

Culture and Judgment and Decision Making

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The fields of judgment and decision making (JDM) and cultural psychology have not seen much overlap in the past few decades, but recent research at the intersection of culture and JDM has provided new insights for both fields (Choi, Choi, & Norenzayan, 2007; Weber & Hsee, 2000; Weber & Morris, 2010). The goal of this chapter is to review recent advances in this area, with a focus on how studying cultural variations in JDM has yielded novel perspectives on basic psychological processes.

The relationship between culture and JDM is theoretically informative for at least two reasons. First, JDM perspectives can propose novel explanations for differences across national cultures beyond those suggested by the prevailing models of culture, such as individualist versus collectivist value orientations (Triandis, 1989), independent versus interdependent self-construals (Markus & Kitayama, 1991), and analytical versus holistic cognitive styles (Nisbett, 2003). Although these perspectives have no doubt been productive areas of research in cultural psychology, they predict broad and sweeping differences, whereas the empirical findings are that cultural differences in judgment bias appear in some contexts but not in others (e.g., Mandel, 2003). Indeed, many researchers view cultural differences in psychological functioning not as reflections of fixed worldviews but as outcomes of constructivist mental processes that arise from an interaction of internal culturally shaped representations stored in memory with the external sociocultural environment (Hong, Morris, Chiu, & Benet-Martinez, 2000; Morris, Menon, & Ames, 2001).

Second, cross-cultural research reveals that some judgment biases once assumed to be universal are in fact limited to particular sociocultural contexts (e.g., Weber & Hsee, 1998). Such findings help elucidate the mechanisms underlying the biases, suggesting that they are not simply

bugs in the operating system of human cognition but patterns constructed through the interaction of human psychology with information and decision environments. This research suggests that many regularities identified by the JDM literature are not just fixed properties of the mind but responses that are constructed from interactions between more basic processes, such as memory, perception, and attention, with the information and decision environment (e.g., Weber et al., 2007; Weber & Johnson, 2006, 2009). In essence, a JDM perspective supports the constructivist view of culture, whereas a cultural perspective supports a constructivist view of JDM.

In this chapter, we illustrate these two ways in which cultural and JDM research inform each other, and note these mutual contributions in a number of subfields of contemporary JDM research arising from both cognitive and social psychological perspectives, including risky decision making, intertemporal decision making, evaluation-choice consistency, causal attribution, conflict decision making, confidence judgments, and optimism.

Risky Decision Making

The traditional East-West generalizations from cross-cultural psychology imply that Westerners would be more risk seeking than East Asians (e.g., Douglas & Wildavsky, 1982). Americans are viewed as independent, individualistic, and expressive of personal preferences whereas East Asians are viewed as interdependent, collectivistic, and norm-constrained (Triandis, 1989; Markus & Kitayama, 1991). These images of East and West occur in lay stereotypes as well (Lankau & Chung, 2009), and both Americans and Chinese predict that Americans are more risk seeking than Chinese (Hsee & Weber, 1999). However, decision making research revealed a more complex and nuanced pattern. A cross-cultural study found that contrary to prevailing stereotypes, Chinese were significantly more likely to prefer high-risk options to low-risk options than Germans and Americans (Weber & Hsee, 1998).

The question then arises: Is it that Chinese are more risk-seeking than Westerners because

they perceived the high-risk options as being less risky than did Westerners, or is it that Chinese and Westerners did not differ in their perceptions of risk but Chinese had an inherent preference for more risky options? Research found that between-country differences in risk seeking were primarily explained by people's subjective perception of the riskiness of the uncertain option—Chinese participants perceived lotteries used in experiments as less risky than the other group—not in people's inherent preferences for more or less risky options. These findings led Weber and Hsee (1998) to conclude “differences in risk preference were associated primarily with cultural differences in the *perception of the risk* of the financial options rather than with cultural differences in *attitude towards perceived risk*” (p. 1205, italics original).

Why do Chinese people perceive the same financial gambles as less risky than Westerners do? This finding presented a riddle to the JDM field that cultural research helped solve. People make sense of financial outcomes not just in terms of the number of dollars lost or gained, but in terms of how it would affect their lives. Cultural researchers use a variety of tools to understand the socioeconomic matrix within which people in different societies lead their lives. One such tool is the analysis of the typical social network structures within which people's interactions and exchanges are embedded (Morris, Podolny, & Ariel, 2000; Morris, Podolny, & Sullivan, 2008; Scott, 1991; Wasserman & Faust, 1994). Perceptions and preferences are not simply constructed by an individual decision maker; they are afforded by the decision maker's environment such as their social network. Compared to individualistic societies, collectivistic societies carry a norm of pooling resources within the ingroups and hence offer more relationships that can be sources of economic support in times of need (Fiske, 1992). Hsee and Weber (1999) found support for the idea that cultural differences in the size of the economic social network explain cultural differences in risk seeking tendencies—Chinese are more likely to think that their large economic support networks would buffer them against negative financial outcomes, thus giving them the

leeway to tolerate more risk. Notably, cultural differences in risk preferences only occurred for outcomes that are transferable across people, such as money, not for non-transferable outcomes, such as health or academic grades (Hsee & Weber, 1999).

