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When in Rome Think Like a Roman: Empirical Evidence and Implications of Temporarily Adopting Dialectical Thinking

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Abstract

As a result of increasing globalization, people are exposed to an even greater extent to other cultures, making it possible for individuals to assimilate mindsets that are typical of another culture. Recent work on extracultural cognition has shown that immediate cultural contexts exert powerful influences on cognition and behavioral patterns. This chapter reviews empirical support for extracultural cognition. Specifically, the chapter focuses on dialectical thinking and the well-established finding in the cultural literature that Westerners tend to anticipate linear continuity in the environment and East Asians anticipate change in existing patterns. Research shows, though, that cultural cues may shift these tendencies and— at least temporarily—alter cognitive mindsets to reflect the cognitions of another culture. After a review of the literature, the chapter addresses the implications of extracultural cognition for understanding the influence of dialectical thinking on judgment and decision-making.

Keywords: dialectical thinking, cultural context, cultural cues, extracultural cognition, judgment, decision-making

In the movie *Roman Holiday* (1953), runaway Princess Anne (Audrey Hepburn) and American journalist Joe Bradley (Gregory Peck) get swept up in the beauty and culture of Rome and cannot help but fall madly in love. As they are inundated with Italian culture on a scooter ride touring Rome, the princess and the reporter begin to adopt the passionate, fun-loving nature

of the Italian people. As the adage goes, "When in Rome, do as the Romans do." In this case, Audrey Hepburn and Gregory Peck act Roman and take on the characteristics of the culture as though their worldviews had completely changed. *Roman Holiday* has become a classic and set the standard for modern romantic comedy. It also raises a question of whether culture-specific ways of thinking are malleable. Can being exposed to another culture change the way that people think and behave?

Traditionally, cultural differences—including differences in cognition—have been viewed as stable over extended periods of time and resistant to change (see Hofstede & Hofstede, 2005; Moore & Lewis, 1952; White, 1947). Culture, by providing a context for cognition, serves as an important influence guiding individuals to make sense of and navigate the world around them (Fiske, Kitayama, Markus, & Nisbett, 1998; Heine & Norenzayan, 2006; Markus & Kitayama, 1991; Shweder, 1990; Smith & Bond, 1993; Triandis, 1995). Traditional conceptions assume that these cultural differences in cognition are *intracultural*, meaning they are situated within a specific cultural context, and an implication of this is that people outside of the culture do not adopt them.

Today, with increasing globalization, people are exposed to an even greater extent to other cultures. Consequently, these traditional conceptions of culture may no longer hold. People are increasingly exposed to and experience other cultures, making it possible for individuals to assimilate mindsets that are typical of another culture. Recent work on *extracultural* cognition has shown that immediate cultural contexts exert powerful influences on cognition and behavioral patterns. European Americans, for instance, may adopt cognitive mindsets (e.g., a dialectical thinking style) typically associated with the Chinese in the presence of a salient Chinese cultural symbol or context (Alter & Kwan, 2009).

In this chapter, we discuss and review empirical support for the idea that cultural worldviews can be temporally malleable to the extent that the immediate environment conveys alternative cultural worldviews. While a well-established finding is that Westerners tend to anticipate linear continuity in the environment and East Asians are more likely to anticipate change in existing patterns, cultural cues may shift these tendencies and—at least temporarily—alter cognitive mindsets to reflect the cognitions of another culture. This chapter consists of three main parts. First, we will introduce the literature on dialectical and nondialectical (otherwise termed "linear") cognition. This section is not intended to be a comprehensive review of the previous studies on dialectical cognition; rather, it is intended to provide a concise overview of the topic. Interested readers should refer to chapter 1 and other chapters in this volume for a detailed discussion of this literature. Second, we will focus our attention on extracultural cognition (i.e., the ways people can express the worldviews of other cultures). In this section, we discuss recent research on the topic, including current research from our lab. Third, we discuss a number of implications and identify future directions for extracultural cognition research in the final section of the chapter.

