CHAPTER 10

Priming "Culture"

Culture as Situated Cognition

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Culture can be operationalized as a set of structures and institutions, values, traditions, and ways of engaging with the social and nonsocial world that are transmitted across generations in a certain time and place (e.g., Shweder & LeVine, 1984); that is, culture is both temporally continuous and specific. It is located in a time and situated in a geographic and social place. Because of its situated character, culture is neither perfectly transmitted to all members of a cultural group nor is it perfectly uniform across all members of a culture. In other words, though cultures are shared, they are not fully "in the head" of any particular member of a culture (e.g., Mendoza-Denton & Mishel, Chapter 7, this volume). A number of theorists have described the variability in cultural knowledge spread or dissemination within a population (Atran, Medin, & Ross, 2005; Sperber, 2001). These authors all note that because culture is situated, one's place within a society and the social networks within which one is embedded should influence the aspects of "culture" to which one has access. Both context and change in context (e.g., through immigration) may (Kitayama, Ishii, Imada,

Takemura, & Ramaswamy, 2006) or may not (Atran et al., 2005) carry with it cultural change depending in part on features of the social networks in which one is embedded before and after contextual change.

Situated variability *within* cultural groups is of course not the whole story. The nature and meaning of subtle and not-so-subtle historical and current differences and similarities *between* cultural groups is a main interest of cultural and cross-cultural psychology. Felt difference can be large. Travelogues, comedy routines, diversity training, and business guides all attempt to illuminate (and bridge) differences in how time is understood, what appropriate norms for politeness are, and why other elements of everyday life seem opaque to outside observers coming from different racial/ethnic, religious, or other groups, different societies, nation-states, or regions of the world. Everyday situations, such as how winning or losing in sports is communicated (Markus, Uchida, & Omoregie, 2006); everyday language use such as whether or not personal pronouns can be omitted (E. Kashima & Y. Kashima, 1998); and the everyday assumptions

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that make up organizational structures, documents, and mission statements (e.g., Rokeach & Ball-Rokeach, 1989) reflect these differences. Defined in this way, culture is clearly important. As a construct, it captures the breadth and diversity of humanness.

Unfortunately, this very breadth makes it difficult to systematically model "culture" to make predictions about when and how cultures systematically influence cognition, affect, motivation, and behavior. Although understanding a specific culture or a certain group within a culture at a certain time and place may be interesting, parsimonious and predictive rather than detailed and descriptive modeling is the central goal of cultural and cross-cultural psychology. Cultural and cross-cultural psychologists do not simply want to understand the ways that Americans and Japanese differ, or the ways that Germans and Chinese differ. Rather, the essential goal is to understand the ways that culture influences how the mind works and to identify cultural contingencies that moderate general processes of human cognition.

To take on this challenge, cultural psychologists must posit general processes that both differ in their average or likely occurrence across cultures and provide systematic prediction about the what (content) and how (process) of cognition. A number of potentially useful basic organizing constructs (e.g., "tight" vs. "loose" cultures—Triandis, 1995; "masculine" vs. "feminine" cultures—Hofstede, 1980; survival vs. self-expression—Inglehart, 1997; honor–modesty vs. shame—Gregg, 2005; see also Cohen, 2001), and frameworks (e.g., the ecocultural model—Berry, 1976, 1994; Georgas, 1988; 1993) have been proposed to address the basic process question. To date the two constructs that have most captured popular appeal are individualism and collectivism (e.g., Hofstede, 1980, 2001; Kagitçibasi, 1997; Kashima, Kashima, & Aldridge, 2001; Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1995).

Individualism, as described by Triandis (Chapter 3, this volume), characterizes a cultural syndrome in which the individual is the basic unit of analyses and societal structures are assumed to be of value to the extent that they support individual happiness. Collectivism, on the other hand, describes a cultural syndrome in which the group is the basic unit of analyses and societal structures are assumed

to be of value to the extent that they support preservation and enhancement of group resources. As reviewed by Oyserman, Coon, et al. (2002), plausible consequences of individualism and collectivism for basic concerns of psychology—how we make sense of ourselves and others (self-concept, relationality) and how we think more generally (cognition)—are easily discerned. These are outlined below.

Individualism implies that a basic self-goal is to feel good about oneself as a unique and distinctive person, and to define these unique features in terms of abstract traits. As a cultural syndrome it also implies that relationships are likely to feel chosen and voluntary rather than permanent and fixed; relationships thus construed can be worked on and improved or left when costs and benefits are imbalanced following equity norms. With regard to cognition, judgment, reasoning, and causal inference, individualism as a cultural syndrome implies that focus is generally oriented toward the person rather than the situation or social context, because the decontextualized self is assumed to be a stable, causal nexus (Choi, Nisbett, & Norenzayan, 1999; Miller, 1984; Morris & Peng, 1994; Newman, 1993). Thus, individualism promotes a decontextualized, as opposed to a situation-specific, reasoning style that assumes social information is not bound to social context. Oyserman and colleagues have described this style as a "separate and pull apart" style as opposed to a situation-specific, relational "embed and connect" style (Markus & Oyserman, 1989; Oyserman, Kemmelmeier, & Coon, 2002).

Collectivism implies that a basic self-goal is to attain and maintain group membership, so that the self is defined in terms of both group memberships and the traits and abilities relevant for maintaining these (e.g., loyalty, perseverance). As a cultural syndrome collectivism also implies that important group memberships are ascribed and fixed, viewed as "facts of life" to which people must accommodate; that boundaries between ingroups and outgroups are stable, relatively impermeable, and important; therefore, ingroup exchanges are based on equality or even generosity principles (Morris & Leung, 2000; Sayle, 1998; Triandis, 1995). With regard to cognition, judgment, reasoning, and causal inference, collectivism as a cultural syndrome implies that social context, situational constraints, and social roles figure prominently in person perception and causal reason-

ing (Miller, 1984; Morris & Peng, 1994), and that meaning is contextualized and memory is likely to contain richly embedded detail.

Indeed, a key strength of the individualism–collectivism operationalization of culture is that it sets the stage for specific and testable predictive models. Its parsimony has facilitated use of standard social-psychological priming methods to study effects of making salient features of individualism (or collectivism) on individual-level psychological processes. This narrowed focus of inquiry into culture as operationalized by the individualism and collectivism axes has been helpful in that it has led to specific and novel predictions about how cultural influence works and its impact on basic psychological processes.

For example, E. Kashima and Y. Kashima (1998; Y. Kashima & E. Kashima, 2003) use the individualism and collectivism frame to posit difference by culture group on whether language structure emphasizes or deemphasizes individual actors via pronoun dropping. Dropped pronouns allows the self to be in the background, to introduce one's spouse by saying "wife" rather than "my wife," to describe one's action by saying "going" rather than "I am going." Similarly, Markus and her colleagues (e.g., Markus & Kitayama, 1991; Markus & Oyserman, 1989; Oyserman, 1993) use the individualism and collectivism frame to posit difference by culture group on whether basic self-schemas are separate or connected, resulting in a chronic independent or interdependent way of making sense of the self. Perhaps most intriguingly, the individualism and collectivism frame is being used to posit difference by culture in both content and process of cognition—what and how we think (for earlier reviews, see Oyserman, Coon, et al., 2002; Oyserman, Kemmelmeier, et al., 2002).

In this chapter we provide a brief summary of the mostly correlational evidence suggesting that a focus on individualism and collectivism captures at least some important aspects of culture and cross-cultural difference, highlighting what appear to be systematic differences between Western European and especially Anglo-Saxon–based and other cultures. We then examine gaps in causality that correlational evidence cannot address and propose that to understand the processes underlying how individualism and collectivism influence motivation, cognition, and behavior, more systematic experimental approaches are needed. We high-light the efficacy of a particular experimental paradigm that involves priming or bringing to mind particular content or cognitive processes. We outline what the priming literature can tell us about the effects of culture (both as operationalized by individualism and collectivism, and as operationalized by other relevant axes, such as high power–low power and equality) on content and process of cognition. We suggest a situated cognition approach to culture and outline what the cultural syndrome priming literature tells us about how culture influences what we think and how we process information about ourselves and the world.

INDIVIDUALISM AND COLLECTIVISM: OPERATIONALIZING, ASSESSING, AND EXAMINING CONSEQUENCES

Operationalization

Individualism is most commonly operationalized as personal independence, and collectivism is most commonly operationalized as obligation and duty to the ingroup, according to Oyserman, Coon, et al. (2002), who examined how individualism and collectivism were assessed in the 20 years after Hofstede (1980) introduced the terms to cross-cultural psychology. Whereas they found 27 distinct scales and noted that no single scale was dominant, they also noted that scale items tended to be modified across studies, so that a subset of items was relatively commonly used. They content-coded scale items, identifying 15 core constructs, seven describing individualism and eight describing collectivism, that together accounted for almost 90% of items across each of the scales.

