Culture as Situated Cognition

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Abstract

Culture-as-situated-cognition (CSC) theory proposes that culture can be thought of at three levels. At the highest level, culture is a human universal, a "good enough" solution to universal needs. At the intermediate level, culture is a specific meaning-making framework, a "mindset" that influences what is attended to, which goals or mental procedure is salient. At the most proximal level, culture is a set of particular practices within a specific society, time, and place which influences what feels fluent and to-be-expected. Cross-national comparisons demonstrate that differences exist. To understand what observed differences imply for underlying process, a situated cognition framework and experimental methods are needed. Indeed, individualistic and collectivistic mindsets are accessible cross-culturally, so both can be primed. Whether an individualistic or collectivistic cultural mindset is salient in the moment matters, resulting in downstream consequences for meaning making, self-processes, willingness to invest in relationships, and for complex mental procedures. Between-group differences arise in part from momentary cues that make either individualistic or collectivistic mindset accessible. Within a culture, people experience cultural fluency if situations match their expectations and cultural disfluency if they do not. Cultural disfluency has downstream consequences for choice and behavior. Moving from one culture to another is difficult because people experience many situations in which they either do not know what to expect or their expectations are not met and feedback as to the nature of the mismatch is almost always ambiguous. For these reasons, while cultural processes are universal, acculturation is often fraught, lengthy, and incomplete.

INTRODUCTION

The term *culture* is used to describe human universals, general processes assumed to be differentially common across regions of the world, and specific patterns within a particular group. These specific patterns may be particular to subgroups within a society. Thus, for example, social class differences in music, literature, food, or norms are sometimes described as cultural differences. And within a society, people can be described as cultured or uncultured, with the assumption that a cultured person is someone who knows the particulars of high culture (history, music, literature, philosophy). This

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implies that even within a society or region, people differ in which aspects of culture they are exposed to. This multiplicity of possible use can be confusing. Culture-as-situated-cognition (CSC) theory provides a clear formulation of connections across usages and highlights the need for methodology that allows for studying and refuting claims about effects at each level of analysis.

CSC theory starts with the assumption that culture can be thought of at three levels. At the highest level, culture is a human universal, a "good enough" solution to universal needs. At the intermediate level, culture is also a specific meaning-making framework, a "mindset" that influences what feels fluent, what is attended to, which goals or mental procedure is salient. At the most proximal level, culture is a set of particular practices within a specific society, time, and place. Human societies share the need to address universal needs and situations differ in which need is salient. This means that people are sensitive to cues as to which cultural mindset (e.g., individualistic mindset, collectivistic mindset) is situationally relevant. Living in a society results in rich tacit knowledge (implicit expectations, explicit rules) as to what to expect if all is going as it should, situations that mismatch with these expectations alert systematic reasoning (to figure out whether something is wrong).

The three levels of culture are tied. At the highest level, human culture is central to the evolutionary press of survival. Individuals (genes) cannot survive alone and need an entity (in-group) to sustain them. This universal need implies that there must be some universal mechanism by which people (organisms) cooperate with in-groups, share with more-related and exploit less-related others. Thus, at the intermediate level, each of the universally needed cultural mindsets is part of socialization and therefore available as a meaning-making lens. Finally at the most proximal level, an array of societal practices emerges from this shared beginning in cultural universals. This multifinality occurs for a number of reasons. First, cultures evolve in particular ecological niches (Boyd, Richerson, & Henrich, 2011). Second, cultural solutions are "good enough"—they do not need to be the best or most efficient solution, just better than no solution (e.g., Cohen, 2001).

The universal focus of culture on individual innovation, group membership, and relationships has downstream influences on seemingly unassociated cognitive processes stemming from thinking either in terms of separation or in terms of connection (Markus & Oyserman, 1989; Oyserman, Sorensen, Reber, & Chen, 2009). These downstream consequences for judgment, behavior, physiological, or brain activation can be studied systematically by making salient (priming) different aspects of the universals—relationality, group boundaries, personal innovation. The effects of priming may involve systematic, explicit, and conscious reasoning,

but they likely also involve implicit, nonconscious, heuristic, and associative reasoning.

Although initially focused on social interchange, once developed, cultural solutions permeate all aspects of behavior and provide a blueprint or outline for how one is to behave and what one can expect of others across a variety of situations. Culture then becomes the characteristic way people perceive their environment (Triandis, 1972). This meaning-making framework both constrains and enables perception and reasoning (Nisbett & Norenzayan, 2002; Shweder, 1994). Culturally appropriate situations seem right; culturally inappropriate situations seem wrong or off-key (Triandis, 2007).