Cultural differences in individuals' tendencies to seek risk were further reflected in cultural products. Content analyzing a large number of Chinese and American proverbs, Weber, Hsee, and Sokolowska (1998) found that Chinese proverbs tended to recommend more risk seeking than American proverbs, indicating that the observed cultural differences in risk taking are based in the larger sociocultural context. Whereas the above findings document that Chinese are more risk seeking than Americans in the financial domain, research finds that they are more risk averse in the social domain. While replicating Hsee and Weber's (1999) finding with respect to financial risk, Mandel (2003) found that when asked about social risks (e.g., which shirt to wear at a family gathering), Chinese were more risk averse than Americans. Weber et al. (1998) also found similar results in their analysis of proverbs—although Chinese proverbs recommended taking more financial risk, they suggested being risk averse in the social domain.

There may be other differences in social network patterns that help explain the differences across societies in JDM biases. A long standing argument is that collectivist societies feature denser social networks (Chua & Morris, 2006; Fischer & Shavit, 1995; c.f. Kashima et al., 1995), and different kinds of collectivism may be associated with different network structures (Morris, Podolny, & Sullivan, 2008). For example, another property of networks is *multiplexity*, the degree to which a person engages in multiple kinds of interactions with the same contact, such as discussing emotional issues and seeking economic support. Chinese executives, compared with Americans, were more likely to have economic and emotional ties that overlapped in the same relationship (Chua, Morris, & Ingram, 2009). Future research could examine the consequences of other features of social networks such as multiplexity for JDM biases.

Research on culture and JDM has thus made important contributions to both literatures. Cultural psychology has benefited from a fine-grained analysis of the mechanisms behind cultural variation in risk, such as whether the difference is due to risk perception or risk attitudes. JDM research has benefited from a consideration of how the social context, such as the social relationships that surround a person, impacts risk taking, along with an understanding of how risky decision making is not just an individual or a situational variable but also a culturally constructed one in that certain norms about risk taking are perpetuated over time through cultural products, such as proverbs. Research at this intersection thus supports both a constructivist view of culture and a constructivist view of JDM.

Risk Perception

In the previous section, we reviewed research showing that cultures differ in their risk perception—Chinese were more risk-seeking because they perceived high-risk options as less risky than did Americans (Weber & Hsee, 1998; see also Bontempo, Bottom, & Weber, 1997). It is notable that this difference in risk perception occurred despite the fact that participants were presented with lotteries in which the probabilities associated with different outcomes were explicitly stated, both graphically and numerically, leaving little room for differences in risk perception. In real life though, few options are associated with unambiguous probabilities and the outcome distribution of other properties. For example, with respect to the risks associated with climate change, there is a wide range of possible outcomes with different probability estimates associated with each, all subject to much scientific investigation and public debate. In such situations with greater latitude for biased perception of risk, people's subjective risk perceptions are perhaps even more likely to be influenced by individual and cultural factors.

One possible source of biases in risk perception could be prevalent cultural values. For example, people valuing individualism may overweight risks associated with policies that limit

to individual liberty (such as risks associated with universal healthcare and environmental regulation) while ignoring risks arising from failures to regulate individual behavior (such as risks arising from speculative financial trading); people who value hierarchy may underestimate risks arising from nondemocratic institutions (such as from a single party rule, nepotism, and an oligarchy), yet exaggerate risks associated with challenges to the pecking order (such as from civil disobedience or a free press; Douglas & Wildavsky, 1982). This idea has found some empirical support, although primarily from studies comparing individual differences in cultural values within societies rather than comparing societies. For example, people holding individualistic values perceive greater risk in government's over-regulation and lack of a stable investment climate, whereas those holding egalitarian values tend to perceive greater risk in rapid economic growth and restriction of civil liberties (Dake, 1991). European American men, compared with American women or men of other ethnicities, have more individualistic and hierarchical attitudes and also have significantly lower perceptions of risks from global warming, environmental pollution, possession of guns, and abortion (Finucane, Alhakami, Slovic, & Johnson, 2000; Kahan, Braman, Gastil, Slovic, & Mertz, 2007). Further, greater endorsement of individualism and hierarchicalism predicted reduced perception of these risks even after controlling for a host of demographic variables (Kahan et al., 2007).

The above reviewed studies have typically measured subjective risk perception using Likert rating scales, leaving open the possibility that participants' responses reflect both subjective perceptions of risk as well as their attitudes toward the risk domain. For example, someone might under-emphasize the risk posed by continued use of fossil fuels both because they believe that chances of environmental damage due to fossil fuel use are low and also because they do not particularly care about the environment. Future research is needed to test these two elements of risk perception—perception of the probability of realizing different

outcomes and the personal importance attached to the outcomes in question.

The findings reviewed above indicate that there are systematic sources of individual and cultural differences in risk perception. When people encounter information about different outcomes, their judgments of the likelihood of those outcomes are influenced by their values and motives—if the outcome is consistent with their worldview, people exaggerate its probability, whereas if the outcome is inconsistent with their worldview, they view it as less likely. Therefore, this body of research has established that risk perception is not just the product of statistical and cognitive processes, but also of constructive social and cultural processes. On the other hand, research at this intersection has revealed that culture does not have a blanket effect on risk perception but that the effect of cultural values on risk perception is context specific, leading to greater or lower risk perception based on the match between the outcomes of interest and salient values. Again, research at this intersection supports both a dynamic view of cultural values and a constructivist view of risk perception.