Dialectical versus Nondialectical Cognition

Nondialectical cognition has a long lineage in Western history and is evident even in ancient Greece (Peng & Nisbett, 1999). Parmenides—an ancient Greek philosopher from around 510–450 BCE who had a large impact on Western philosophy—in his famous poem, "On Nature," argues that things do not change (Ji, Nisbett, & Su, 2001). According to Parmenides, existence is timeless and uniform, and nothing can emerge from nothingness, thus it has always existed. Western philosophy embraced this linear view of nature, and it can been seen in the ridged structure of philosophical arguments that reinforce a perception that each cause creates an effect, and all effects are inherently tied to a cause. This is a direct expression of the belief that there is a direct, linear relationship between events. Even the Western view of utopia is built on the idea that we are steadily rising toward creating the perfect society, which we will then maintain, unchanged, for eternity (Ji et al., 2001). The future is perceived as being on a fixed, linear path upward without deviation in its direction.

As described in these cultural examples, Western nondialectal or "linear" thinking is characterized by a preference for consistency and lack of change. When change does occur, it is thought to progress in a linear, consistent direction not deviating from its original path. In nondialectical thinking, contradictions are considered unacceptable and, according to the rules of logic, one side of the contradiction must be deemed correct. There is little attempt to tolerate the contradiction, nor are Westerners likely to see truth in both perspectives. As such, Western nondialectical thinking is in constant pursuit of a single truth, and emphasis is placed on the construction of counterarguments when scrutinizing the correctness of two competing propositions.

Traditional Chinese philosophy is exemplified in the *I Ching*, or *Book of Changes*, which discusses how the world changes from one extreme to another. The moon waxes and wanes. Summer becomes fall, which becomes winter, which becomes spring, and then becomes summer again. According to this philosophy, energy keeps moving and the spirit keeps changing. This constant change and the coexistence of opposites are the essence of the yin and yang principle. Even the Confucian principle of utopia reflects a U-shaped life model (Ji et al., 2001). According to this philosophy, the golden time was in the past, to which we will return in the future.

East Asian philosophy suggests that there are three principles associated with dialecticism (Nisbett, Peng, Choi, & Norenzayan, 2001; Peng & Nisbett, 1999). The first is the principle of change. Reality is seen as a process that is dynamic and changeable, rather than static. Because nature and life are fluid, people and things are seen as capable of morphing rather than remaining constant. Second is the principle of contradiction. Because change is constant, contradiction is constant. Good and bad, new and old, up and down are dependent on one another for their existence. As part of this belief, it is possible for opposites to exist simultaneously within the same state of affairs. Based on this principle, two competing ideas are seen as both containing truth instead of being in direct contradiction with one another. A corollary is that East Asian philosophy focuses on finding a "middle road" to resolve conflicts rather than finding truth in one perspective over another. Third is the principle of relationship or holism. Because there is constant change and contradiction, nothing in nature and life is isolated and

independent. Because everything is related, trying to extrapolate elements from the larger whole can be misleading and erroneous.

Cross-Cultural Differences between Dialectical and Linear Thinking

Researchers have examined how dialectical and nondialectical tendencies in East Asian and Western cultures influence cognition. In this section, we discuss some of the notable findings from this literature. First, we consider the area of decision-making and predictions about future trends based on information about past trends. East Asians are more likely to predict changes in trends—including reversals in the direction of the trend—whereas Westerners are more likely to expect the continuation of the same trend (for a detailed review, see Chapter 3 in this volume). According to one study, when presented with graphs showing various trends for statistics over time, such as cancer death rates or global economic growth, Westerners made more predictions consistent with the given trends than East Asians. In contrast, East Asians made more predictions that deviated from the given trends than did Westerners, and they were more likely to predict a reversal in the trend, such that the slope actually changed direction (Ji et al., 2001).

Other research paradigms have provided East Asian and Western participants with various graphs depicting stock trends and then asked whether the participants would buy the stock or keep the stock if told they already own it (Alter & Kwan, 2009; Ji, Zhang, & Guo, 2008). The results show that Westerners are more likely to buy stocks and keep them when there are increasing or stable trends, whereas East Asians are more likely to buy or keep stock when there is a decreasing trend. When asked to explain their decisions, Westerners argued that the future price of the stock would follow the same trend (Ji et al., 2008). In contrast, East Asians were more likely to argue that the price would probably go in the opposite direction. Another version of this study found the same effects even among experienced stock investors (Ji et al., 2008).