With regard to collectivism scales, over 85% of scales had at least one item focused on "sense of duty to group," with about 75% having at least one item focused on "relatedness to others." Other identified constructs, in descending order, were "seeking others' advice," "harmony" and "working in groups," "sense of belonging to a group," "contextualized self," and "valuing hierarchy." With regard to individualism scales, almost all scales included at least one item focused on "valuing personal independence." There was less of a consensus on other items, with one-third or fewer of the scales including items focused on "personal achievement," "self-knowledge," "unique-

ness," "privacy," "clear communication," and "competition."[1]

Assessment

As reviewed in this volume by Triandis (Chapter 3) and in a recent thorough review and meta-analytic synthesis (Oyserman, Coon, et al., 2002), there is consistent evidence of the effectiveness of modeling cultural difference in terms of individualism and collectivism. The meta-analytic synthesis compared the United States (European Americans) with other countries, and European Americans with other Americans, on individualism and/or collectivism using all English language studies published between 1980 and 2000 and any unpublished data provided after listserve requests. Cross-national comparisons included 50 studies comparing the United States and at least one other country. Although 64 different countries were represented in the comparisons, almost half of all studies focused on comparisons between East Asian regions and America as befits

the focus on U.S.–Asian comparison in the cultural literature. Within-U.S. comparisons included 35 studies yielding 68 comparisons of European Americans with African Americans, Asian Americans, or Latino Americans. Results provide evidence of average cross-national difference in individualism and collectivism that broadly map onto East and West difference, with some exceptions (Oyserman, Coon, et al., 2002).

With regard to cultural differences in basic values, the meta-analysis shows significant differences in endorsement of individualism values (e.g., personal independence and uniqueness) and collectivism values (e.g., group membership and group processes). Although relying on responses to attitude scales has limitations (see Uskul & Oyserman, 2006, for a review), the overall picture across studies is that on average European Americans are higher in self-rated individualism and lower in self-rated collectivism than Africans, Eastern Europeans, and Asians. This is graphically presented in Figure 10.1. All data points are located in the
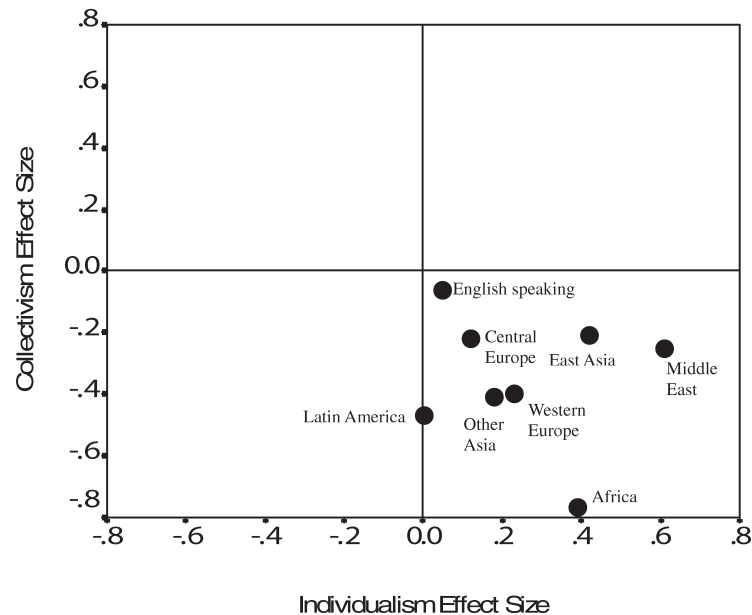
FIGURE 10.1. Are Americans more individualistic and less collectivistic than others? Simultaneous mapping of effects sizes of comparisons between the United States and other regions of the world on individualism and collectivism. Positive effect sizes reflect higher European American individualism and collectivism; negative effect sizes reflect lower European American individualism and collectivism. Adapted from Oyserman, Coon, and Kemmelmeier (2002). Copyright 2002 by the American Psychological Association. Adapted by permission.

lower right quadrant, reflecting higher U.S. individualism and lower U.S. collectivism. Differences are not significant with other English-speaking countries (e.g., Australia, Canada, Great Britain, and New Zealand), suggesting a common cultural core of high individualism and low collectivism. Latin Americans are overall higher in collectivism but not lower in individualism—a cultural syndrome that fits the twin ideas of *machismo* and *simpatico*. Combined effect sizes for comparisons with East Asia were moderate,[2] as were combined effect sizes for Africa and the Middle East. Taken together, these findings corroborate conventional expectations of cultural theorists.

In addition to this generally confirming picture, Oyserman, Coon, et al. (2002) reported some interesting caveats. First, the meta-analysis suggests that although European American and individuals from other English-speaking countries do not differ in individualism and collectivism, they differ from Western Europeans. European Americans are *lower* in collectivism than Europeans, suggesting a uniquely Anglo-American way of being (high individualism and low collectivism) but challenging the notion of a single "Western" culture.

Second, although the data support the general assertion that European Americans are higher in individualism and lower in collectivism than Asians, effect sizes for Asian regions are similar to those for European regions, with large effects only for U.S.–Africa comparisons. The Asian and European findings challenge the notion of a general "East" versus "West" cultural syndrome and suggest that a more nuanced approach is needed to understand individualism and collectivism within, as well as between, societies. Indeed, Oyserman, Coon, et al. (2002) report large internal heterogeneity within East Asian countries. Consistent with the assumption of high American individualism and low American collectivism, U.S.–China comparisons yield moderate to large effects and do not vary by scale content. But U.S.–Korea and U.S.–Japan comparisons yield small effects for individualism, and collectivism and differences are contingent on scale. No U.S.–Korean difference is found unless collectivism scales include relatedness; if included, Koreans are higher in collectivism. Japanese are lower in collectivism when collectivism scales include

seeking group harmony, defining the self in context, sense of belonging to groups, and acceptance of hierarchy. Japan–U.S. collectivism comparison is in the expected direction (though still small) only when scales include working in a group and exclude seeking harmony.

Third, although two of three within-U.S. comparisons parallel international comparisons, the within-U.S. comparison of African Americans and European Americans shows a stark difference from the U.S.–Africa comparison. European Americans exhibit higher individualism and lower collectivism than Asian Americans, and lower collectivism than Latino Americans (but are indistinguishable on individualism from Latino Americans). However, African Americans exhibit higher individualism and are indistinguishable in collectivism compared to European Americans. These findings (presented graphically in Figure 10.2) challenge the assumption that high individualism and low collectivism is part of a European tradition brought to America and most accessible to European Americans, and suggest that African Americans are in some important ways quintessential Americans.

Moreover, effects for comparisons with Asian Americans and African Americans (though not for comparisons with Latino Americans) are influenced by individualism scale content. Including personal uniqueness items in individualism scales increases the difference between Asian Americans and European American and the difference between African Americans and European Americans. Asian American individualism scores decrease and African American scores increase compared to those of European Americans. Including personal competition items in individualism scales increases the individualism scores of both Asian Americans and African Americans, but not of European Americans. Thus, when individualism scales include personal competition, Asian Americans and European Americans no longer differ in individualism, whereas the difference between African Americans and European Americans increases—with the difference favoring African Americans. Taken together, results suggest first that general assumptions about cross-group differences in individualism and collectivism have some empirical support; second, that future research should not assume that any pair of between-
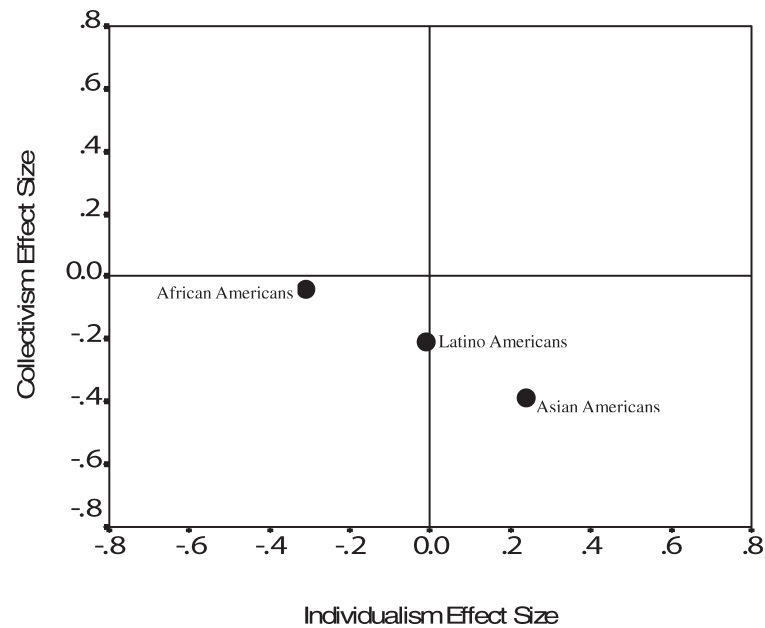
FIGURE 10.2. Are European Americans higher in individualism and collectivism than African Americans, Asian Americans or Latino Americans? Simultaneous mapping of effects sizes of comparisons between European Americans and other Americans on individualism and collectivism. Positive effect sizes reflect higher European American individualism and collectivism; negative effect sizes reflect lower European American individualism and collectivism. Adapted from Oyserman, Coon, and Kemmelmeier (2002). Copyright 2002 by the American Psychological Association. Adapted by permission.

group difference is due to individualism–collectivism difference; and third, that how individualism and collectivism are operationally defined does matter.

