences does dialecticism have for psychological health? The relationship between dialecticism and mental health is complex. On one hand, dialectical epistemologies encourage individuals to focus on both the negative and positive aspects of all things, including the self, one's life, and so on. Therefore, it would be reasonable to expect that dialecticism would have some detrimental consequences for psychological health. Indeed, endorsement of items on the DSS is correlated with lower global self-esteem and life satisfaction, as well as greater anxiety and depression among Chinese participants (Spencer-Rodgers et al., 2004) and less self-enhancement among Asian Americans (as indexed by the better-than-average effect; English & Chen, 2007). On average, Chinese participants report lower psychological well-being than do European Americans, a finding that is mediated, in part, by dialectical beliefs about the self (Spencer-Rodgers et al., 2004). Again, this cultural variation in well-being judgments appears to be due to dialecticism and not collectivism. Members of dialectical, collectivist cultures (Chinese, Koreans, Japanese, Indonesians, and Malaysians) exhibit less polarized (i.e., less purely positive or negative) life quality judgments than do members of non-dialectical, individualist cultures (e.g., Americans; Minkov, 2009). However, members of non-dialectical, collectivistic cultures (e.g., Mexicans, Egyptians, and Moroccans) show even more polarized judgments than both East Asians and Americans.

On the other hand, the tendency of individuals high in dialecticism to "find the good in the bad" may buffer self-esteem and well-being during times of adversity, leading to positive effects on psychological health. Members of dialectical cultures "bounce back" more readily following a negative event than do members of non-dialectical cultures. Ji and colleagues (Ji, Zhang, Usborne, & Guan, 2004), for example, documented that Chinese took a more balanced view of a tragic series of events than did Canadians, by focusing on both the costs and benefits of the Severe Acute Respiratory Syndrome (SARS) outbreak. Similarly, diary studies show that it takes fewer positive events to mitigate an adverse event for Japanese, Koreans, and Asian Americans than for European Americans (Oishi, Diener, Choi, Kim-Prieto, & Choi, 2007). Cheng (2009) recently provided cross-sectional, experimental, and longitudinal evidence that dialectical beliefs about the self (as assessed via the DSS) are related to greater coping flexibility among Hong Kong Chinese students. Coping flexibility refers to an individual's ability to formulate flexible strategies to handle different demands under changing circumstances. When dialectical self-views were primed, Chinese participants showed greater flexibility in their approach to various stressful situations (Cheng, 2009, Study 2). Dialecticism may even affect people's conceptualization of and expectations about their personal well-being and physical health (Hou, Zhu, & Peng, 2003; Ji et al., 2001). Chinese anticipate that their personal happiness will wax and wane over the course of their lifespan, with abrupt reversals in direction, whereas Americans tend to predict that their levels of happiness will either increase (most common) or decrease in a linear fashion (Ji et al., 2001). Thus, it is unclear whether dialecticism has a net negative effect on psychological well-being, and more research is needed to resolve this issue.

In addition to direct effects, scholars have examined the potential indirect effects of dialecticism on mental health via its influence on psychological complexity (i.e., self-evaluative ambivalence, self-concept inconsistency, and emotional complexity). Because contradiction and change are regarded as natural and pervasive in East Asian contexts, psychological complexity may have a less harmful effect on mental health among East Asians, even though it is more common. Indeed, the bulk of the research suggests that psychological complexity is less strongly related to well-being indicators among Chinese, Japanese, Koreans, and Americans of East Asian descent.