Future predictions have also been examined in the context of one's own happiness. In the study by Ji and colleagues (2001), participants were provided with a number of different graphically depicted trend lines and asked to pick which best represented their happiness throughout their lifetime. Westerners were more likely to endorse a linear trend that showed they expected their happiness to continue in the same direction at an even pace. East Asian participants were more likely to endorse a nonlinear trend line and were twice as likely as Westerners to endorse a U-shaped trend. These findings show that, for East Asians, happiness and unhappiness can transform into each other following a cyclical route. Findings such as these regarding predictions of future events suggest that Westerners may be more likely to commit the "hot hands fallacy" (Ji et al., 2008). This is the mistaken belief that past success in a random event will predict future success, such as when a sports player is thought to be doing well—he has "hot hands"—thus people predict the success streak will continue. Conversely, East Asians are more likely to commit the "gambler's fallacy" (Ji et al., 2008). This is the mistaken belief that random events going one direction, such as a coin being tossed heads repeatedly, will turn around and start going the other direction.

East Asians and Westerners also differ in their perceptions of themselves and others as a result of differences in cognitive style. Research on the perceptions of the self has shown that although coherence in one's sense of self is important and possibly universal, there are cultural differences in how people achieve this goal (Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009). Westerners tend to strive for internal consistency so that opposing qualities do not simultaneously exist within the individual. In contrast, East Asian cultures seem to strive more for equilibrium, or a balancing of opposing characteristics (Spencer-Rodgers et al., 2009).

When it comes to perceptions of others, Westerners often display what is termed the *fundamental attribution error*—the tendency to make internal attributions when evaluating the behavior of others—a phenomenon that was once thought to be universal (Morris & Peng, 1994). Cultural studies have shown, however, that East Asians are less likely to make internal, or dispositional, attributions than are Westerners (Choi, Nisbett, & Norenzayan, 1999). For example, one study found that an English-language newspaper reporting on an incident involving multiple murders used more personal dispositions, or internal attributions, to explain the crime than a Chinese-language newspaper, which used more situational factors, or external attributions, when reporting on a similar crime (Morris & Peng, 1994).

As mentioned earlier, one of the principles of dialectical thinking is that of contradiction. Opposites exist in the same object or event and depend on one another for their existence. Without sadness, we would not know happiness. This principle has been reflected in a number of interesting differences observed in how East Asians and Westerners process conflict. When resolving conflicts, East Asians are more likely to try to find a "middle road" or compromise rather than choose a "correct" side (Peng & Nisbett, 1999). They are also more focused on addressing both sides of the issue. In contrast, Westerners are more likely to find fault with one side or the other and are less likely to search for a compromise. This was tested in both a social context, such as a mother and daughter fighting, and a scientific context, such as when two studies provide contradictory findings.

Research on Within-Culture Variation
Although a vast majority of the research has focused on cross-cultural differences in dialectical cognition, evidence also suggests that there is within-culture variation. The capacity to think dialectically exists across cultures but depends on a number of factors, including age and other situational influences, such as life experience. For instance, cross-cultural variations in beliefs about change are not robust at every age. Research on the development of dialectical thinking shows that at the age of 7, East Asian and Western children predicted similar amounts of change in a number of domains, but by age 11, Chinese children made significantly more dialectal predictions (Ji, 2008). This finding suggests that dialectical cognition increases as children learn and master the relevant cultural theory. Other research also has shown that older individuals tend to exhibit more dialectical thinking than that of young and middle-aged people. For example, older individuals tend to emphasize the need for taking multiple perspectives and finding a compromising "middle road" when dealing with intergroup and interpersonal conflict (Grossmann et al., 2010). Furthermore, Baltes and Staudinger (1993) have demonstrated that older individuals and those in the helping professions (e.g., clinical psychologists,

pastoral counselors, legal specialists in marriage and family matters) tend to think more dialectically because they have had more life experiences. Having a broader knowledge base of human experience to draw from means that people are more likely to generate counterexamples.