Consequences of Individualism and Collectivism

Taken as a whole, the meta-analytic review suggests that the individualism and collectivism value axes do provide a reasonable organizing structure. If individualism and collectivism differ in meaningful ways cross-culturally, the next question to be answered is the extent that these differences in values matter for how individuals make sense of themselves, how they connect and relate to others, and what and how they think about the world—the plausible consequences of individualism and collectivism described in the opening sections of this chapter. Here, too, we base our conclusions on the review of Oyserman, Coon, et al. (2002), who analyzed the associations of individualism and collectivism with self-concept, relationality, and cognition based on all retrievable English language studies published between 1980 and 2000 (and unpublished data).

Self-Concept

Oyserman, Coon, et al. (2002) reviewed 30 studies that assessed self-esteem, self-concept, or personality, and associated these with individualism and/or collectivism. They found that research typically compared groups within the United States or two countries and assumed differences in chronic cultural syndrome rather than assessed individualism and/or collectivism. If the assumption that cross-group difference is due to difference in individualism and/or collectivism is valid, then an argument can be made that individualism is associated with more optimism or higher self-esteem, whereas collectivism is associated with a more interpersonal and social self-concept. According to this review, effect sizes for self-concept differences are variable. Large effects occur especially when the researcher examined collective or ingroup-focused content and directly assessed individualism and/or collectivism. Because research is either correlational or lacks direct assessment or manipulation of salience of cultural syndrome, research in this domain remains

open to criticism and more critical assessment of the culture → self causal claim.

Relationality

We reviewed 71 studies that assessed close relationships (family, intimate relationships), ingroup–outgroup interactions (social behavior, communication style, conflict resolution style), and work or organizational contexts (working in groups, organizational conflict management). Broadly speaking, these studies suggest that individualism and collectivism as cultural syndromes are associated with differences in relationality and group relations: Individualism is associated with ease of interaction with strangers, preference for direct rather than indirect communication style; collectivism is associated with ingroup preference in relationships and different forms of face saving. Effect sizes are often moderate to large, though highly variable. Effects for conflict management are heterogeneous. Work and organizational research allows for stronger conclusions than close relationship and ingroup–outgroup relations studies, because the former research almost always included both direct assessment of individualism and collectivism, experimental manipulation, and cross-national rather than within-U.S.-only comparison.

Cognition

Whereas research on content of self-concept and relationality supports the notion that individualism and collectivism as cultural syndromes matter in everyday life, potential impact of culture on cognitive process is particularly intriguing, as noted by Norenzayan, Choi, and Peng in Chapter 23, this volume. Oyserman, Coon, et al. (2002) reviewed 39 studies examining cultural and cross-cultural aspects of attribution style, explanations, and persuasion. Americans were consistently more likely to focus on dispositions rather than situations in providing rationales for behavior or explaining causality than were participants from non-Western countries. Where measured, individualism and collectivism appeared to mediate this effect, and where calculable, effect sizes tended to be moderate to large, with separate orthogonal effects for individualism and collectivism.

Whereas the research reviewed by Oyserman, Coon, et al. (2002) focused predominantly on social cognition, in the past few years, evidence of cross-national differences between the United States, China (Nisbett, 2003) and Japan (Kitayama, Duffy, Kawamura, & Larsen, 2003) in non-social-cognitive processes has emerged as well. This emerging research suggests that Americans are faster and more accurate in recall of abstract and central information, Chinese are more accurate with details and elements of the whole (including the background), and Japanese are more accurate with proportions between elements. Researchers studying cultural and cross-cultural differences in cognition nowadays use experimental methods and diverse participants, providing a strong basis for assertions that individualism and collectivism are associated with differences in cognitive style and attribution processes (for a review, see Norenzayan et al., Chapter 23, this volume).

CULTURE AS SITUATED COGNITION: INTERPRETING THE MEANING OF ASSOCIATIONS BETWEEN CULTURAL SYNDROME AND COGNITIVE CONTENT AND PROCESS

How are these findings to be interpreted? Most provocative is the possibility that culture influences not only the content but also the nature of our thinking. One possible model is that distal differences—in philosophy, religion, language, history—create proximal differences in how we think (Nisbett, 2003; see also Norenzayan et al., Chapter 23, this volume). This perspective, with its focus on distal cultural difference, implies that cultural differences in cognition require socialization in the traditions of one's culture and are hence relatively fixed and difficult to change.

A number of studies suggests otherwise. For example, among immigrants to the United States, Marian and Kaushanskaya (2004) demonstrate that when randomly assigned to use English rather than Russian, participants describe memories that focus on the self significantly more than when these memories are retrieved in Russian. Ross, Xun, and Wilson (2002) demonstrate that when randomly assigned to describe themselves in English rather than Chinese, Chinese students studying in Canada give responses that do not differ significantly from European-heritage Canadians. Among Hong Kong Chinese students filling out questionnaires while Hong Kong was still

under British rule, endorsement of Chinese cultural values *increased* when participants were randomly assigned to fill out the questionnaire in English rather than Chinese (Bond & Yang, 1982; Yang & Bond, 1980). These results suggest that cultural values are complex, can be situationally primed in the moment, and that what comes to mind in the moment is the working subset that is relevant to the task at hand (see also Oyserman, Kemmelmeier, et al., 2002).

Cultures Vary in the Salience of Individualism and Collectivism in Various Situations

What then would be the process by which distal differences influence current meaning making? A possible process model is that various distal differences influence social structures and situations to increase or decrease likelihood of experiencing the self (and the social world) as separate or connected, but that all cultures provide sufficient experience of individualism and collectivism to allow either to be primed when situationally relevant, because all cultures are rooted in evolutionary and natural

selection with the same adaptive needs (see Cohen, 2001; Oyserman, Kemmelmeier, et al., 2002). A society that did not have the potential to invoke group loyalty would not be likely to survive to benefit individual members over time, nor would a society that did not provide spaces for individual choice when group needs were met. Following this reasoning, Figure 10.3 presents a process model linking these distal and proximal features.

The notion that societies include both individualism and collectivism in various ways seems at first glance novel. However, quite a large number of social scientists endorse the perspective that individualism and collectivism are not opposing ends of the same dimension but are rather domain-specific, orthogonal constructs differentially elicited by current contextual and social cues (e.g., Bontempo, 1993; Kagitçibasi, 1987; Lehman, Chiu, & Schaller, 2004; Oyserman, 1993; Rhee et al., 1996; Singelis, 1994; Sinha & Tripathi, 1994; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). As we outline below, thinking about both individualism and collectivism as situationally cued opens the possibility of addressing basic questions about whether and
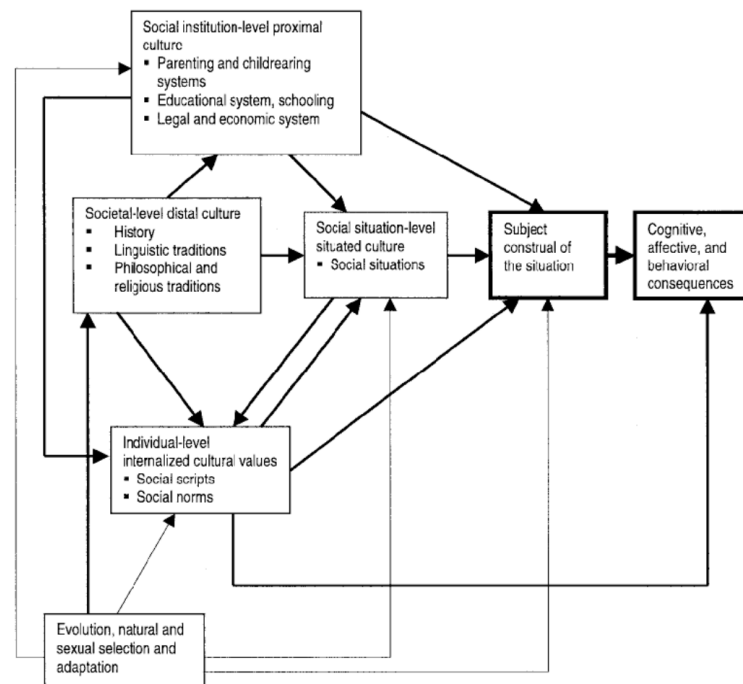
FIGURE 10.3. A socially contextualized model of cultural influences. Adapted from Oyserman, Kemmelmeier, and Coon (2002). Copyright 2002 by the American Psychological Association. Adapted by permission.

how culture might influence content of thoughts (e.g., what comes to mind when one thinks of oneself, which values feel most central, how close one feels to others), and social and nonsocial cognition (e.g., what content and which cognitive procedures comes to mind).

Priming Individualism and Collectivism

Why Use Priming?