### *Self-Evaluative Ambivalence and Well-Being*

As outlined earlier, experimental research shows that dialecticism leads to greater "self-evaluative ambivalence" or "dialectical self-esteem" (Spencer-Rodgers et al., 2004, Study 4), that is, internal inconsistency in the evaluative nature of the self-concept. Dialectical perceivers accept both the good and bad in the self. As a consequence, on self-report measures of well-being such as the Rosenberg Self-Esteem Scale (Rosenberg, 1965), they tend to endorse both positively keyed and negatively keyed items, thereby yielding more *ambivalent* or evaluatively inconsistent responses (Hamamura et al., 2008; Heine, Lehman, Markus, & Kitayama, 1999; Kitayama & Markus, 1999) and lower overall scores. This phenomenon has been documented among Chinese (Boucher, Peng, Shi, & Wang, 2009; Kim, Peng, & Chiu, 2008), Japanese (Hamamura et al., 2008), and Asian Americans (Spencer-Rodgers et al., 2004). In contrast, European Americans and individuals low in dialecticism strongly endorse positively keyed items and reject negatively keyed ones (or vice versa), thereby producing internally consistent responses.

Boucher and colleagues (2009) recently replicated this finding using an implicit measure of self-esteem that is less susceptible to response biases: the Go/No-Go Association

Task (Nosek & Banaji, 2001). Chinese and European American participants quickly paired self-related words (e.g., *me*, *myself*) with either positive (e.g., *smart*, *success*) or negative (e.g., *stupid*, *failure*) stimuli by pressing the space bar on a computer keyboard. There were no cultural differences in associating the self with positive terms, revealing that the implicit positive self-views of the Chinese participants were roughly equivalent to those of European Americans. However, the Chinese participants more readily associated the self with negative terms and obtained higher self-evaluative ambivalence scores. Moreover, cultural differences in implicit self-evaluative ambivalence were mediated by participants' scores on the DSS.

If East Asians more readily acknowledge and accept their unfavorable personal qualities, it would be reasonable to conjecture that this would lead to psychological distress. Initial evidence suggests, however, that this is not the case. In a correlational study (Spencer-Rodgers, Peng, & Wang, 2010), self-evaluative ambivalence was unrelated to life satisfaction, anxiety, and depression among Chinese college students ($r$s = .02, .07, and .12, *ns*) but significantly related among European American college students ($r$s = –.27, .32, and .32, $p$s < .01).

### *Self-Concept Inconsistency and Well-Being*

Although all people show some degree of variability in their self-perceptions and behaviors across contexts, consistency in the content of one's self-beliefs is regarded as one of the cornerstones of mental health in Western psychology. Self-concept inconsistency (i.e., variability in the content of one's self-descriptions in different roles and situations) is related to greater anxiety and depression and lower self-esteem and life satisfaction in North American samples (Campbell et al., 1996; Donahue, Robins, Roberts, & John, 1993; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). Yet, behaving differently across contexts is not necessarily a reflection of inauthenticity or maladjustment in the East but, rather, the dialectical proclivity to tolerate contradiction and change (Cheng, 2009). East Asians may readily acknowledge inconsistency within the content of the self-concept and not suffer adverse consequences.

Indeed, the relationship between self-consistency and well-being is generally more tenuous among Japanese, Koreans, and Chinese than North Americans (Campbell et al., 1996; Church et al., 2008; Suh, 2002). One might speculate again that these findings could be influenced by both dialecticism and collectivism. For example, psychological well-being has been shown to hinge less on self-concept consistency among people who are highly relational/interdependent in their self-construals (Cross, Gore, & Morris, 2003). However, comparative studies, again, provide greater support for dialecticism (Church et al., 2008). The correlations between self-concept consistency and various mental health indicators were weaker in dialectical samples (Japanese) than in individualist samples (American, Australian), but not collectivist samples more broadly (Mexicans; Church et al., 2008). Further studies are needed to determine the possible joint contributions of dialecticism and collectivism to mental health among East Asians.

### *Emotional Complexity and Well-Being*

Given the fundamentally different cultural approaches to mixed emotions outlined earlier, with members of dialectical cultures viewing the co-activation of positive and negative emotions as natural and inevitable, and those of non-dialectical cultures favoring emotional purity or integration, it would be reasonable to expect that emotional complexity is less psychologically damaging for members of dialectical cultures. In Western cultures, emotional complexity is an indicator of inner conflict and psychological distress, signaling the need for greater cognitive and emotional processing (for a review, see Goetz et al., 2008). In accordance with this perspective, Spencer-Rodgers, Peng, & Wang, (2010) found that emotional complexity was strongly related to lower life satisfaction among European Americans, but only weakly so among Chinese. Additional studies are needed with other mental health indicators.