Research also suggests that dialectical thinking varies within cultures (Choi, Koo, & Choi, 2007; Spencer-Rodgers et al., 2009. Choi, Koo, and Choi (2007) found that Korean participants differed in their scores on the Analysis-Holism Scale, depending on whether they were students of Oriental medicine or other medical fields (for a review, see chapter 4 in this volume). Koreans studying Oriental medicine show greater holistic beliefs compared to Koreans studying other medical fields. Spencer-Rodgers and colleagues also find substantial within-culture variation in people's responses on the Dialectical Self Scale (for a review, see Spencer-Rodgers et al., 2009), Research also has shown differences in dialectical thinking that are based on social class within cultures. For example, Grossmann and Varnum (2010) showed that Americans with lower socioeconomic status backgrounds exhibit more dialectical thinking. Working class individuals attend more to the context, use less linear reasoning about change, and make less dispositional inferences about others.

Extracultural Cognition

As our brief review of the cross-cultural literature shows, Westerners and East Asians differ in the extent to which they display dialectical cognition, among other cultural differences. The traditional view is that these cultural differences are largely stable. Changes in cultural beliefs are thought to be relatively infrequent, and when change does happen, it is slow to occur. An essential part of this conceptualization of culture is that cognition is *intracultural*, meaning that it is situated within a particular culturally bound context. Thus, one must be immersed within a cultural context to psychologically experience and express the cognitions and worldviews of that culture. Yet, research with bicultural individuals suggests that people can shift cultural perspectives and that this process is largely automatic (e.g., Hong, Morris, Chiu, & Benet-Martínez, 2000; Wan, Chiu, Peng, & Tam, 2007; Wong & Hong, 2005). One study showed that bicultural Westernized Hong Kong Chinese participants, when primed with either American or Chinese culturally laden icons, shifted their attributional style. They resembled monocultural Americans when primed with an American flag and monocultural Chinese people when primed with a Chinese dragon (e.g., Hong et al., 2000). Findings like these suggest that biculturals do not have a single cognitive style. Rather, they are capable of shifting between various cognitive styles—such as dialectical versus nondialectical thinking—depending on which culture is most salient in a given situation. The developmental literature on dialectical thinking also suggests that cognitive style is something that is learned instead of innate (Ji, 2008). If children do not display dialectical cognition until about the age of 11, then, presumably, it is something acquired from socialization. This suggests that shifts in cultural cognition are possible as one's dominant cultural environment changes.

If bicultural individuals are capable of shifting their cultural perspectives because of their access to two cultural worldviews, and cultural cognition is learned rather than innate, then

logically, individuals exposed to varied cultural perspectives should be able to adopt the cognition of those cultures (Alter & Kwan, 2009; Kwan, Li, White, & Jacobson, 2015). Consider for a moment the world that we live in. A world that was once perceived as incomprehensively large has shrunk considerably with the advent of modern technology. In about 11 hours, it is now possible to fly from Los Angeles, California to Tokyo, Japan. With a few clicks of a computer mouse, one can video chat with someone on the other side of the world. Within a matter of minutes a person can find television, movies, books, and music on the Internet from nearly every country around the globe. The world now has affordable international travel, globalized commerce, and the Internet, and the evidence indicates that people are taking advantage of these opportunities. In many ways, for the first time in the history of humankind, we have become part of a "global village" (McLuhan, 1962).

As people are increasingly exposed to diverse cultures, it follows that this exposure increases their knowledge and understanding of those cultures. In addition, it is possible that as people are exposed to foreign cultures, they internalize certain aspects of those cultures. Using this logic as our foundation, we argue that it is possible for people to display *extracultural* cognition. In other words, cultural worldviews can be temporarily malleable to the extent that the environment conveys alternative cultural worldviews. The next section will explore current research findings that support this theory.

Empirical Evidence of Extracultural Cognition: Recent Research

Early empirical work has shown that cultural values are malleable and can be activated through priming. One area of research demonstrated that people could be induced to exhibit either an individualist or collectivistic mindset (for a review, see Oyserman & Lee, 2007). For example Gardner, Gabriel, and Lee (1999) induced Western and East Asian participants to adopt independent or interdependent mindsets by having participants read a passage and circle words like *I* or *me* (to prime independence) and words like *us* or *we* (to prime interdependence). They found that participants tended to endorse individualistic values when primed with independence, and collectivistic values when primed with interdependence.