Intertemporal Choice

Intertemporal choice (see chapter 13) refers to people's decisions between taking something today versus taking something better later. Economic theories assume that to make intertemporal decisions, people compute the present value of future prospects using an exponential discounting function (i.e., using a continuously compounded market interest rate) and choose the option with the greater present value. Exponential discounting has been found to be an inaccurate model of how lay people make intertemporal decisions, but variations such as hyperbolic discounting (which is derived from the mathematics of simple interest rather than compound interest; Mazur, 1987) or arithmetic discounting (which is based on the concept of the wage rate per unit of time; Doyle, Chen, & Savani, 2011) have received empirical support. Although intertemporal decisions involve perceptions of how prospects lose value as they are

distanced in time from the present, researchers have implicitly assumed that there are no cultural differences in intertemporal discounting. This is despite the fact that there are cultural differences in people's perceptions of time, their attitudes about time, and the extent to which they are focused on the short term vs. the long term (Gell, 1992; Hofstede, 1997).

Some macro-level data indicate that Asians might be more intertemporally patient than Westerners. Not only do wealthy and industrialized Asian countries like Japan, Singapore, and Hong Kong have substantially higher national savings rates than the U.S., Canada, or Western Europe (The World Bank, 2013), even within the U.S., Asian American households have higher savings rates than European American households (Springstead & Wilson, 2000; Sue & Okazaki, 1990). These macro-level findings have been corroborated by experimental data—although the hyperbolic discount function fits the choices of both American and Japanese students, Americans discounted delayed rewards more (i.e., were more impatient) than the Japanese did, despite the fact that the two nations have high median household incomes. Other research has found that Japanese are found to have more of a long-term orientation than Americans (Hofstede, 1997), indicating a greater focus on and importance of outcomes and events far in the future, so future research can test whether cultural differences in intertemporal patience are mediated by cultural differences in long-term orientation. Additionally, perhaps the larger financial-support networks in East Asian cultures might help buffer people against delay in addition to buffering them against risk (Hsee & Weber, 1999).

Additional research has explored whether the concepts of patience and impatience are associated with Eastern and Western cultures, respectively, among bicultural individuals. When Singaporean students are exposed to Western images, compared to when they were exposed to Singaporean icons, they became more impatient (e.g., willing to pay more for a one-day instead of a five-day book delivery; Chen, Ng, & Rao, 2005). When Asian-Americans' ethnic identity was

made salient by demographic questions about languages spoken at home and family immigration, they were more likely to choose larger, delayed options when making a series of intertemporal choices (Benjamin, Choi, & Strickland, 2010).

Just as there are cultural differences in risk perception, there is some research indicating that there are also cultural differences in time perception. Time perception refers to people's subjective sense of how long or short a given duration or passage of time is (Brown, 1985; Hornik, 1984). Compared to members of minority groups (Mexican Americans and Native Americans), European Americans perceived time that was idly spent as being longer, although there was no difference in perceptions of time was spent working on tasks, indicating that cultural differences in time perception indeed exist (Shannon, 1976). Research on this topic is very limited though (see Mosakowski & Earley, 2000), so future work is required to determine whether cultural differences in intertemporal decision making are accompanied with differences in the subjective perception of the passage of time between sooner and later rewards.

Overall, research on culture and intertemporal choice from a constructivist perspective, particularly studies priming cultural identities, has helped to broaden JDM's view of intertemporal choice from a matter of personal preference or discount rates to a matter of cultural norms. Western cultural norms encourage choosing smaller sooner rewards, whereas Eastern cultural norms encourage waiting for larger rewards even if they come later (Benjamin et al., 2010; Chen et al., 2005). However, research in this area is in its infancy, so additional work would be needed to identify whether cultural differences in intertemporal choice are due to differences in the mean discount rate of whether cultural factors also influence the shape or functional form of people's discounting function.

Consistency between Preferences and Choices

Another area in which culture and JDM have informed each other has been on the topic of

evaluation-choice consistency. JDM researchers typically assume that choices reflect preferences that the decision maker has constructed when presented with the options from which the choice has to be made (Payne, Bettman, & Johnson, 1992). This perspective defines preferences as *that which is revealed by a choice*, making *preferences* essentially a vacuous concept. In contrast, if one adopts Zajonc's (1980) definition of *preference* as a person's subjective evaluation of a stimulus on the dimension of valence, then one might ask the question to what extent people's choices are based on their subjective evaluations of the individual choice options.

To investigate this question, Savani, Markus, and Conner (2008) presented students from India and the U.S. with different attractive pens and asked them to evaluate each pen on a few dimensions. Next, they asked participants to choose one of the pens to take home as a gift for participating in the study. Whereas a large majority of American students, 87%, chose to keep the pen that they previously evaluated as liking the most, only 63% of Indians chose to keep their most liked pen. Another study using visual stimuli displayed a computer demonstrated similar cultural differences in evaluation-choice consistency.