## Attitudes and Evaluations

Although much of the dialectical literature has focused on the self and emotional experience, naïve dialecticism also may shed light on cultural differences on other tasks in which people are influenced by lay theories of contradiction and change. One such area is attitudes and evaluations of people and social issues.

### *Attitudes Toward In-Groups and Out-Groups*

According to social identity theory (Tajfel & Turner, 1986) and conventional wisdom, people should favor their in-groups (and other self-relevant attitude objects) over out-groups, with the aim of reinforcing their self-esteem. And yet, in-group derogation, although counterintuitive to Western minds, is reliably observed in East Asian cultures (Bond & Hewstone, 1988; Cuddy et al., 2009; Ma, Spencer-Rodgers, & Peng, 2010; Snibbe, Kitayama, Markus, & Suzuki, 2003). Because individuals with dialectical lay beliefs emphasize both the good and bad in self and others (Spencer-Rodgers et al., 2004), they might exhibit greater negativity toward a wide range of attitude objects, including in-groups and their members. If contradictory elements coexist in all things, as suggested by the dialectical concept of contradiction, then positive and negative elements must also coexist in valued social objects. Indeed, although Japanese participants do show relationship-enhancing biases (as indicated by the tendency to evaluate their own relationships as better than average; Endo, Heine, &

Lehman, 2000; Sedikides, Gaertner, & Toguchi, 2003), Japanese and Chinese participants are often more critical of friends, family members, romantic partners, and ethnic in-group members, relative to North Americans, especially European Americans (Endo et al., 2000; Heine & Lehman, 1997b; Hewstone & Ward, 1985; Ma et al., 2010). For example, Chinese participants in Malaysia endorsed negative stereotypes of their own ethnic group and favored the out-group over the in-group in their attributions (Hewstone & Ward, 1985). Japanese participants report lower levels of satisfaction with their significant others, universities, cities, country, and even sports teams than do Americans (Diener, Suh, Smith, & Shao, 1995; Endo et al., 2000; Snibbe et al., 2003).

These in-group–derogating or "anti-us" tendencies were recently examined in two studies with Chinese Americans (representing a dialectical, collectivist culture), Hispanic Americans (representing a non-dialectical, collectivist culture), and European Americans (representing a non-dialectical, individualist culture; Ma et al., 2010). The study participants completed an explicit measure (i.e., traditional rating scale) and two implicit measures of in-group attitudes (i.e., Implicit Association Tests [IATs]). A cognitive IAT tapped implicit beliefs about the personality traits of social objects and an affective IAT assessed implicit emotional associations with these objects. The social objects assessed included ethnic group members (represented by traditional Chinese, Hispanic, and European American first names). Ingroup-disfavoring tendencies were observed among Chinese American participants at an explicit level and at an implicit level as measured by the cognitive (trait) associations, but not as measured by the implicit affective associations. European Americans, on the other hand, exhibited in-group favoritism (rather than in-group derogation) across all measures, and Hispanics were generally neutral (neither in-group derogating nor favoring).

These studies yielded several intriguing findings. First, in-Ingroup-disfavoring tendencies were pronounced only among the East Asian participants, which is consistent with a culture-specific system of beliefs that emphasizes tolerance for contradiction. Both Hispanics and East Asians are relatively interdependent and collectivist, but Hispanics are generally not dialectical, as indicated by their low mean scores on the DSS (Spencer-Rodgers, Srivastava, et al., 2010). Second, the East Asian participants exhibited in-group derogation in their explicit beliefs and their implicit cognitive associations, but not in their implicit affective orientation toward in-group members, suggesting that these anti-us tendencies do not reflect deep-rooted negative feelings toward the in-group. Moreover, paralleling the cultural tendency toward self-criticism (Heine & Hamamura, 2007; Heine et al., 1999), these results suggest that in-group derogation reflects lay belief systems and cultural norms of modesty and humility rather than pathological self-hatred. Last, a dialecticism prime led to greater in-group derogation, pointing to the causal role that dialecticism plays in cultural differences in in-group derogation.