Cultural researchers have also primed dialectical thinking. For example, Spencer-Rodgers, Peng, Wang, and Hou (2004) primed dialectical thinking by asking both European American and Chinese participants to think about and describe ambivalent experiences that had both positive and negative consequences for the self. They found that both the European Americans and the Chinese in the prime condition scored higher on dialecticism than those in the control condition. Another study primed dialectical thinking using fabricated scientific articles illustrating the importance of dialectical thinking (Ma-Kellams, Spencer-Rodgers, & Peng, 2010).

Taking this premise a step further, Alter and Kwan (2009) demonstrated that dialectical thinking could be activated using culturally laden stimuli and physical environments that brought to mind the cognitive style, without having to directly prime the cultural concepts per se. In a series of studies examining extracultural dialectical cognition, Alter and Kwan first showed that the immediate physical environment could induce European Americans to think more dialectically. European Americans in Chinatown in New York City, who presumably had been exposed to East Asian worldviews, predicted more change in the weather than did their

counterparts on the Upper East Side of Manhattan, who presumably were monocultural. In a second study examining the influence of the environment on dialectical thinking, European Americans who were entering or exiting an American or an Asian supermarket (the environmental manipulation) completed a questionnaire asking them to hypothetically invest $1,000 in various appreciating and depreciating stocks. If the cultural products in the Asian supermarket were activating dialectical thinking, then, the theory argued, European Americans participants exiting the Asian supermarket should show more dialectical thinking, relative to those entering the Asian supermarket or those shopping at the American supermarket. Again, the results supported the prediction that dialectical thinking can be induced by the immediate cultural context. Participants exiting the Asian supermarket exhibited dialectical thinking: they expected greater change and they invested less in previously appreciating stocks than did participants in the other three conditions.

Alter and Kwan's (2009) remaining studies showed that dialectical thinking could also be primed by merely using culturally laden stimuli. Employing the same paradigm in which European Americans were asked to hypothetically invest $1,000 in various stocks, Alter and Kwan showed that participants primed with the yin-yang symbol expected greater change and invested less in previously appreciating stocks than did those who were presented with control primes, and this effect was stronger the more familiar the individuals were with the cultural symbol. These findings were replicated in another study that showed that when European Americans were primed with the yin-yang symbol, they anticipated significantly more rain following a sunny trend than did control participants. However, participants shown a rainy trend were not significantly more likely to predict sun than the control group. Taken together, these findings suggest that priming participants with the yin-yang symbol may induce a more cautious thinking style (a greater likelihood of anticipating a negative event than a positive event). Future studies should examine this possibility.

In another study reported by Alter and Kwan (2009), they showed that even experts in a field relevant to the predictions can be influenced by cultural priming. In this study, they used the paradigm of asking participants to hypothetically invest $1,000 in the stock market, but instead of using lay people, who have little or no experience in this domain and thus are more susceptible to cognitive biases, they asked Wall Street professionals to complete the study. Even experts were influenced by the same cultural priming and exhibited the same dialectical mindset when primed with the yin-yang symbol. Furthermore, the authors found that European Americans who had recently spent time overseas were more influenced by the cultural priming in their decision-making. This finding reinforces the idea that exposure to foreign cultures and the advent of the "global village" give rise to extracultural cognition. It is also noteworthy that the priming studies had this effect with very subtle primes that varied in the studies. In some studies, the symbol was on the back of the clipboard held by the experimenter; in others, it was on the questionnaire letterhead; and in another, it was on a T-shirt worn by the experimenter.

Other research has applied the concept of extracultural cognition to individuals' health status predictions and willingness to engage in health-promoting behavior (Kim & Kwan, 2013; for a review on dialectical thinking and physical health, see Chapter 15 in this volume). In one

study, European American participants were primed with either cyclical or linear beliefs about change, and the researchers measured whether or not the individual expected to contract the flu in the following year. Compared to those primed with linear beliefs, those primed with dialectical cyclical beliefs thought they were more likely to contract the flu in the upcoming flu season. However, recent flu history moderated the results and the effect was observed only among people who had not suffered from the flu in the previous year. Furthermore, whether someone had recently had the flu and the dialectical thinking prime interacted to influence whether the participants intended to receive the flu vaccine in the upcoming flu season. For those who had been sick with the flu the previous year, those primed with dialectical cyclical beliefs predicted a lower likelihood of their seeking a flu vaccine than those primed with linear beliefs. This is congruent with the cyclical expectation that if one contracted the flu the previous year, then one would not get the flu this year, thus there would be no reason to get the flu shot. Of those who had not had the flu in the previous year, there was no significant difference between the conditions. One implication of this research is that people's health beliefs and prevention efforts can be influenced by dialectical thinking, which can be primed, possibly through public health campaigns.