Traditional cultural psychological perspectives might explain this finding by referring to cultural values (e.g., Americans are more individualistic than Indians, so they would base both choices and evaluations on their private preferences), or cognitive styles (e.g., Indians are more holistic than Americans, so they would consider factors other than preferences when making choices). Alternatively, a JDM perspective would propose that perhaps Indians exhibit greater evaluation-choice inconsistency than Americans because Indians' preferences are more context-dependent (Tversky & Simonson, 1993), either because their preferences are more unstable across evaluation of individual items one at a time (i.e., in *separate evaluation*) vs. choice among multiple items presented simultaneously (i.e., in *joint evaluation*), or because their choices are more influenced by concerns about following social norms (i.e., how others would evaluate their

choices).

Recent research tested these alternative mechanisms proposed by the JDM literature. To test whether cultural differences in evaluation-choice consistency were due to instability of preferences across separate vs. joint evaluation (Hsee & Zhang, 2010 and chapter 28), Savani (2013) manipulated whether preferences and choices were measured in a separate vs. joint mode of evaluation, respectively, or whether both were measured in joint evaluation. The difference between the two conditions was that, in joint evaluation evaluation, the options can be directly compared with each other, whereas in separate evaluation, the reference point to which an option is compared is unknown. Notably, Indians' choices were similarly inconsistent with their preferences in both separate and joint evaluations, indicating that this mechanism does not explain cultural differences in preference-choice consistency. Subsequent research measured preferences in separate evaluation and choices in joint evaluation but manipulated the salience of social norms about preference-choice consistency. This was done either by proclaiming that most people in the participant's culture positively or negatively evaluate individuals who choose primarily based on their own preferences, or by manipulating whether participants were subtly exposed to schematic representations of human eyes, which make people feel that they were being watched (Savani, Uchida, Wadhwa, Ding, Naidu, & Markus, 2014). Indians' consistency decreased further when the social norm against preference-consistent choice was highlighted either overtly or subtly whereas Americans' consistency was unaffected, indicating that cultural differences in preference-choice consistency occur because of differential responsiveness to norms against choosing primarily based on one's own preferences.

Recent research has also extended cultural differences in evaluation-choice inconsistency to choice intransitivity. Although choice intransitivity has been long demonstrated in the decision making literature (e.g., Tversky, 1969), researchers had not considered the possibility of cultural

differences in choice transitivity. Measuring Koreans' and Americans' choices among a large range of items (e.g., fruits, colors, animals, and academic subjects), Park et al. (2013) found that Koreans' choices were more intransitive than Americans'. Notably though, when they manipulated whether participants chose among generic items or brand-name products, a category that had the potential to signal social status, the cultural difference reversed—whereas Koreans' choices among generic items were less transitive than Americans', their choices were more transitive when choosing among brand-name products. As Korea is a highly hierarchical culture, choices that signify one's status in society are highly self-relevant and thus lead to greater consistency. In contrast, choices among generic goods, which are not associated with status in society, are not as self-relevant and thus lead to less consistency among Koreans. On the other hand, all choices are self-relevant for Americans because they are important means for self-expression (Kim & Sherman, 2007).

Rather than the broad explanations offered by the cultural psychology literature, a JDM perspective has helped test specific mechanism underlying cultural differences in preference-choice consistency and choice intransitivity. Furthermore, the field of JDM benefited from cross-cultural research by learning that even when choices and preferences are measured in the same evaluation context and close temporal proximity, the two can significantly diverge in some cultures.

After reviewing the relationship between culture and JDM research arising from a cognitive perspective, we next discuss the relationship between culture and JDM research deriving from a social psychological perspective.

Causal Attributions

In addition to judgments and decisions about economic matters, we also make many judgments and decisions about interpersonal matters. These social judgments and decisions have

been extensively studied across cultures. One of the most ubiquitous social judgments concerns the causes of other people's behavior. Is the attentive car salesperson truly a caring person? Or is she merely trying to make us feel comfortable so that we fall for her pitch. Heider (1958) first proposed that people's interpersonal patterns follow their causal judgments about behavior, and that we tend to map our social environment by imputing particular traits to the persons with whom we interact, not so much by imputing particular types of constraint to the situations within which we meet them. The "fundamental attribution error" (Ross, 1977) refers to this bias toward personal dispositions rather than situational factors as causes of other people's behavior. It was thought to be a byproduct of perceptual universals, that other people are figural in our perception when we interact with them (Jones & Nisbett, 1972). Miller (1984) asked samples in India and the United States to recall behaviors from their everyday lives and to explain them. Americans provided more dispositional attributions than Indians, whereas Indians provided more situational attributions than Americans. Miller (1984) argued that explanation patterns may depend on cultural frameworks rather than perceptual universals.

Although provocative, Miller's (1984) findings compared explanations for different behaviors, so the stimuli differed across groups. Morris and Peng (1994) instead investigated possible cultural differences in attribution using highly controlled stimuli; one fish swimming in front of others, which could be perceived as acting based on its internal goals (i.e., this fish was leading the group) or based on situational pressure (i.e., this fish was being chased by the others). They found that Americans attributed the behavior to the actor's internal dispositions, whereas Chinese attributed the behavior to the situational context in which the fish was located.