Dialectical perceivers also might exhibit greater contradiction (i.e., evaluative ambivalence) in their attitudes toward out-groups as well as in-groups. In combination with ethnocentrism and historical group conflicts, these critical tendencies may reflect a dialectical approach to person and group perception. Specifically, East Asians may expect social objects and groups to possess a greater balance of favorable and unfavorable qualities. Although the influence of naïve dialecticism on out-group attitudes has yet to be assessed, members of dialectical cultures might hold more ambivalent attitudes toward out-groups. This remains an important question for further research.

Dialecticism also may influence the type of information that is regarded as diagnostic about out-groups and other social objects. Research on impression formation, studied largely with American and Western European samples, shows that negative information more strongly influences people's evaluations of others than does comparably extreme positive information (Skowronski & Carlston, 1989). In East Asian cultures, the dialectical concept of tolerance for contradiction may affect the relative weight that is given to positive, negative, and extreme information about a social target. For example, Koreans, relative to their American counterparts, exhibit less surprise when confronted with undesirable or counterintuitive behaviors (Choi & Nisbett, 2000). If people are seen as both good and bad, generous and selfish, strong and weak, and so on, then East Asians may regard negative and extreme behaviors as less diagnostic of others than do Americans.

### *Attitudes Toward Social Issues*

Recent research has shown that Japanese and Asian Canadians, relative to European Canadians, exhibit greater ambivalence in their attitudes toward a wide variety of social and political issues. For example, Asian Canadians were more ambivalent than were European Canadians about such issues as abortion, immigration, and globalization, and these cultural differences in evaluative ambivalence were mediated by participants' responses on the DSS (Hamamura, 2004).

East Asians also possess more changeable or dynamic attitudes, relative to North Americans. In a recent study (Morio, Yeung, & Peng, 2010), Japanese participants' moment-to-moment evaluations of various social issues (e.g., homosexuality, recycling), captured in real time by tracking the movement of a computer mouse, showed greater contemplation time and response fluctuation than did the evaluations of Americans. These cultural differences were mediated by individual differences in the propensity to endorse dialectical self-beliefs (DSS scores).

Last, not only do East Asians exhibit greater ambivalence toward social issues, but they also are less bothered by their ambivalence. In an experimental study, Wonkyong,

Newby-Clark, and Zanna (2006) primed ambivalent attitudes toward several controversial issues (e.g., capital punishment) among Asian and European Canadians. They then measured the degree to which people held contradictory attitudes (cognitive ambivalence) toward the issues, as well as the extent to which they felt "torn" or conflicted (emotional ambivalence) about the issues. There was a significantly weaker correlation between cognitive and emotional ambivalence (feeling torn) among Asian Canadians than European Canadians, suggesting that the Asian Canadians were less troubled by their ambivalent attitudes.

## Social Categorization and Perception

The influence of dialecticism on social categorization and perception is relatively unexplored, although one might reasonably hypothesize that dialecticism affects the nature of the categories employed by members of East Asian cultures. The dialectical concept of change implies that East Asian classification systems may be more flexible and variable, with fuzzier and more diffuse boundaries. For instance, membership in a social category (e.g., poor) may be seen as less permanent to a person with dialectical lay beliefs, for whom "poor" one day may mean "rich" the next. Ji and colleagues (2001), for example, demonstrated that Chinese participants were more likely than Americans to predict that a man raised in a poor family would grow rich one day rather than remain poor in adulthood. This can be contrasted with the Western tendency to misperceive socially constructed categories as being biological in origin, hereditary, and permanent (Rothbart & Taylor, 1992).