Implications and Future Directions

In this chapter, we have highlighted that there are cross-cultural and within-cultural differences in dialectical thinking. More importantly, we have argued for and cited research supporting the idea that cultural groups have become a part of a "global village" and thus extracultural cognition exists. Because of exposure to a variety of cultures, people can adopt the cognitive styles of other cultures when in environments that make those cultures salient, such as being in an Asian grocery store or being exposed to culturally laden icons. Demonstrating that cognitive styles are malleable can have important implications for our understanding of culture and judgment and decision-making. The following sections discuss some of these implications and areas for future research on this topic.

International Business
As our world has moved more toward becoming a "global village," international business has dramatically increased (International Monetary Fund, 2002). It is now common for businesses to deal with other businesses throughout the world, forging contractual agreements and partnerships across cultural boundaries. The business world has acknowledged cultural differences, and research has examined how it influences processes such as negotiations (see Smith, Bond, & Kagitcibasi, 2006). Nevertheless, little research has examined how the environment and merely being present in another culture can influence one's negotiating tactics, goals, and evaluations of the situation. As demonstrated by Alter and Kwan (2009), simply being exposed to a different cultural environment can induce someone to be more dialectical, and this could have interesting implications for international business.

Imagine being an American businessperson negotiating a deal in China. While in China, your environment would display a culture with which you are somewhat familiar but which

is not your own (e.g., one that emphasizes dialectical thinking). If extracultural cognition is operating, then it is conceivable that there would be changes in your negotiation strategy. For example, you might become more compromising and willing to find a "middle road" solution rather than adhering firmly to your initial demands. You also might be more amenable to change, which could influence the flexibility of the terms of the contract. In short, even if everything else is identical, except the location, the deal created in China might be very different from the one negotiated in America. Without more research, it is difficult to say whether extracultural cognition would provide an advantage for one culture over the other or whether the effects could be countered by having individuals based in the home culture oversee the negotiation process. We view this as an area that is ripe for further research.

Dispute Resolution

Dispute resolution in the American legal system has long been adversarial in nature, although a shift has started to emerge, emphasizing nonadversarial mechanisms, such as mediation, over traditional mechanisms (e.g. Kagan, 2001). This shift is being encouraged, in part, to decrease the use of the scarce resources of the judicial system, both monetary and time resources. Other cultures have generally preferred nonadversarial mechanisms. For example, the Chinese have a strong preference for mediating and bargaining, based on the perception that these procedures decrease animosity between disputants (Leung, 1987). This is congruent with dialecticism, which emphasizes considering both sides of an argument to come to a "middle road" agreement (Peng & Nisbett, 1999). In contrast, Americans tend to strongly prefer adversarial dispute mechanisms, which are consistent with the analytical principle of finding the one, right answer to any issue (Peng & Nisbett, 1999).

Can extracultural exposure influence people's preference for nonadversarial dispute resolution? To the extent that cognition is malleable in this context, it might be possible to prime people with the principle of contradiction, thus encouraging them to be more amenable to nonadversarial mechanisms, such as mediation. If individuals were willing to resolve their differences outside of the courtroom, in a less costly manner, this could save valuable time and resources. Research is needed to examine the influence of cultural priming on people's willingness to use and satisfaction with nonadversarial dispute resolution mechanisms.

Coping with Disasters

Disasters—whether natural, like hurricane Katrina in 2005 and the Tohoku earthquake in 2011, or manmade, like the Deepwater Horizon oil spill in 2010—can have devastating and lasting effects on the local population and their environment. In these situations, there is considerable concern regarding the affected population's ability to cope and move on after the disaster. Individuals who are high in dialectical thinking may be better able to cope flexibly and recover faster from disasters because of their acceptance of change (for a review of dialectical thinking and coping, see chapter 20 in this volume). To the extent that people see the potential for good to come out of difficult situations, they will maintain an optimistic outlook and seek opportunities to create a positive future. Negative events ultimately are perceived as creating favorable outcomes.