Cross-national comparisons and studies using bilingual participants "feel" ecologically valid: They use real differences in terms of where one lives and the language one speaks, and document an association between these differences and how individuals make sense of themselves and their social worlds, and how they think more generally. However, these comparisons make it difficult to answer questions about psychological processing; that is, they are mute as to whether individualism and collectivism are the active ingredients in observed differences, and if so, which aspects of individualism and collectivism make a difference. To answer these process questions, it is necessary to manipulate experimentally the salience of individualism and collectivism as syndromes and to compare results when different facets of these syndromes are brought to mind. Indeed, an emerging experimental technique based in social cognition research involves efforts to prime individualism or collectivism and in this way isolate effects on a dependent measure.

Priming involves making content and/or procedures temporarily accessible. The influence of construct accessibility on social perception is well documented (Higgins & Bargh, 1987). Accessibility can be the temporary result of priming (Srull & Wyer, 1978, 1979) or a more chronic result of routine or habitual activation of a construct in one's everyday environment (Bargh, 1984; Higgins, 1989, 1996). Temporary and chronic accessibility effects are similar (thus, comparable) and independent (thus, additive) in influencing in social judgments (Bargh, Bond, Lombardi, & Tota, 1986; Rudman & Borgida, 1995). Recent priming and chronic activation are both predictive of construct accessibility.

In the laboratory, priming typically involves presenting participants with a series of ostensibly unrelated tasks. When participants are not made aware of a connection between tasks (i.e., of researcher intent to influence them), semantic content and procedural knowledge cued by the first task "spill over" into subsequent tasks. By studying this spillover effect (e.g., comparing group differences between priming tasks) and comparing spillover effects to cross-national differences, it is possible to test models of cultural influence on content and process of cognition.

Priming as a technique holds promise of creating an experimental analogue of chronic differences between cultural groups by temporarily focusing participants' attention on different culture-relevant content or mind-set. Primes can cue semantic or content knowledge, as well as procedural or mind-set knowledge; culture-relevant values, norms, goals, beliefs, and attitudes can be cued automatically, without participants' awareness. For culture, priming most commonly involves making active ingredients of either individualism or collectivism salient and assessing effect of priming as a between-participant variable.

Of course, priming can only make accessible that which is there. Like all priming methods, the culture-priming tasks can only be effective if semantic content and procedural mind-set knowledge relevant to each construct are available to be primed. Thus, relevant content and procedural knowledge already has to be in memory. One cannot be individualism-primed if one has available in memory only collectivism-relevant semantic and procedural knowledge; similarly one cannot be collectivism-primed if one has available in memory only individualism-relevant semantic and procedural knowledge.

Thus, a basic assumption in priming literature must be that across societies and cultures, individuals are capable of thinking about themselves and the world as both separate and independent, and as connected and interdependent, even if they are typically likely to focus on one or the other. Given universality of both a basic sense of bodily and spatial-symbolic separateness (Burris & Rempel, 2004) and a sense of social connectedness and need to belong (Baumeister & Leary, 1995), this assumption seems warranted. It is not plausible that human minds are structured only to see separation or only connection (see Cohen, 2001; Oyserman, Kemmelmeier, et al., 2002).

CONCEPTUAL PRIMING

The literature on priming has distinguished between conceptual priming and mind-set prim-

ing (Bargh & Chartrand, 2000; Galinsky, Gruenfeld, & Magee, 2003). Conceptual priming, also termed "semantic priming," involves activation of specific mental representations such as traits, values, norms, or goals that then serve as interpretive frames in the processing of subsequent information (Higgins, 1996). Once a concept is primed, concepts associated with it in memory are also activated through spreading activation (Neely, 1977).

Following the auto-motives model (e.g., Bargh, 1990), goal constructs are stored in memory and can be conceptually primed. Once stored, goals for achievement, for power, for remembering, for impression formation, and other pursuits can be primed without explicit, conscious intention formation (Chartrand & Bargh, 1996). For example, Bargh, Raymond, Pryor, and Strack (1995) and Chen, Lee-Chai, and Bargh (2001) exposed participants to words associated with possession of power in the lab and showed priming effects; that is, bringing to mind words associated with power also activated specific, individualized goals associated with power, and these influenced participant perception and behavior. Priming power makes salient sexualized images of women among men already likely to sexually harass (Bargh et al., 1995). Priming power can make salient self-interest or social responsibility goals, depending on individual differences in agentic self-interest versus communal orientation (Chen et al., 2001).

Priming power turned on a semantic network of associated meanings. The result of priming power depended on what participants associated with power. Following this line of reasoning, average between-society or between racial/ethnic group differences attributed to differences in cultural syndrome may be due to differences in the semantic networks primed in everyday situations. Objects and practices continually activate corresponding culturally meaningful concepts and thoughts; that is, cultures may prime different cognitive content by creating differing semantic, associative, and content networks that together influence what we think about ourselves, others, and the world, what feels persuasive, and so on.

MIND-SET PRIMING

Whereas conceptual priming activates a concept or meaning structure, mind-set priming activates procedural knowledge, a way of

thinking (Bargh & Chartrand, 2000). Just as conceptual priming cannot prime novel meaning, but only meaning that has been stored in memory, mind-set priming cannot prime procedural knowledge that does not exist in memory. Mind-set priming involves the nonconscious carryover of a previously stored mental procedure or way of making sense of the world. For example, when primed to think about either whether to engage in a goal (deliberate goal pros and cons) or how to engage in a goal (implement strategies to attain the goal), participants later use this same thinking style in a second, unrelated task (e.g., Gollwitzer, Heckhausen, & Steller, 1990).

Mind-set priming is consistent with a general assumption that processing strategies are situated and tuned to meet current situational requirements (for a review, see Schwarz, 2002, 2006). These processing strategies or procedures can be thought of as part of a procedural tool kit used to structure thinking. When cued, they provide ways of reasoning about the world and have been also termed heuristics or naive theories. For example, experiencing ease might mean that the task was simple or that one is talented. Interpretation depends in part on the naive theory brought to mind to make sense of experience (Schwarz, 2006). Procedural priming cues a procedure, thus allowing it to be set into motion and studied separately from its everyday context.

Social cognition research has suggested a number of likely chronic or easily cued procedures. For example, Schwarz and colleagues (e.g., Schwarz & Bless, 1992; Strack, Schwarz, & Gschneidinger, 1985), in their assimilation–contrast model, describe assimilation as the more chronic cognitive procedure style and contrast as the cue-able alternative cognitive procedure; that is, individuals automatically assimilate and integrate new information with already present information, unless they are cued to use a contrasting procedure. When contrasting is cued, they automatically separate new from already present information. Cues to use a contrasting procedural style include everyday differences triggers such as belonging to a different time, place, or group.

More generally, mood, perceived distance, and perceived power have been studied as procedural triggers. Schwarz and Clore (1996, 2007) describe mood as providing procedural cues: Positive mood cues less effortful, heuristic processing and negative mood cues more

effortful, systematic processing. Trope and Liberman (2003) describe distance and anything that cues distance (including temporal distance) as providing procedural cues (see also Boroditsky, 2000). Distal objects and events are processed abstractly, in terms of core, gist, and superordinate structure; proximal objects and events are processed concretely, in terms of detail, particulars, and subordinate structure. Mood (Gasper & Clore, 2002), power (Smith & Trope, 2006), and self-regulatory focus (Förster & Higgins, 2005) have also been studied as mind-set primes for local versus global processing style. Bad mood, low power, and a caution-oriented prevention self-regulatory focus trigger local processing, whereas good mood, high power, and success-oriented promotion self-regulatory focus trigger global processing.

With regard to cultural and cross-cultural psychology, some of these procedures have been linked to particular gender and cultural groups. Thus, for example, Markus and Oyserman (1989) proposed that women and individuals from non-Western societies are more likely to view themselves as importantly connected. They contrasted women and non-Westerners with men and individuals from Western societies, who are more likely to view themselves as importantly separate from others, and argued that basic cognitive procedures connected with these divergent basic self-schemas cue different cognitive procedures—connect, integrate versus separate, and distinguish. These arguments were refined by Markus and Kitayama (1991) in their follow-up review, in which connected self-schemas were termed interdependent self-construals and separate self-schemas were termed independent self-construals, with the proposal that this difference in self-concept is true of average differences between Eastern and Western ways of self-construal. Cross and Madson (1997) made the same argument for gender (for a different perspective on gender and culture see Kashima et al., 1995).

Following these initial reviews of the literature, empirical work demonstrating the association of "separate" and "connected" self-schemas with preference for "separating" and "connecting" cognitive processes was carried out by Woike (1994). Woike and her colleagues describe connected self-schemas as communion self-concepts and separate self-schemas as agency self-concepts (following Bakan, 1966),

and term the relevant preferred cognitive processes integration and distinction respectively (Woike, 1994; Woike, Lavezzary, Barksy, 2001). They find that the cognitive procedure chronically preferred by those with an agentic self-schema is to distinguish or separate, whereas the cognitive procedure chronically preferred by those with a communal or connected self-schema is to connect and integrate. Following from the separated and connected self-schema models, this difference in basic cognitive procedures has also been corroborated in more explicitly culture-focused research (Hannover & Kühnen, 2004; Kühnen, Hannover, & Schubert, 2001; Kühnen & Oyserman, 2002).