Because of the concept of contradiction that characterizes naïve dialecticism, East Asians might expect people, including themselves, to belong to multiple categories. If most phenomena comprise contradictory elements (e.g., yin/yang, good/evil, masculinity/femininity, etc.), then social objects should be perceived as belonging to at least two distinct categories as well. Americans, in contrast, have traditionally perceived social categories, such as racial and ethnic categories, as distinct and mutually exclusive, as manifest in self-identification checkboxes on official forms that instruct the participant to "choose one." Because East Asians are more tolerant of contradictory ideas, they may more readily perceive others as belonging to two or more ethnic categories simultaneously or, alternatively, as being simultaneously a member and a nonmember of a category. To illustrate, individuals of East Asian mixed heritage (e.g., Chinese/White) exhibit more malleable racial identification, relative to other mixed-race individuals (e.g., Black/White, Latino/White), and participants' scores on the DSS moderate the association between malleable racial identification and psychological well-being (Sanchez, Shih, & Garcia, 2009). On the other hand, as previously described, particular contexts such as group perception may be especially likely to activate collectivistic more than dialectical cultural tendencies for East Asian perceivers. We perceive the question of the nature and function of dialectical social categories and social identities in East Asian cultures as an exciting arena for further research.

In addition to attitudes/evaluations and social categorization/perception, dialecticism may help guide further research on cross-cultural differences in other areas of social cognition, such as causal attribution and stereotyping. Cross-cultural variation in causal attribution has been investigated extensively. East Asians provide more contextualized explanations for their own and others' behaviors (Choi, Nisbett, & Norenzayan, 1999; Morris & Peng, 1994; Norenzayan, 2006). The field would nonetheless be served by a greater understanding of the influence of dialecticism on these phenomena, such as the role of perceptions of social groups and actors as inconsistent and ever-changing. Likewise, dialectical lay theories could provide insight into the development, application, stability, and transmission of stereotypic knowledge in different cultural groups. For example, East Asians view social groups as more agentic and entitative than do North Americans (Kashima et al., 2004) and readily stereotype in the absence of contextual information (Spencer-Rodgers et al., 2007); however, their stereotypic beliefs might be more flexible and amenable to change (Williams & Spencer-Rodgers, 2010).

## Judgment and Decision Making

Naïve dialecticism may elucidate the cultural specificity of basic reasoning and decision-making processes. In particular, the East Asian expectation of change has been studied extensively by Ji, Maddux, Yuki, and others (see Ji, 2008). We briefly review some of the principal findings. Maddux and colleagues have dubbed the East Asian expectation of change the "ripple effect," in reference to the finding that East Asians incorporate more causes, and consider more downstream consequences, in explaining events, relative to Americans (Maddux & Yuki, 2006). When considering the distal consequences of the creation of a national park, for example, American participants were more likely to mention direct effects such as an improved local environment, whereas Japanese participants discussed a greater number of indirect, longer-term consequences such as effects on the global environment or the political scene (Maddux & Yuki, 2006). Whereas Americans predict that positive trends will continue in the same direction, Chinese are more likely to predict an abrupt reversal in fortune (Ji et al., 2001). In stock market decisions, Canadians are strongly influenced by current price trends: They tend to predict that recent trends will persist, whereas Chinese participants make selling decisions based on historical patterns (Ji et al., 2008). Documented in children as young as 11 (Ji, 2008), this recognition of change is regarded as normative and adaptive. People who conceptualize objects and events as changing cyclically are more often seen as wise in China than in the United States (Ji et al.,

2001). The East Asian approach to change is well exemplified in the words of China's Premier Zhou Enlai. When asked what the effect of the French revolution was in history, he replied, "It's too early to tell" (New World Encyclopedia; http://www.newworldencyclopedia.org/entry/French_Revolution). In summary, dialectical decision makers perceive the future in terms of dynamic change rather than linear trajectories, with "rippling" consequences that are expected to continue for years to come.