Cultural differences in attributing behavior to the person versus the situation are also reflected in memory outcomes. Masuda and Nisbett (2006) showed participants fish stimuli and later assessed their memory for the focal fish versus context. They found that Americans

remembered the central figure better whereas East Asians remembered the surrounding context better. Experiments tracking saccadic eye movements have found that cultural differences in social decision making can be traced to basic attentional processes: whereas Americans fixate more on focal objects, Asians make more frequent and longer saccades to objects in the background (Chua, Boland, & Nisbett, 2005). Therefore, cultural differences in attribution have a basis in people's basic perceptual patterns. These cultural differences are also reflected in people's use of natural language. Whereas Westerners primarily use trait adjectives when describing others, East Asians are more likely to use verbs, which convey more situational information (Mass, Karasawa, Politi, & Suga, 2006).

The paradigm of priming bicultural participants with symbols of one culture or the other allows a way to test claims about cultural influence in a true experiment with random assignment, rather than merely in quasi-experimental comparison of groups. Exposure to images of Chinese (American) culture primes Chinese-Americans to follow Chinese judgment norms—to explain a fish cartoon or human actions in terms of situational factors (Hong et al, 2000; Benet-Martinez et al, 2002) and use more verbs and fewer adjectives when describing people or remembering sentences (Morris & Mok, 2011).

Another factor explaining cultural differences in causal attribution appears to be the salience of behavioral norms. Societies differ in the strength with which norms constrain behavior. For example, for a sample of social behaviors in Britain, personality accounts for more variance and situational factors for less variance, compared to in Japan (Argyle, Shimoda, & Little, 1978). Gelfand et al. (2011) found that cultures that are associated with more situational attribution of behavior, such as India, China, and Korea, tend to have stricter norms about what behaviors are considered appropriate in a given situation than countries that are associated with more dispositional attribution, such as the U.S. Therefore, in addition to having a perceptual basis,

cultural differences in causal attribution could also have a sociostructural basis in the proportion of variance explained by the situation versus the person in different cultures. The judgment biases in a culture may be to some extent tuned to the society's patterns.

The research on culture and causal attribution has extended research on social JDM by documenting that attributional biases are based both on individuals' basic attentional processes and on characteristics of the social worlds that people inhabit. Cross-cultural research has thus helped explain the source of the fundamental attribution error.

Conflict Decisions

In everyday life, people decide whether to cooperate or compete with their peers, to resist change or accommodate, and to conform to others' values or refuse to adapt to them. These decisions arise through social interactions because of conflicts between self-interests and collective interests. Research has examined the strategies that people use to resolve conflicts in different cultures. In their interactions with in-group members, East Asians tend to invoke collective interests to persuade other parties whereas North Americans tend to invoke self-interest (Triandis et al., 2001). A question then arises, what is the source of this cultural difference in interpersonal decision making—preferences for different strategies or adherence to different social norms?

Research suggests that the choice of conflict resolution strategies might arise from Asian cultural norms discouraging conflict or from North Americans' presumed norm of self-interest (Miller, 1999). For example, cross-national differences in group-oriented choices for conflict resolution are mediated by perceived conflict resolution norms, but not by personal values (Zou et al., 2009). Further, cultural differences are most apparent when individuals are induced to think consensually/conventionally, again providing support for a normative account (Fu et al., 2007). According to a recent study, Asian Americans, compared to African Americans, were more likely

to respond to racism indirectly, and their goal of maintaining harmony in their interactions mediated this different cultural response tendency (Lee, Soto, Swim, & Bernstein, 2012).

Norms influencing people's conflict decision making strategies can also be primed. For example, after thinking about Chinese versus American holidays, Chinese Americans made cooperative decisions more often than self-interested decision (LeBoeuf, Shafir, & Bayuk, 2010). In another study, students from Hong Kong were presented with either Chinese (e.g., kung fu), American (e.g., football), or culturally neutral pictures, and then were asked to participate in a prisoners' dilemma with either ingroup or outgroup counterparts (Wong & Hong, 2005). The participants cooperated the most when primed with Chinese images and faced with an ingroup member, indicating that Chinese cultural norms emphasized solving conflicts with ingroups cooperatively rather than competitively.

In informal conflicts, different types of *social networks* influence cooperation with ingroup members in Eastern and Western cultures. Eastern societies often feature denser social networks, possibly because of their higher population density and lower levels of geographic, social, and career mobility. Therefore, in East Asian contexts, a person's personal and business contacts are more likely to know each other and thus form an interconnected web, which occurs with a lower frequency in Western cultures. Surveys of individuals' social networks show that in business settings, Chinese managers have denser professional networks than American managers matched on various demographic and occupational characteristics (Chua, Morris, & Ingram, 2009). This greater density reflects a larger number of mutually known third parties as well as more ties linking one to a particular person. This dense network can function as a form of social insurance as individuals who defect acquire a negative reputation in the group and can be sanctioned by the interconnected network of associates (Menon & Morris, 2001).