SUMMARY

Priming studies artificially prime or cue certain procedures in a controlled environment. The same outcomes are likely to be cued in everyday situations as well. Both conceptual and mind-set priming processes are likely to occur, and both are likely to be important for researchers seeking to understand the process by which distal differences in societies (their histories, philosophical and religious traditions, and ecological niches) influence "online" differences in the sense individuals make of their social and nonsocial world and how they go about thinking—cognitive content and structure. By focusing attention on likely differences in content and procedures cued in the moment, our goal in this chapter is to provide a causal model of proximal cultural difference rather than a model outlining potential distal cultural difference. We now turn to evidence that culture may influence cognitive content and process either by nonconscious or conscious activation of cognitive content or procedures.

What Is the Evidence That Accessible Cultural Syndromes Influence What and How We Think?

By providing an experimental manipulation, conceptual and mind-set priming techniques hold promise of clarifying at least some of the active ingredients of chronic cross-national differences. However, to demonstrate that priming techniques evoke what is understood to be culture rather than some other semantic and procedural knowledge, the first task is to demonstrate that priming does in fact evoke *culturally relevant* semantic knowledge—values, con-

tent of self-concept, and ways of interacting with others (relationality). That is, priming collectivism (individualism) should make collective (individualistic) values more salient and likely to be endorsed, render relational and group membership (individual traits, unique self-features) content of self-concept more accessible and likely to be recalled, and increase felt closeness to ingroup members. Once this impact of priming on conceptual knowledge has been demonstrated, the impact of priming on culturally relevant procedural knowledge can be examined.

Types of Primes

Because primes are tools or means of evoking semantic and procedural knowledge, causal inference from priming results is strengthened if results are consistent across different types of primes. Consistent effects across differing prime types provide convergent evidence that the latent constructs of individualism and collectivism are being evoked. Similarly, causal inference is strengthened if priming individualism and collectivism works in both Eastern and Western countries, because this will constitute evidence that both Eastern and Western countries socialize for both individualism and collectivism. Before turning to evidence that priming results can be observed using different methods and among members of different cultures, we outline briefly each of the various individualism and collectivism primes used in the field.

Oyserman and Lee (2007) have conducted an extensive review of the culture priming literature. They find that primes are diverse in content, in type of task used, and in their transparency to the participant. This diversity is helpful, if meta-analytic results from priming studies are consistent across these different levels of collectivism primes, this will constitute evidence that the underlying process of collectivism is the same across different levels of groups (relational vs. collective)—an issue unresolved by the cross-cultural, cross-national comparative literature.

With regard to priming individualism, tasks typically focus on the individual self (using "I" as a prime), on the self as different or unique, and on difference and separateness more generally. With regard to priming collectivism, tasks focus not only on connection, using "we" as a prime, but also on similarity or obligation to family, as well as larger groups, such as teams. That is, collectivism primes focus on what has been termed "relational," as well as "collective," identities: friends, family, others with whom one is likely to have a close and personal bond, as well tribal affiliation or membership in larger groups where a close and personal bond with all group members is unlikely (for distinction between relational and collective identities, see Brewer & Gardner, 1996; Roccas & Brewer, 2002).

As detailed below, each of the priming tasks can clearly be viewed as a conceptual prime. Words related to individualism and collectivism are primed and likely to bring to mind relevant values, ways of being a self, ways of engaging with others, and ways of making sense of the world. A question to be explored is whether it can also be shown that these tasks prime procedural knowledge—activating cognitive procedures of separating out and focusing on a main object, the figure versus connecting, integrating, and focusing on the whole. Thus, the question is when words like *separate*, *different*, and *dissociate* or words like *similar*, *connect*, and *together* are used in instructions or in the task itself, do they prime mind-sets rather than simply content knowledge?

Priming Individualism and Relationally Focused Collectivism

While collectivism has mostly been described in terms of focus on group membership, much of the cross-national research has focused on within-group contexts, examining more relational rather than group-level processes. Not surprisingly then, two of the common primes also focused on priming a relational level of "we." As outlined below, these are the Similarities and Differences with Family and Friends task (SDFF) and the Pronoun Circling task. One or the other of these primes is used in almost half of all culture-priming studies (Oyserman & Lee, 2007).

SIMILARITIES AND DIFFERENCES WITH FAMILY AND FRIENDS TASK (SDFF)

Trafimow, Triandis, and Goto (1991, Study 1) developed this task. To prime individualism or "I" the instructions are as follows: "For the next 2 minutes, you will not need to write anything. Please think of what makes you different from your *family and friends*. What do you expect

yourself to do?" To prime collectivism (in this case a "relational we") the instructions are as follows: "For the next 2 minutes, you will not need to write anything. Please think of what you have in common with your *family and friends*. What do they expect you to do?" (p. 651; italics added). As noted in the italicized text, the focus is on others with whom one has a close relation. The SDFF may be assumed to prime conceptual knowledge: Activating concepts of one's similarities to (differences from) close others should activate relevant values, ways of describing oneself, and engagement with others.

PRONOUN CIRCLING TASK

Brewer and Gardner (1996) developed an initial version of this task that contrasted "we" with "they." This work was refined by Gardner, Gabriel, and Lee (1999), who developed the initial form of the pronoun circling task comparing a focus on "I" (as well as "me" and "my"), with a focus on "we," where "we" refers to friends who go together into the city. Specifically the task is to circle personal singular and plural pronouns in a paragraph. Following the initial work of Brewer and Gardner, a number of different paragraphs have been used. The original paragraph was: *We* go to the city often. *Our* anticipation fills *us* as *we* see the skyscrapers come into view. *We* allow *ourselves* to explore every corner, never letting an attraction escape *us*. *Our* voice fills the air and street. *We* see all the sights, *we* window shop, and everywhere *we* go *we* see *our* reflection looking back at *us* in the glass of a hundred windows. At nightfall *we* linger, *our* time in the city almost over. When finally *we* must leave, *we* do so knowing that *we* will soon return. The city belongs to *us* (italics added to show relational collective prime). Because the concepts "I" and "we" are primed, the pronoun circling task may be assumed to prime conceptual knowledge: Activating concepts "I" and "we" should activate relevant values, ways of describing oneself, and engagement with others.

Priming Individualism and Collectivism That Is Both Relationally and Collective Group-Focused

Three collectivism primes did focus on the collective level, in conjunction with a more relational level. Two of these primes, scrambled sentence tasks and subliminal priming, are standard in the priming literature. Scrambled

sentences and subliminal prime can in principle use collective or relational words, and indeed, current usage has words such as *team* and *group*, which are likely to be more collective than relational. The third prime has participants imagine themselves in the shoes of a Sumerian warrior, making choices in part due to group (tribe) membership, as well as family concerns; this common prime is similar to the SDFF prime in that instructions simply ask participants to imagine the situation. These primes are also often used, constituting almost 40% of published culture-priming research (Oyserman & Lee, 2007).

SCRAMBLED SENTENCE TASK

The scrambled sentence task (Srull & Wyer, 1979) is one of the standard tools for priming. According to Oyserman and Lee's (2007) review, the following words have been used to prime individualism, the words *I, me, mine, distinct, different, competitive, own, free, unique, dissociate, assertive, unusual, autonomy, alone, apart, autonomous, detached, different, dissimilar, distinct, diverge, independence, individual, isolate, separate, solitude, split, unique,* and *self-contained* are included. To prime collectivism, the words *we, us, ours, join, similar, alike, share, cooperative, agreeable, help, group, respect, partnership, together, team, support, others, attached, alliance, closeness, cohesive, connection, inseparable, interdependence, intimate, joint, merged, overlap, similar, shared, together, union,* and *friendships* were used. Given the concepts primed, the scrambled sentence task may be assumed to prime cultural-syndrome-relevant conceptual knowledge.

SUBLIMINAL PRIMING

Subliminal methods are also standard priming techniques. Subliminal priming involves presentation of target words or pictures at a speed too fast (e.g., 35 ms) for conscious processing. Only one published use can be located in the culture priming literature. Oishi, Wyer, and Colcombe (2000, Study 3) included in their priming task the following words: *own, mine, compete, 1, me, individual, distinct,* and *free* (vs. *share, ours, cooperate, us, we, group, same,* and *team*). Subliminally primed concepts may be assumed to prime cultural-syndrome-relevant conceptual knowledge.

SUMERIAN WARRIOR STORY

Trafimow et al. (1991, Study 2) developed this task. The instructions read, "We would like you to read a couple of paragraphs on the following page. After reading these paragraphs, you will be asked to make a judgment about the main character" (p. 652). The participant is then given a lengthy text to read that either focuses attention on individual-talent or tribe-membership and family considerations as rationale for the choice. Because concepts related to individual choice versus focus on tribe and family are primed, the task may be assumed to prime conceptual knowledge.