FOUNDATIONAL RESEARCH

Foundational research starts with the ethnographic study of particular practices within a particular time and place, which demonstrate that societies differ in how relationships are organized, the everyday salience of group boundaries, and in the accessibility, number, and kinds of rewards for individual innovation. For their part, psychologists sometimes focus on individual differences; at other times, they focus on between-country comparisons and often assert that particular between-country comparisons are stand-ins for general regional differences. Thus, in typical cross-cultural psychological research, a group of participants from Japan or China is compared to a group of participants from the United States or Canada and the results of this comparison are used as a stand-in for assumed underlying differences in cultural processes between groups of societies described as individualistic and collectivistic.

Basic Constructs

Anthropologists and sociologies have long studied societies and their cultures by focusing on the proximal level in which each society is distinct as well as on the universal level in which all societies face common challenges (Cole, 1996; Shweder, 1991, 1999). For anthropologists, culture is an entire way of action (Geertz, 1973); similarly for sociologists, culture shapes action by influencing how things are done more than by influencing what people want (Swidler, 1986). Within psychology, however, focus has been on the intermediate level in which societies can be characterized by particular styles or mindsets. The modern study of the consequences of culture can be linked to the work of Hofstede (1980), who articulated a four-dimensional model for understanding societies. These cultural dimensions were termed *individualism*, power distance, uncertainty avoidance, and masculinity-femininity. He inferred these national characteristics from a workplace satisfaction

study among employees of IBM. Of particular continued interest has been the axis of individualism and collectivism. Parting from the emphasis on universal cultural processes, Hofstede and subsequent psychologically minded researchers assume that societies socialize for one worldview or the other. The source of the worldview has been argued to be geography, philosophy, religion, or even genes (Kitayama & Uskul, 2011; Nisbett, 2003; Segall, Dasen, Berry, & Poortinga, 1990).

Individualism. Individualism is a worldview that focuses attention on the individual as the core unit of analysis. Individuals are responsible for their own fate and so should strive to find happiness. This implies that situations, relationships, and societies serve individuals, and that individuals should focus on themselves in making choices (Oyserman, Coon, & Kemmelmeier, 2002).

Collectivism. Collectivism is a worldview that focuses attention on groups as the core unit of analysis. Groups and societies shape the fate of individuals; individuals have value to the extent that they appropriately fulfill their place and role within their relational network and should be sensitive to contextual factors that determine their fate (Oyserman, Kemmelmeier, & Coon, 2002).

Initially, individualism and collectivism were operationalized as value sets with the assumption that action was predicated on values. More recent approaches have operationalized them as self-concepts (Triandis, 1989) or as assumed norms that others will expect one to live by (Leung & Bond, 2004). That is, one may act individualistically because one values individualism, because one makes sense of oneself individualistically, or because one assumes that is what others expect of oneself.

Methods: Comparing or Measuring

Comparing Groups. After Hofstede, psychological research on culture proceeded mostly along two tracks that can be summarized as between-country comparison applying Hofstede's ranking of countries and development of measures for Hofstede's cultural dimensions and related constructs. It is not that cross-national comparisons did not exist before Hofstede, but rather, after Hofstede, researchers using this comparative method commonly organized their results in terms of Hofstede's dimensions, especially individualism-collectivism. Thus, researchers compared countries Hofstede identified as differing in individualism and assumed that the differences they found in various

domains were due to this difference (Denkhaus & Bös, 2012; Kitayama & Park, 2010). In practice, this method mostly involves comparison of two countries, typically Japan or China and the United States or Canada. More recently, researchers have begun to look at other between-group comparisons for other sources of difference in individualism and collectivism within and across societies. Posited sources of difference are located at both the individual and societal levels. At the individual level, these include social class, college education, and type of employment. At the social level, these include societal economic development, societal social stratification, and societal economic flux during times of growth and times of collapse. Research in this track focuses on demonstrating between-group differences. Differences are asserted to be due to differences in individualism and collectivism (or related constructs such as independent and interdependent self-construal, Oyserman, Kemmelmeier, *et al*., 2002 for a meta-analytic review).

Measuring. The measurement track involves use of or development of measures to be administered at the individual level, typically of values, axioms (social norms), or of self-concept. Less frequently, researchers attempt to develop measures using societal level variables such as divorce, household size, or living arrangements for the elderly. Developing individual-level measures is useful if culture is represented (at least in part) as explicit values, attitudes, and ways of conceptualizing the self that differ across societies. Developing societal-level measures is useful if cultural constructs of individualism and collectivism are disentangleable at that level from other things (e.g., modernity, wealth, social stratification) also linked to the same societal indicators (divorce, household size, etc.). To validate these measures, researchers compare responses across countries and assess whether response differences are associated with the attitudes, behaviors, brain responses, and so on, that are expected to be associated with individualism and collectivism and other cultural values (for background, Lieberman, 2007; Markus & Kitayama, 1991; Matsumoto, 2001).