If a dialectical mindset encourages flexible coping and forward, positive thinking (Cheng, 2009), then using extracultural cognition to encourage this mindset could be beneficial during disasters. For example, the media could be used to prime beliefs about change and contradiction, providing individuals with the hope necessary to move forward after the disaster. An emerging literature has addressed how people react to and cope in the aftermath of disasters (e.g., Greening, Dollinger, & Pitz, 1996; Suls, Rose, Windschitl, & Smith, 2013; Tierney, Lindell, & Perry, 2001; Trumbo, Lueck, Marlatt, & Peek, 2011), but little is known about factors that affect disaster preparedness, such as social cognitive processes that influence perceptions of and reactions to impending disasters (Kwan & White, 2014). Therefore, an interesting direction for future research would be to examine how beliefs about change in these types of situations influences perceptions of the disaster and people's ability to cope and move forward with their lives. Extracultural cognition also may have important implications for emotion regulation, mental health, and physical health (see chapters 18, 19, and 20, respectively, in this volume for a discussion on how dialectical thinking influences these domains).

Punishment and Rehabilitation
One interesting implication of extracultural cognition is its potential to influence beliefs about punishment and rehabilitation by influencing people's attributions. Research examining individual's thoughts regarding punishing criminals has suggested that individuals who make more internal attributions about crime are more punitive and less in favor of rehabilitation (e.g., Cullen, Clark, Cullen, & Mathers, 1985; Sims, 2003). Previous research also has shown that Westerners are far more likely to make dispositional attributions for others' behaviors than are East Asians (Choi, Nisbett, & Norenzayan, 1999). But if one can influence others to make more situational attributions, they may change their beliefs about punishment and endorse providing criminals with second chances. If people believe that circumstances are influential in a person's decision to commit a crime, they will be less likely to believe that the offender will commit the same crime in the future. They attribute the cause more to the situation, and since circumstances are constantly changing, it is unlikely that the wrongdoer will be in the same situation in the future. Thus, people who make situational attributions are more willing to consider mitigating circumstances, be more lenient toward criminals, and be more inclined to give wrongdoers a second chance. Dialectical thinkers also may regard rehabilitation as a worthwhile endeavor and favor criminal justice systems that incorporate rehabilitative components, such as compulsory community service, psychotherapy, and anger management courses.

In sum, these beliefs can have a large impact on the individual wrongdoer, since juries and judges who make the decisions about criminal responsibility and sentencing are affected by their cognitive styles. To the extent trial lawyers are able to encourage dialectical cyclical thinking—especially during closing arguments, which is closest to the time decisions are made—they might be able to influence the judge or jurors to make more external attributions and favor lighter sentencing or rehabilitative programs. Likewise, policymakers who set the sentencing guidelines and control the prison system could also be swayed through their cognitive mindsets.

Global Climate Change

Some argue that global climate change is one of the biggest issues the world is currently facing and will continue to face unless large-scale action is undertaken in the near future (Epstein & Ferber, 2011). Yet, many are skeptical about the influence of human activity on global climate change and our ability to correct the problem. Some researchers have begun investigating the importance of cultural norms and values on whether or not people believe global climate change is occurring and is caused by humans. For example, Kahan, Jenkins-Smith, and Braman (2011), in a U.S. sample, examined the influence of egalitarian beliefs and individualism on whether people thought experts agree on climate change issues. They found that among individuals who were high in egalitarianism and collectivism, 78% thought that most experts agree that global temperatures are increasing and 68% thought that most experts agree that humans are causing the warming. In contrast, among individuals who were more hierarchal and individualist, only 19% thought most experts agree that global temperatures are increasing and only 12% thought that most experts agree that humans are causing the warming.