Priming Individualism and Group-Focused Collectivism

Two other primes attempted to evoke group focus explicitly in their collectivism primes. Group focus was prime by either instantiating a group in the lab or by having participants imagine that they were part of a team or alone, or by having participants imagine themselves or their family consuming grape juice. While quite different from the other primes, this kind of minimal group fits with classic social identity research (e.g., Tajfel, 1982, 2001; Tajfel & Forgas, 2000; Tajfel & Turner, 2004). It could be argued to be relevant to the cross-national literature examining collectivism via preference for working in groups (see Oyserman, Coon, et al., 2002), as well as to Hofstede's (1980) workplace-based focus in the initial cross-culture research comparing countries on individualism. To the extent that work group concepts prime relevant cultural syndrome constructs, the tasks may be assumed to prime conceptual knowledge.

GROUP INSTANTIATION AND GROUP IMAGINATION

Three studies used a "group instantiation prime" (Briley & Wyer, 2002, Studies 1–3). Individualism priming involved individual conditions (performing the task individually, being seated at single-person desks separated by partitions). Collectivism priming involved group formation and intergroup competition (being seated at five-person tables, working as a group, giving the group a name, being told that points were rewarded to the group and competing against other groups).

Seven studies used a "group imagination" prime (Aaker & Lee, 2001, Study 2 Pretest, Studies 2–4; Lee, Aaker, & Gardner, 2000, Studies 2–4). Individualism priming involved imagining oneself competing in a singles' tennis match or consuming grape juice. Collectivism priming involved imagining oneself competing on a tennis team or one's family consuming grape juice.

Language as Prime

Oyserman and Lee (2006) were able to locate 10 studies (Bond & Yang, 1982; Kemmelmeier & Cheng, 2004; Marian & Kaushanskaya, 2004; Ralston, Cunniff, & Gustafson, 1995; Ross et al., 2002; Tavassoli, 2002; Trafimow, Silverman, Fan, & Law, 1997; Watkins & Gerong, 1999; Watkins & Regmi, 2002; Yang & Bond, 1980) that used language as their priming method. The assumption is that English carries with it knowledge about American or Anglo-Saxon culture and therefore evokes individualism, whereas other non-Western languages carry with them knowledge about a home culture that is assumed to be more collectivist. This prime can only be used with participants who are fluent in both English and another language. Although in principle any two languages can be used, Oyserman and Lee (2007) found studies comparing responses in English to those in Chinese, Cebuano, Nepali, and Russian—languages rooted in cultures assumed higher in collectivism.

Although researchers clearly assume that English is a prime for individualism, and this may be so, it is not entirely clear what exactly is being evoked by use of English. It may be a foreign language (e.g., Kemmelmeier & Cheng, 2004), the language of the colonizer (e.g., Yang & Bond, 1980), or a second home language (e.g., Ross et al., 2002) depending on social-historical backgrounds and social cues, in the experimental situation. Likewise, although researchers clearly assume that use of native language primes some form of collectivism—whether feelings of interdependence, or more general collective focus, it is not entirely clear what is being evoked. Using a non-native language may suggest that one is to communicate with an outsider; therefore, one may need to take the other's likely frame of reference into account. Thus, the larger context and the context primed by the experiment are both likely to matter. For example, using one's native

tongue in one's home country with a native-language-speaking researcher may have different effects than if one does so in another country, say, as a student in the United States or Canada. For a Hong Kong Chinese student, the meaning of using English in Hong Kong (e.g., Bond & Yang, 1982) may differ from the meaning of using English in Canada (Ross et al., 2002). These distinctions highlight both the situated nature of language use and its effects on cognition and the need for further work to better understand these situated effects. If language priming shows effects on values, self-concept, and relationality, it can be assumed that language is a conceptual prime. If language priming also shows effects on cognitive processes, then it can be assumed that language is a procedural prime as well.

WHAT DOES THE PRIMING LITERATURE REVEAL?

Priming is a relatively new entry into the cultural and cross-cultural literature. But cultural and cross-cultural psychologists have adopted the primes we introduced earlier to evoke individualism and collectivism, and to examine their effects on a number of dependent measures among various cultural groups. In this section we review the empirical findings of this body of research.

The Nature of the Literature

Oyserman and Lee (2007) conducted a search of the English-language published literature and found 67 studies with 5,818 participants that primed both individualism and collectivism. These priming studies examined effects on values (typically items from Schwartz, 1992; Triandis, 1995; Triandis, McCusker, & Hui, 1990), relationality (e.g., social obligation), self-concept (typically coding from the Twenty Statements Test [TST; Kuhn & McPartland, 1954]), well-being (e.g., life satisfaction), and cognition. Priming studies were conducted in English, German, Dutch, and Chinese. Studies were conducted in four regions and eight countries: North America (the United States and Canada), East Asia (Hong Kong and Singapore), Western Europe (Germany and the Netherlands), and Other Asia (Nepal and the Philippines).

Seven studies presented a cross-national replication of priming effects (Aaker & Lee, 2001,

Study 2 Pretest & Study 2; Briley & Wyer, 2001, Study 4; Gardner et al., 1999, Study 2; Lee et al., 2000, Studies 3–5) and one study presented priming as a replication of cross-national difference (Haberstroh, Oyserman, Schwarz, Kühnen, & Ji, 2002, Study 2). Even though these studies provided information on Hong Kong and China, the bulk of studies (n = 36) were conducted in the United States and, whether in the United States or not, most studies were conducted in English (n = 44). Studies not conducted in English were conducted in Germany, the Netherlands, and Hong Kong, or used language as a prime. Most studies did not provide explicit information about racial/national heritage of participants. It is unclear whether studies did not provide the information because they did not include racial/ethnic majority participants or whether race/ethnicity was not reported because sample sizes were too small for subgroup analyses. Only about one-third of studies included gender in the design.

Hypothesized Effects

Following the cultural syndrome model described previously, the expected impact of priming on values, self-concept, relationality, and cognition can be outlined as follows: With regard to values compared to when collectivism is primed, when individualism is primed, endorsement of relational or collective values would be lower and endorsement of individualistic values would be higher. With regard to self-concept, compared to when collectivism is primed, when individualism is primed, unique traits and attributes related to self-concept should be more accessible, and social or relational aspects of self-concept should be less accessible. With regard to relationality, compared to when collectivism is primed, when individualism is primed, we expected less accessibility of feelings of social obligation and closeness to ingroup others. With regard to cognition, compared to when collectivism is primed, when individualism is primed, we expected more accessibility of context-independent cognitive processing and less accessibility of context-dependent cognitive processing.

Overall Priming Main Effects

Culture priming had a significant and small-to-moderate effect (mean weighted d = 0.34, mean unweighted d = 0.45) that did not differ signifi-

cantly when Asian or Asian American compared to European or European American participants were included. Overall, results suggest that priming does influence culture-relevant content (values, self-concept, and relationality) and process (cognition). Effects are relatively robust to prime with some exceptions as noted below. By unpacking the main effect of priming to ask how priming influences each of these culture-relevant constructs and processes, and whether effects are consistent across prime and sample, Oyserman and Lee (2007) provide evidence that at least part of the process by which culture has its effects is via priming of knowledge (semantic priming) and mind-set (procedural priming).

Moderator Analyses

Effect of Prime Type

The majority of studies primed cultural syndrome by using language and six of the seven tasks (with the exception of subliminal priming) described in the prior section. A few studies used various tertiary unclassified primes. The most common priming tasks were Pronoun Circling ($n = 15$), Sumerian Warrior ($n = 12$), SDFF ($n = 10$), and using language as a prime ($n = 10$). Mean weighted effect sizes were moderate for Sumerian Warrior and SDFF primes, and small for Pronoun Circling, scrambled sentence ($n = 7$), group imagination ($n = 8$), and group instantiation ($n = 3$) tasks. Reflecting perhaps the ambiguity of what exactly is being primed, especially small effects (weighted $d = 0.10$) were found for language primes. Estimating effects sizes by whether the collectivism primed was relational, collective, or both, Oyserman and Lee (2007) report moderate effects when collective primes included both relational and collective group levels, but small effects when only the relational or collective level was primed. This increased effect size of the mixed primes may reflect the fact that they were better able to cue cultural-syndrome-relevant content in working memory. Alternatively, these differences may be an artifact of differential use of the primes for different dependent variables. While the most common priming task, the Pronoun Circling task, has been used with a variety of dependent variables (self-concept, cognition, values), other tasks, such as the SDFF, have been used mostly with a single dependent variable.

Effect of Dependent Variable

Significantly different effects of culture syndrome priming were found depending on the culture-relevant construct assessed. Culture syndrome priming had significant but small effects on values (based on $n = 15$ studies) and self-concept (based on $n = 21$ studies), but moderate-to-large effects on relationality (based on $n = 13$ studies) and cognition (based on $n = 28$ studies). To understand the nature of these effects, each culture-relevant construct was assessed separately.