In a formal conflict, Asians are more likely than Americans to avoid conflict and instead

compromise with friends but not with strangers. This finding is often traced to collectivistic values (Leung, 1988) but, from a JDM perspective, may instead arise from decision frames responsive to the characteristics of the social network in which the relationship is situated (Morris, Podolny & Ariel, 2000). Similarly, whereas Americans' preference for unique items and Asians' preference for majority options have been interpreted in terms of a dispositional need for uniqueness or for conformity (Kim & Markus, 1999). Researchers have argued that Japanese adopt the conforming collective-interest strategy because they are afraid of being sanctioned for acting selfishly within their dense networks (Yamagishi, Hashimoto, & Schug, 2008). The Japanese preference for majority options declines when sanctioning is inapplicable (when the participant is the last person in the group to make a choice) or infeasible (when the participant's choice is anonymous). Similarly, in trust games, Japanese individuals do not decide to trust more people in general; they are more likely to trust others with whom they have initiated a relationship and less likely to trust strangers (Kuwabara et al., 2007). Moreover, East Asians compared to Westerners sense their friends' emotion more accurately, but are less accurate with strangers (Makellams & Blascovich, 2012). In sum, a penchant for cooperation and concern within enduring, committed relationships may be an equilibrium response to dense networks.

The emotions that people in different cultures experience in interpersonal *interaction situations* are also relevant to conflict decisions. Kitayama and colleagues (Kitayama et al., 1997; Kitayama, Mesquita, & Karasawa, 2006; Morling, Kitayama & Miyamoto, 2002) first sampled everyday interpersonal situations that Americans and Japanese frequently experience, and then presented representative sets of described situations (with their cultural origin obscured) to fresh sets of participants, asking for their simulated responses to each situation. They consistently found the effects of situation-culture: American situations tend to evoke feelings of self-enhancement and efficacy, and Japanese situations tend to evoke feelings of both self-critical feelings and

relatedness to others. Thus, U.S. and Japanese sociocultural settings appear conducive to different modes of experiencing the self because mundane everyday situations are selected such that they engender specific psychological reactions that match with the overall cultural views of the self and of relationships. Further, Kitayama and colleagues' results also show the effects of participant-culture; as Americans were generally more likely to exhibit the independent-self responses and Japanese, the interdependent ones, suggesting the responses preferred by the modal situation in a given society become default responses for people typically encountering those situations.

Applying this approach to conflict decisions, Savani et al. (2011) proposed that everyday situations in the U.S. and India reinforce different types of responses. They sampled descriptions of interpersonal influence situations from the U.S. and India, situations in which individuals attempted to influence close others. Content analyses of these situations found that influencers in U.S. situations typically had self-interested motives (i.e., their own benefit in mind) whereas those in India situations typically had other-interested motives (i.e., the other person's benefit in mind). The authors then presented these situation descriptions (with country of origin obscured) to fresh groups of participants, who were asked to indicate whether they would decide to accommodate to the influencer or to resist the influencer in each situation. Participants from both cultures were more likely to indicate that they would decide to accommodate in the Indian situations than in the U.S. ones. Interestingly, Indians were overall more likely to accommodate in any given situation than Americans initially in the experiment, but as participants responded to more and more situations from each other's culture, this difference gradually narrowed and was non-existent by the end of the hour-long experimental session (the more frequent accommodation to Indian situations than to American situations stayed stable, arguing against fatigue effects). This finding suggests that participants' decision tendencies are attuned to the affordances of their society's

situation-scape, yet dynamically adaptive to their recent experiences.

Overall, a JDM perspective has informed research on culture and conflict by explaining cultural differences in formal and informal conflict based on specific contextualized predictors—such as decision frames, everyday situations, and social networks—rather than the broad-brush explanations—such as general cultural values and attitudes—that dominated this literature early on. On the other hand, research on culture and conflict has helped broaden JDM's set of causal explanations beyond cognitive habits to the social environment.

Confidence Judgments

When it comes to social and economical domains, it is critical to be able to judge the accuracy of one's beliefs. However, a robust finding is that people are overconfident in the accuracy of their judgments, often by very wide margins (Lichstein & Fischhoff, 1977), that is, people's subjective confidence in the accuracy of their estimates is much higher than the actual accuracy of their estimations. Although initial demonstrations of the overconfidence bias have been with Western samples, cross-cultural studies have found that people from a number of East Asian cultures showed stronger overconfidence bias than Westerners, with subjective accuracy substantially exceeding objective accuracy (Wright et al., 1978). These differences exist even at the extreme ends of the probability distribution. Hong Kong Chinese, Malaysian, and Indonesian participants were more likely than British participants to have 100% confidence in their estimates, although all groups' actual accuracy rates were significantly lower than 100% (Wright & Philips, 1980). Notably, Japanese participants' degree of overconfidence has been found to be similar to Americans', less than those of their Chinese counterparts (Yates et al., 1989).