Thinking about this issue from the perspective of dialectical versus nondialectical (or "linear") cognition also could have important implications for beliefs about global climate change and people's willingness to work toward solutions. However, dialectical thinking may not have a beneficial influence on this topic. For example, one could make the prediction that, from a dialectical perspective, all things in nature are constantly in flux and changing. Thus, dialectical thinkers might see the world as being in a cycle of warming and cooling and thus be more likely to see global climate change as a natural occurrence that will shift until it returns to its previous state. If so, they might be reluctant to take measures to combat global climate change because they believe that the problem will eventually correct itself.

Nondialectical (or linear) thinking, however, may not be beneficial, either. If people tend to see the world as constant and unchanging, then they may feel powerless to do anything about global climate change. If they believe that, regardless of the course of action, things will remain the same or continue to deteriorate, then action will seem futile. An interesting and worthwhile area of future research would be to examine how dialectical and nondialectical cognition influences people's perceived ability to change the environment, such as with global climate change. If we understand how cognitive strategies influence perceptions and behavior in this context, it might be possible to encourage people to adopt a useful course of action, using cultural priming. For example, it might be possible to increase the belief that humans can have a positive impact on global climate change, by emphasizing that global climate change is largely manmade, while priming dialectical thinking. In doing so, people should feel more capable of reducing their own greenhouse gas-producing behaviors.

Priming Linear Thinking in East Asians

The research discussed on extracultural cognition in this chapter has focused on priming dialectical thinking in Westerners. However, just as Westerners are increasingly exposed to East Asian culture through globalization, East Asians are also exposed to Western culture. This means that East Asians could be primed to think more linearly through exposure to Western symbols and environments, and this could have important implications for our understanding

of culture and judgment and decision-making. For example, East Asians who receive a Western-influenced college education are trained in formal logic and tend to think more linearly (Spencer-Rodgers et al., 2009). As previously mentioned, Choi, Koo, and Choi (2007) examined the thinking styles of Korean students who were receiving either a formal university education in Oriental medicine or other more Westernized majors. Arguably, students receiving a Westernized education are likely influenced to think more linearly, compared to those receiving a traditional Oriental-styled education. Choi and colleagues found that students who received a more Westernized education displayed a more linear thinking style than that of their counterparts.

Few studies have examined the effects of experimentally priming linear thinking in East Asians (Ma-Kellams et al., 2010). Ma-Kellams and colleagues primed linear thinking among Chinese students at the University of California, Berkeley, and found that participants exhibited a more Westernized form of group perception (i.e., less ambivalent ingroup attitudes). Priming linear thinking among East Asians is an area ripe for future research that could have important implications for our understanding of cultural differences and how to navigate those differences in an increasingly interactive global community. For example, priming linear thinking in East Asians could benefit intercultural communication and contact. In priming East Asians with linear thinking, they might be better able to perform critical perspective taking, which is important as people interact more frequently with other cultures. This could help improve business relations between Western and East Asian companies and promote better understanding in joint cultural efforts, such as relief work, improving international trade, and coping with and reducing global warming.

Another interesting direction for future research is to examine how strongly foreign cultural contexts influence cognition among different populations. Previous studies have shown that people from one culture may infuse their judgments with the tenets of a second salient culture, as long as they recognize the meaning embodied in that culture. The biculturalism literature suggests that immigrants rapidly become competent with their adopted culture, thus, for example, Asian expatriates who live for an extended period of time in a foreign culture may be more susceptible to foreign cultural primes than their counterparts who visit that culture for a short period of time (Mok & Morris, 2012).

Conclusion

In this chapter, we have argued that, as the world has become a "global village" people have internalized aspects of other cultures, which are brought to mind when the environment makes that culture salient—a process referred to as *extracultural cognition*. Research has shown that it is possible to encourage people to think more dialectically by varying their environment, for example, by being in an Asian supermarket or being presented with culturally laden symbols, such as the yin-yang symbol. We also discussed a number of implications of this priming effect, although the list is by no means exhaustive. What is clear from our discussion is that the field is ripe for further investigation on the impact of extracultural cognition. There are still many questions to be answered. For example, more research is needed to explore the boundary conditions of extracultural cognition or the conditions under which it is most effective. What the

research does show is that, although cultural cognition was once thought to be stable and difficult to change, there is now evidence that it is malleable. Hopefully, these findings will encourage us to rethink our view of the solidity of culture worldviews.

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