VALUES

Studies examining the effect of priming on values could be divided into those using known individualism and collectivism value scales (as reported earlier, those of Triandis and Schwartz) and those using other value items (e.g., "Chineseness," Bond & Yang, 1982; Ross et al., 2002; Yang & Bond, 1980; emotional connectedness, self-sacrifice, and individuality, Briley & Wyer, 2001, Study 4; equality proverbs, Briley & Wyer, 2002, Study 3; justice values, Kemmelmeier, Wieczorkowska, Erb, & Burstein, 2002, Study 3). Because effect of cultural syndrome priming on responses to known individualism and collectivism value scales is a plausible validity check of the priming manipulation itself, Oyserman and Lee (2006) examined effect size for these studies separately and found effects in the moderate range. This is an important validity check for the priming procedure.

Further analyses reported by Oyserman and Lee (2007) suggest some difference in effect size by prime. Whereas the Sumerian Warrior task, the SDFF, and the scrambled sentence tasks have on average a moderate impact on accessibility of cultural values, the Pronoun Circling task, the group imagination task, and the group instantiation task have only a small effect on accessibility of cultural values. No effect of language priming was found.

SELF-CONCEPT

Among the 21 studies examining the effect of cultural syndrome priming on self-concept, most operationalized it with content coding of variants of the TST (Kuhn & McPartland, 1954). Other studies used items from either Singelis's (1994) or Leung and Kim's (1997)

Self-Construal Scales or created their own items. Small effects were found whether researchers content-coded for number of personal traits or number of collective identities generated in the TST. No effect of cultural syndrome priming was found for number of relational identities generated. It is possible that a more complex relationship exists between cultural syndrome priming and self-concept than can be captured by content-coding TST responses; that is, current research is based on categorizing responses as social or personal self-focused. When a social self is cued, however, it seems likely that it will cue how one is that self—for example, thinking of oneself as a daughter or as a Muslim will cue the relevant traits associated with this identity (e.g., willful or obedient). If each word is coded separately, then the latter descriptors will be coded as private selves, yet this may not be how they are intended (for further discussion of this issue see, e.g., Oyserman, 2007).

It is also possible that effects are dependent on prime type. When language was used as a prime with English as the individualism prime, and Chinese (Ross et al., 2002), Cebuano (Watkins & Gerong, 1999), or Nepali (Watkins & Regmi, 2002) as the collectivism primes, participants referred more to others in Chinese than in English, and described more relational but fewer collective selves in Cebuano and Nepali than in English. However, they also used more trait self-descriptors in Cebuano. Further analyses reported by Oyserman and Lee (2007) suggest that the Sumerian Warrior, the Pronoun Circling, the group imagination, and the language priming tasks all have on average a small effect on accessible content of self-concept, whereas the SDFF task has on average a moderate effect. The SDFF task involves bringing to mind similarities to (or differences from) family and friends, suggesting that the effect of priming on self-concept content may be particularly clear when the prime brings to mind semantic content that is very close to the task at hand.

RELATIONALITY

Average effects of priming cultural syndrome on relationality are moderate. Some studies show effects on reported social obligation (e.g., Gardner, Gabriel, & Dean, 2004). Other studies show effects on behavioral measures of psychological closeness (Holland, Roeder, van Baaren, Brandt, & Hannover, 2004, Study 2); that is, relative to when individualism was primed, when collectivism was primed, participants sat closer to a confederate.

Size of effect appears to be dependent on the type of prime used (Oyserman & Lee, 2007). Further analyses reported by Oyserman and Lee suggest that language priming has a small effect on accessible knowledge about relationality; the Sumerian Warrior task and the Pronoun Circling task have, on average, a moderate effect, and the SDFF and the scrambled sentence tasks have on average a large effect. Whereas the SDFF explicitly focuses on relationships, scramble sentence tasks do not, so the larger effect in the latter two prime conditions is unlikely to be solely due to bringing to mind family and friends.

COGNITION

Taken together, studies priming cultural syndrome and then assessing accessibility of individualism and collectivism values, relationality, and relevant self-concept content provide assurance that priming cultural syndrome using the kinds of primes described previously does seem to activate relevant constructs and make accessible the values, and ways of thinking about oneself and relating to others described in the cross-cultural literature. These results suggest that at least in part, culture's impact is via priming of semantic knowledge and networks.

Social cognition studies support this claim, showing effects of priming on conceptual knowledge. For example, Haberstroh et al. (2002, Study 1) find that semantic priming of cultural syndrome shifts sensitivity to conversational norms, making collectivism-primed German participants as sensitive as nonprimed Chinese participants. Taken as a whole, the results of cultural-syndrome-priming studies not only provide a "live" process model but also highlight that cultural impact is indeed situated in the immediate context. Contexts are cultural because they evoke certain values, ways of being a self, ways of engaging others, relevant attitudes, and sensitivities to others.

Although a process model that focuses on conceptual priming effects is interesting, as we noted at the outset of this chapter, cultural psychologists have argued for an even deeper impact of culture. Cultural psychologists have argued that culture influences not only what we

think but also how we think. The studies priming cultural syndrome, then assessing accessibility of relevant cognitive procedural knowledge provide insight into this latter claim. Thus, for example, Stapel and Koomen (2001, Study 1) primed cultural syndrome, then presented participants with social comparison information. They found that participants were more likely to contrast their self-description with the other after individualism priming and more likely to assimilate information about the other into their self-description after collectivism priming. These effects suggest effects of priming on mind-set, in this case, use of a contrast or exclusion-focused cognitive mind-set procedure rather than an assimilation or inclusion-focused cognitive mind-set procedure.

In the cognitive domain across studies, effect size was moderate whether the cognitive construct assessed was an attitude, judgment, or social cognition (and the prime activated conceptual knowledge), or a nonsocial cognitive process was assessed (and the prime activated procedural knowledge). In an example of procedural priming, Kühnen and Oyserman (2002) showed that priming cultural syndrome influenced speed with which respondents recognized letters in an embedded letters task (Study 1) and accuracy of recall of figures embedded in context (Study 2). More recently in our lab we have demonstrated that priming cultural syndrome influences Stroop color-naming latency effects. Because the Stroop task requires participants to separate and pull apart features of the stimuli, both Americans and Koreans showed effects such that relative to collectivism priming, individualism priming speeds latency of accurate Stroop color response on difficult trials (those in which color and word are incongruent; Cha, 2006; Oyserman, Sorensen, & Reber, 2006).

The procedural knowledge that appears to be primed by the cultural syndrome tasks focuses on separate versus connected reasoning. This distinction is similar to the one made by Nisbett and his colleagues (see Norenzayan, Choi, & Peng, Chapter 23, this volume) but does not require that the cultural syndrome itself be set by distal cultural features such as Eastern versus Western cultural and philosophic and religious traditions. Further analyses reported by Oyserman and Lee (2007) suggest that effects of priming cultural syndrome on cognition are relatively robust to the specific

prime used. The Sumerian Warrior task, the Pronoun Circling task, the SDFF, the scrambled sentence task, group imagination, and language as prime all have on average a moderate effect on both cognition content and process (though effects for the group instantiation task are small[3]). Taken as a whole, the cultural syndrome priming studies suggest that there is a procedure relevant to the individualism syndrome and a procedure relevant to the collectivism syndrome.

Comparison of Priming Cultural Syndrome with a Control Comparison Condition

Although most studies did not provide a control condition, those that did use a control comparison show a small effect size for both the comparison between individualism prime and control and the comparison between collectivism prime and control. In these control comparison studies, effects for individualism priming did not depend on which dependent variables were assessed, whereas for collectivism priming, effects were moderate for relationality and cognition, and extremely small for self-concept and values. Relative to control conditions, on average, individualism priming produced greater shift than collectivism priming, with two caveats. First, studies using the scrambled sentence task produced equal shift from comparison whether individualism or collectivism was primed. Second, when collectivism priming included both relational and group-level collective focus, a larger shift from comparison for collectivism priming than for individualism priming was observed. Taken as a whole, no single priming task can be considered the gold standard for future work. However, the mixed-level collectivism primes and the scrambled sentence primes seem to provide a mix of ecological validity (taking into account multiple levels) and maximal control (content of sentences can be tailored to enhance results).

SUMMARY AND CONCLUSIONS

Cross-cultural comparisons suggest that culture matters, influencing how the self is defined, how relationships with others are imagined, what is of value and worth, and how the mind works. Cross-national comparisons can be high in ecological validity: They demon-

strate real differences between real groups. A meta-analytic review suggests that cross-national variability in culture is patterned, that assumed value differences can be assessed through survey response. However, these studies are limited. Reliance on survey response leaves open questions about interpretability of comparisons, and studies that lack experimental manipulation cannot illuminate the process by which culture matters, leaving as a black box the mechanism through which culture influences individuals. To address these problems, social cognition research provides semantic and procedural priming as tools to assess the impact of some key aspects of cultural syndromes on content and process of thinking.