Subsequent research attempted to identify a possible source of cultural differences in overconfidence by examining critical thinking ability (Yates, Lee, & Shinotsuka, 1996). Before constructing confidence judgements, American, Japanese, and Chinese participants were asked to

generate reasons that critically argued *for* or *against* their answers to general knowledge questions and compared their reasons. They found that 48% of the Japanese and 41% of the American respondents accurately generated reasons *against* the correctness of their answers, whereas only 24% of the Chinese respondents generated such reasons. Thus, differences in educational practices that foster critical thinking and counterarguing across different cultures seem to explain cultural differences in the overconfidence effect. Like Japanese, Singaporeans show less overconfidence than other East Asians, indicating a key role of the educational system in shaping the overconfidence bias (Lee et al., 1995; Li, Chen, & Yu, 2006). These cultural differences in overconfidence generalize across a wide range of tasks, including general knowledge questions, predictions of the future, and medical and financial decision making (e.g., Acker & Duck, 2008; Chen, Kim, Nofsinger, & Rui, 2007; see Yates, 2010, for a recent review).

Overall, research at the intersection of culture and confidence judgments has helped the field of JDM identify specific causal mechanisms that underlie the effect, i.e., critical thinking abilities (Yates et al., 1996), which might not have been as obvious from intra-cultural research. Research at this intersection has also informed cultural psychology by identifying specific cognitive mechanisms underlying cultural differences in confidence judgments rather than broader, more general differences in values and attitudes.

Optimism

Closely related to the overconfidence effect is the topic of unrealistic optimism, which refers to people's tendency to have excessively rosy predictions about the future and to distort information in a self-serving manner (Greenwald, 1980; Taylor & Brown, 1988). Researchers have argued that unrealistic optimism is essential for psychological well-being, and is thus a human universal (Alloy & Ahrens, 1987; Lewinsohn, Mischel, Chaplin, & Barton, 1980). Yet researchers have found significant cultural differences in unrealistic optimism and related

constructs. For example, whereas Canadian participants estimated that they themselves would be significantly more likely to experience a series of positive outcomes (e.g., living past the age of 80) and less likely to experience various negative outcomes (e.g., developing skin cancer) than other people, Japanese participants indicated that they would be as likely to experience both positive and negative events as other people (Heine & Lehman, 1995).

Another instantiation of unrealistic optimism is people's tendency to attribute success to their stable personality traits but to attribute failure to external factors, indicating greater optimism about their own attributes (Greenberg, Pyszczynski, & Solomon, 1982). However, research found Japanese participants showed the opposite pattern, being more likely to attribute their own failures to stable, internal factors compared to others' failures to plan (Buehler, Otsubo, Heine, Lehman, & Griffin, 2003, as cited in Buehler, Griffin, & Peetz, 2010). More generally, a large body of research on this general topic has found that Westerners tend to have high self-esteem and view the self as better than others, whereas Japanese and people from other East Asian cultures tend to have more moderate self-esteem while focusing on self-criticism and self-improvement (Heine, Lehman, Markus, & Kitayama 1999).

Research on culture and optimism would benefit from a greater focus on more specific JDM mechanisms. Whereas researchers have typically drawn upon broader cultural differences in self-construal to explain cultural differences in optimism (e.g., Heine & Lehman, 1995), future research might investigate some of the more specific cognitive mechanisms underlying this tendency.

What Counts as a Decision?

JDM researchers have for the large part implicitly assumed that whether an action counts as a choice or a decision is in some sense objectively defined and thus the same across individuals and culture. Intuitively, most JDM researchers would agree that if an individual has

to pick one of multiple options, the action would count as a decision. Yet research from a cultural perspective has challenged this implicit assumption by documenting substantial individual and cultural differences in people's tendency to construe the same action of selecting one of multiple alternatives as a decision.

In one study, researchers induced participants to make a series of decisions in the lab, such as choosing one of several empty cubicles to sit in and selecting one of many pens to sign a form with (Savani, Markus, Naidu, Kumar, & Berlia, 2010). Later, they asked participants to reflect on these actions and to indicate whether they construed each as a choice. They found that students from India were significantly less likely to construe these actions as choices compared to American students at the same university. When presented with a video in which an actor picked one of multiple objects on numerous occasions (such as picking one of many apples lying on a tray), Indians were again less likely to construe these actions as choices than Americans. Along with these cultural differences, there were significant individual differences in whether people construed these seemingly obvious choices as decisions (Savani et al., 2010).

Findings from these cross-cultural studies thus challenged a fundamental implicit assumption in the JDM literature that whether an action counts as a choice is objectively defined. Even under the same objective circumstances, people vary in whether they construe an act of picking one of multiple options as a decision.

Insights from the Constructivist Approach to Culture and JDM

Despite its early stage, the current review of research on culture and JDM demonstrates ways in which cultural analyses can lead to theoretical progress in the field of JDM. The review highlights that cultural influences of JDM are not blanket or invariant but are instead highly sensitive both to individual factors and to the external environment. This nuanced approach represents a *constructivist* perspective on culture and JDM. In the constructivist view, the

activation of particular schemas within individuals and the external features of the social environment are two unique features that help maintain cultural patterns of judgments and decisions.

Cultural representations are not just chronic personality traits but rather dynamic mental schemas that are differentially activated in different situations (Hong, Morris, Chiu, & Benet-Martinez, 2000). This premise sets cultural psychology apart from a trait model of culture that can border on stereotyping. It also has alerted various researchers that how much an individual's judgments and decisions can be influenced by factors associated with his or her cultural background. The advance of priming methodologies in cultural psychology (Hong et al., 2000) has helped further research at the intersection of culture and JDM. This method has greater internal validity than is possible in comparative, quasi-experimental studies, which makes it attractive to JDM researchers.