East Asian tolerance of contradiction, and the related constructs of preference for compromise and cooperation, has been investigated extensively in the organizational and marketing domains (e.g., Aaker & Sengupta, 2000; Briley, Morris, & Simonson, 2000; Leung, 1987; Peng & Nisbett, 1999), where decision-making styles have important implications for dyadic negotiations and group dynamics. Because dialectical perceivers tolerate contradiction, they tend to avoid extreme positions, preferring a "middle road" or compromise approach to conflict resolution (Leung, 1987; Peng & Nisbett, 1999). Mainland Chinese, for example, interpret ostensibly competitive behaviors as more cooperative than do Americans (Keller, Loewenstein, & Jin, 2010), a finding that is related to dialectical self-beliefs. In a computer simulation study, Chinese participants scored higher on the DSS than did Americans, and scores on the DSS were related to a greater willingness to achieve compromise by sharing information with a potential competitor (Keller et al., 2010). As a result of the cultural proclivity to anticipate change, East Asians further show greater variability in judgment and decision-making processes. For example, East Asian international students exhibit less choice-congruent behavior and compliance with their initial decisions than do American students (Petrova, Cialdini, & Sills, 2007) and are more likely to expect that attitudes and behaviors can be inconsistent (Kashima, Siegel, Tanaka, & Kashima, 1992). In summary, because of their greater tolerance for contradictory and opposing ideas, dialectical perceivers may be relatively unlikely to approach conflicts and decisions with the goal of drawing out the single "correct" solution and instead may seek a compromise that incorporates the perspectives of all parties.

## Future Directions

Taken together, naïve dialecticism represents a constellation of culture-specific folk beliefs, distinct from previous cultural theories (e.g., collectivism; Triandis, 1995), that offers a powerful interpretive tool for accounting for cultural differences in a wide variety of psychological domains. In this article, we have outlined a large number of cross-cultural findings that can be understood in light of naïve dialecticism, although much work remains to be done. Dialectical perceivers, who probably reside primarily among East Asian cultural groups as a consequence of Confucian, Taoist, and Buddhist intellectual influences on those cultures, view the world and its social and nonsocial components as internally contradictory, inextricably interconnected, and inevitably in flux. One research question that remains unexplored is the extent to which naïve dialecticism is prevalent in geographical regions other than East Asia, such as South America, Africa, and the Middle East. The *phenomena* of tolerance for contradiction and the expectation of change exist elsewhere; tolerance for contradiction, for example, has been documented in India (Ramanujan, 1989; Shweder, 1991). However, the folk theories that give rise to this cognitive process may have their origins in different philosophical and intellectual traditions. In East Asia, dialectical lay theories derive from Confucianism, Taoism, and Buddhism (Nisbett, 2003), but little is known about either the origin or prevalence of these cognitive processes in other nations.

Dialectical lay theories may guide further research into a number of other areas in social psychology, as well as additional branches of psychology. East Asians, for example, may perceive greater flexibility and dynamism in their interpersonal relationships, their goals, their values, and more, as a consequence of viewing themselves and social objects as in constant flux. Naïve dialecticism also has clinical, counseling, and health implications; the accurate diagnosis and treatment of mental and physical health problems among East Asians hinges on understanding cultural differences in lay beliefs. In East Asian dialectical cultures, psychological adjustment may be better conceptualized as a two-dimensional (positive/negative), dynamic construct that changes over time and context (Spencer-Rodgers et al., 2004). Furthermore, cognitive psychologists and neuroscientists could examine whether contradictory knowledge is stored differently in memory among members of East Asian dialectical and Western non-dialectical cultures. Preliminary research suggests that contradictory self-knowledge is more cognitively accessible among Chinese than among American college students (Spencer-Rodgers, Boucher, Mori, et al., 2009), but little is known concerning possible cultural variation in how contradictory information is attended to, encoded, organized and stored in neural networks, and retrieved from memory. Developmental psychologists at the University of British Columbia are currently investigating how parental dialectical lay beliefs affect their children's tolerance for contradiction and mastery of various cognitive tasks (http://www.devcogneuro.com). East Asian lay theories of contradiction and change may shed light on all of these areas.

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