To answer these process questions, it is necessary to experimentally manipulate the salience of individualism and collectivism as syndromes and to compare results when different facets of these syndromes are brought to mind. A recent comprehensive review of the cultural-syndrome-priming literature supports the cross-cultural psychological contention that culture matters; that is, priming some culture-relevant content shows a clear impact on accessible cultural knowledge, resulting in shifting values, altered descriptions of content of self-concept, and differences in understanding about one's social obligations and relations with others. These findings suggest that culture is a conceptual prime, activating relevant knowledge. Perhaps most importantly and fundamentally, priming influences situated cognitive process in culturally meaningful ways; that is, priming individualism and collectivism cultural syndromes made accessible different procedural knowledge. The mind-set of individualism is to pull apart and separate, to contrast figure from ground, self from other. The mind-set of collectivism is to connect and integrate, to assimilate figure with ground, self with other. These findings suggest that culture is also a procedural prime, activating relevant naïve theories as to how to make meaning.

Cultural-syndrome-priming literature does not simply support prior suppositions about the influence of culture. It also provides new information suggesting that individualism and collectivism do influence how we think, the cognitive procedures evoked. Moreover, far from being immutable, cultural differences are malleable in the moment. Because cultural syndrome priming can be understood as setting up a situation that cues or makes subjectively sa-

lient isolated active ingredients of culture, the evidence that cultural syndrome priming is effective suggests that such malleability is also plausible in everyday life. Subtle priming evoked subjective construals that afford and elicit culturally meaningful and relevant thoughts, feelings, and behaviors. Thus, although they feel natural, real, and immutable, cultural meanings and cultural differences are likely fluid. Like any other reasoning, culturally situated reasoning is action-based; the situation cues what is relevant to making meaning and taking action in the moment. The finding that cultural syndrome priming influences both content and process is particularly important, because procedural knowledge or naive theories about how to process information and make meaning of meta-cognitive experience matter for the sense we make of not only ourselves and others, motivation, goal pursuit, and goal persistence but also for intergroup dialogue.

Clearly there is much to be done. Priming research does not yet include regions of the world such as Latin America, Africa, and the Middle East. To understand more about the underlying process, to make predictions with regard to differences in real groups other than college students, it will be necessary to conduct priming research off college campuses. Good cultural syndrome primes should provide the ability to test effects within and across countries, and to test effects with non-college-student participants. Use of varied primes is recommended because no prime alone should be assumed to embody fully the latent construct of "culture" or even its active ingredients.

Moreover, cultural-syndrome-priming research to date has focused on the procedural knowledge likely to be linked with individualism and collectivism, and has not yet begun to examine the procedural knowledge associated with other cultural axes. Culture itself is not just individualism and collectivism, and the priming literature should not be confined to this particular domain. A likely future focus is Hofstede's (1980) power distance construct.

Thus, Shavitt et al. (2006) have provided evidence that, taking hierarchy into account (what they have termed "horizontal" and "vertical" individualism and collectivism) adds to predictions based solely on individualism and collectivism. Disentangling power and individualism–collectivism may be an important step toward utilizing priming techniques

to study this syndrome. For example, Oyserman (2006) has proposed that the relevant cultural axis may focus on responses to high power, low power, and equality, separate from individualism and collectivism. Fiske (1991) and others have suggested that priming to have power is likely to cue global processing, and priming not have power is likely to cue local processing.

Culture-based power researchers will also want to know what happens when equality is cued. Whether equality cues high-power or low-power cognitive procedures is likely to depend on whether equality is synonymous with lack of power within a culture. Much like individualism and collectivism, cultural-syndrome-priming research can begin to provide information about both the content and the procedures that these cultural syndromes bring to mind. Future high- and low-power cultural syndrome researchers will need to examine impact on both content and procedures, as well as to ask whether power, once primed, has the same effect on mind-set or procedural knowledge cross-culturally and whether equality, once primed, carries with it high or low power-linked procedures.

Articulating effects of power separate from as well as in conjunction with individualism and collectivism may increase clarity of prediction. Priming individualism and collectivism could have very different effects on values in contexts that are simultaneously high or low in power. For example, using Triandis's articulation of horizontal and vertical individualism and collectivism, it is possible that in a vertical, individualist culture, priming individualism should lead to endorsement of inequality or competition, whereas in a horizontal, individualist culture, priming individualism should lead to endorsement of equality.

Finally, future research is also needed to untangle language and other features of priming. As noted in this volume (e.g., Chiu, Leung, & Kwan, Chapter 27; Norenzayan et al., Chapter 23; Wang & Ross, Chapter 26; all this volume), language itself is related to culture, memory, and cognition. Although studies using language are limited to participants who are bi- or multilingual, potential effects of language can be operationalized and studied with other primes, thus disentangling language from other culture-relevant factors. To date average effects for language prime studies are very small. This may be due to the necessity of using populations that know two or more languages well. These bilingual or multilingual people are likely also to be to some extent bicultural or multicultural. Regardless of the type of prime used, populations that chronically move back and forth between cultural frames may be different from other populations.

Indeed, one form of priming research has focused explicitly on bicultural or multicultural individuals (Hong, Morris, Chiu, & Benet-Martínez, 2000). This work uses icons (e.g., the Great Wall of China, the Statue of Liberty) to cue one cultural syndrome or another. Because of this focus on individuals with detailed knowledge of multiple cultures, this work is somewhat different in focus from the research we have reviewed. Like the language priming requirement that participants know two or more languages well, this form of priming requires that participants know more than one culture well. Rather than assuming that all societies include both individualism and collectivism, this body of work assumes that some individuals experience both individualism and collectivism due to immigration or globalization of American cultural influence. Because of this focus, icon priming research can be seen as rooted in research focused on immigration, acculturation, and acculturative stress. However, in principle, icon-based priming should be able to show effects for both semantic and procedural knowledge.

Current research evidence does not include replication of effects with biculturals using language and icon priming, and with others using other priming tasks. Therefore, we cannot yet tell whether effects are the same or different between these populations, and if there are differences whether these are in quantity (i.e., effect size), quality (e.g., whether both content and procedural knowledge can be primed), or in both quantity and quality of effects. We speculate that effects will not differ in quality but may differ in quantity across groups more or less exposed to cultural shifts. Following our model of culture as situated cognition, it is likely that neither language alone nor biculturalism alone explains differences across postmodern societies. Rather, effects are due to situated meaning. Language and icons matter to the extent that they carry meaning in context. Meanings in situation matter, because culture from our perspective is a form of situated cognition; it provides cues as to who one is, what is meaningful, and how to process information about the world.

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NOTES

1. Whereas the bulk of research on culture focuses on these two loosely defined cultural syndromes, a number of related constructs are not fully integrated into this body of work. Oyserman, Coon, et al. (2002) note that authors disagree as to whether familialism (relatedness to family, seeking harmony with family members, supporting and seeking advice from family) is *separate* from collectivism (Gaines et al., 1997), the *essential core* of collectivism (Lay et al., 1998), or an important *element* of collectivism, distinct from a nonkin-focused type of collectivism (Rhee, Uleman, & Lee, 1996). Similarly, the place of hierarchy and competition within an individualism and collectivism framework is not fully articulated. Hofstede (1980) originally proposed individualism and power, or as he termed it, "power distance," as separate cultural factors, a view paralleled in Fiske's (1991) taxonomy of basic social relationships, and more recently advocated by Triandis and his colleagues, who proposed including hierarchical or egalitarian aspects of social relationships in analyses of individualism–collectivism (cf. Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis & Gelfand, 1998). By including a horizontal–vertical dimension to discussion of cultural differences, different dimensions of individualism and collectivism can be distinguished depending on whether they presume equal or different status between individuals, namely, "horizontal individualism," "horizontal collectivism," "vertical individualism," and "vertical collectivism." According to this framework, cultures high in horizontal individualism tend to be egalitarian, with individuals being independent and of comparable power and status. Countries identified as having this pattern are the Scandinavian countries (Singelis et al., 1995; Shavitt, Lalwani, Zhang, & Torelli, 2006; Triandis & Gelfand, 1998). Cultures high in horizontal collectivism tend to be egalitarian, with individuals committed to the good of the group; only Israeli kibbutzim are identified with this pattern (Shavitt et al., 2006). Most high individualism cultures tend to champion competition between individuals, resulting in acceptable inequality between individuals; most high collectivism cultures also include both clear hierarchies and acceptance of differential outcomes given one's place in the hierarchy. Thus, although equality is thus possible, most cultures are "vertical" to some degree (Shavitt et al., 2006). Triandis's work does raise the question of whether cultures differ in how high and low power influence the sense individual members make of themselves and their world—what and how they think. This is explored further in a later section.

2. Effect sizes are reported following the recommendations of J. Cohen (1992) in interpreting the meaning of the observed effect sizes: Effect sizes of less than $d = 0.2$ are described as "small"; those of $d = 0.5$–0.7 are described as "moderate"; and those above $d = 0.8$, as "large."

3. Small effects were also found for studies that pursued a more complex interaction effect. Lee, Aaker, and Gardner (2000, Studies 2–4, Aaker & Lee, 2001, Studies 1–4), Briley and Wyer (2002, Study 3), and Mandel (2003, Study 1) all examined the hypothesis that priming individualism and collectivism is potentiated when matched with primed or chronic self-regulatory focus (individualism matched with promotion focus, collectivism matched with prevention focus). Across these studies, a small effect was found for match.

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