The constructivist approach has made new research topics possible. The question, “Does culture matter?” became “When does culture matter?” While some task conditions (attentional load) rely more on individuals’ previous knowledge than attention to stimulus details, other response formats (requiring reasons) lead participants to employ verbalizable decision rules rather than intuitive perceptual processes. The conditions under which a cultural difference appears and disappears depend on the constructive process—to what cultural representations or environmental features are operating in the frames that yield the cultural difference.

The constructivist emphasis also offers other insights on the function of external environments. As cultural habits of thinking are regarded as reflections of cultural environments, it implies that the traumatic process of internalizing a new worldview is not always necessary when adopting another culture. Kitayama, Duffy, Kawamura, and Larsen (2003) show interesting finding that, even in nonsocial judgments, Western sojourners in Japan employ East Asian

processes of attending to context. This suggests that even moderate acquaintance with a culture may be sufficient to absorb its behavioral customs and thus internalizing its norms of judgment. Unlike associative priming, direct priming would work in this case. Though visitors can easily get away from social sanctioning, newcomers should also be acculturated to the extent that a culture's situations directly reinforce particular behaviors. In general, newcomers quickly acquire some cultural patterns of judgment and decision making when a certain external mechanism of cultural influence is present.

The emphasis on external carriers of culture elucidates how cultural patterns persist and change across generations. Whereas a trait-centered view (e.g., national character theories in anthropology) depicts the persistence in terms of the early inculcation of traits that reproduce themselves through child rearing in the next generational cycle, an emphasis on external carriers of culture explains that the persistence of cultural patterns mostly occurs from the continuity of institutions, texts, practices, and designs. Like game-theoretic equilibria, structures of interaction can also become self-sustaining through the incentive structures they create (Yamagishi et al, 2008).

Finally, an emphasis on external carriers of culture explains cultural change. Even within a generation, cultural values and practices often make drastic transitions. For instance, when people follow perceived behavioral norms, tendencies are maintained; then even behavioral shifts among a few people within a community can pass the tipping point and cascade into larger shifts in constructed preferences (Cohen, 2001). In terms of fostering change, this dynamic differentiates itself from a view of cultural preferences as expressing deeply inculcated values.

Future Research Directions

Mapping the underlying mechanisms of different cultural patterns' judgments and decisions is a challenge that cultural constructivist research faces. This should be done for more

than a single behavior, in order to examine which different cultural affordances and/or values decide which clusters of behavior. A fair amount of research has been done on risky choice yet there is a need for more cultural research that looks at intertemporal choice and its connection to other tasks (e.g., risky choice and JDM in the social and economic domains). It would be beneficial if these two lines of inquiry could mutually inform each other and progress together in the future.

More future research needs to pay attention to external structural mechanisms. For example, because social networks in China are more dense, lasting, and complex than Americans, researchers need to test which features of social networks relate to particular judgment and decision biases (Morris, Podolny, & Sullivan, 2008). Finally, while some cultural differences in behavior are guided by values, some are guided by norms (Fischer et al, 2009). It is likely that the same is true for differences in JDM, hence, there is also a need for integrating constructivist mechanisms with trait mechanism.

Although most researchers studying cultural differences in JDM have attempted to identify explanatory factors, research in this general area is quite fragmented with numerous causes proposed (e.g., cultural values, social norms, self-construal, activated schemas, structure of everyday situations, educational training). Many cultural differences in JDM are likely to be multiply determined yet researchers typically investigate single explanatory factors. Although the constructivist approach provides a broad framework for understanding the interplay between culture and JDM, future research is indeed to identify specific cultural factors that can explain and organize a number of findings in this domain.

In addition to focusing on a unifying framework for explaining cultural differences in JDM, the field could specifically focus more on how cultural comparisons can help inform basic psychological theory. Some research at intersection of culture and JDM has provided novel basic

insights about decision making in general, such as the finding that what JDM researchers would define as a decision is not necessarily construed as such by lay people (e.g., Savani et al., 2010). Yet most researchers tend to focus on how a JDM perspective can explain cultural differences rather than trying to identify how a cultural perspective can help identify novel JDM principles. A movement in the latter direction would be fruitful for psychological science.

Research at the intersection of culture and JDM has largely focused on individual decision making. Yet in the increasingly globalized world, many decisions are made by individuals from different cultures working together. Research examining individuals' decision making cannot be easily generalized to group decision making especially when groups are composed of individuals from different cultures. Thus, broadening research on culture and JDM to include dyads and groups is likely to provide novel theoretical and practical insights.

Conclusion

As JDM research has traditionally looked at the contextual features that influence judgment and decision making, individual and cultural differences in choice and judgment that are conceptualized as deriving from values or traits have not gotten much attention. The present efforts to reconceptualize cultural differences in JDM as arising not from differences in stable personalities and values but from differences in constructive processes guided by the interaction of individuals with social environments would hopefully reinvigorate research at the intersection of the two fields.

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