There are now an array of measures of individualistic and collectivistic values, axioms, and self-construals (for review, Leung & Bond, 2004; Oyserman, Kemmelmeier, *et al*., 2002). A key difference across measures is the extent that other constructs are included within individualism and in collectivism. Consider achievement. Is it an aspect of individualism? Although this may seem reasonable for some between-country comparisons, achievement is not necessarily central to individualism because achievement could just as easily be seen as a way of providing resources to one's family or in-group or

a source of pride to one's family and in-group, both seemingly collectivistic. Certainly, countries assumed higher in collectivism such as China do not have lower standardized test score achievement than countries assumed higher in individualism such as the United States. Measures are available for other aspects of culture, including acceptance of power posited cultural differentials (termed *power distance* or *horizontal* vs *vertical societies*) and tolerance of uncertainty and for a conceptual reframing of Hofstede's original dimensions as the tightness or looseness of situations or situational constraint (Gelfand *et al*., 2011; Triandis, 1996, 2004). Here too, what is being measured sometimes refers to social norms (how things are) and other times to values (how things ought to be).

Strengths and Weaknesses of Each Approach. Studying culture by comparing groups or by operationalizing and measuring specific constructs between and within groups have remained the core methods of studying culture. Each method has strengths and weaknesses in terms of what can be tested and what cannot be tested. Consider comparison. While fruitful in setting up questions about how culture can influence how people engage the world around them, this approach is also problematic because it assumes that which should be tested. That is, it assumes that differences found between countries are due to culture (e.g., individualism and collectivism) and not something else. This flaw is not a function of the dependent measure used (e.g., between-country differences can be measured by self-report, observed behavior, neural imaging, or genetic scan). It is due to the independent variable—country. By assuming one country differs from another on a particular cultural dimension and assuming that the differences found are due to this dimension, comparative methods are not conducive to testing culture as a human universal. Comparison does not allow for testing the dynamic process by which the same cultural mindset can be cued within or across societies. It does not allow for testing the dynamic process by which experienced match or mismatch with cultural expectations influences choice, judgment, and behavior.

Consider next measurement. While allowing for some increased specificity beyond simply comparing groups, findings to date have been mixed. That is, people in countries that are supposed to differ in individualism and collectivism do not necessarily respond according to this prediction. This may be due to technical difficulties in self-reports or in the constructs and measures being used. That is, cultures may differ not in values, but in norms or social axioms, or in the extent that situations constrain behaviors (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010; Gelfand, Nishii, & Raver,

2006). If this were the case then better measures would yield results closer to predicted patterns. Another possibility is that even if the constructs are measured appropriately with in a society, cross-national comparison is difficult because responses reflect culture-specific understandings of what agreeing to an item means (Oyserman, Kemmelmeier, *et al*., 2002; Schwarz, Oyserman, & Peytcheva, 2010).

As highlighted by CSC theory, however, there is another important possibility, which is that measures based on between-group comparisons make sense only if between-group differences are stable. However, if responses are influenced by what comes to mind at the moment of judgment and can be either individualistic or collectivistic, depending on which of these universal themes has been brought to mind by the testing situation, then variability in response should be assumed. Thus, variability is not noise; rather, it is patterned. If experience, attitudes and judgments are situated and malleable, then the measures meant to operationalize fixed between-group differences will not work.

CUTTING-EDGE RESEARCH

Culture Across Three Levels

Cutting-edge research within CSC theory focuses on the three levels of culture (for process models linking these levels, see Oyserman, Coon, *et al*., 2002; Oyserman & Uskul, 2008). Consider the idea that human culture addresses universal needs and that each particular culture provides a "good enough" working solution by providing a means to sustain the in-group, organize and structure relationships, and encourage and exploit individual innovation over time (Cohen, 2001; Schwartz, 1992; Schwartz & Bardi, 2001). This implies that each society will have evolved a unique set of social norms, practices, and ways of being which influence the assumed meanings of situations. At that level, each society is unique, and moving from one to another requires the difficult learning process described as acculturation. However, at the same time, it also means that it should be possible to prime individuals to access group-level, relational-level, or individual difference mindsets. Cutting-edge research is focusing on each of these. For example, anthropologists combining observational and experimental methods can test this assumption in a variety of societies (e.g., Cronk, 2007; Cronk & Leech, 2012).

Patterned difference among regions in which of these universal needs is emphasized is attributed to ecological differences in which of the basic problems of survival are most acute. Good enough solutions may thus depend on the harshness of the ecological niche in which they develop (e.g., harsh climate Van de Vliert, 2009; environmental pathogens Fincher, Thornhill,

Murray, & Schaller, 2008; or population-specific genetic sensitivities Way & Lieberman, 2010). The more demanding the niche, the more focus on structuring the nature of engagement with others (Gelfand & Lun, 2013; Inglehart & Oyserman, 2004; Laland & Brown, 2006).

Once a good enough solution is attained, it is likely to be relatively stable, with change being incremental, even if alternatives are available (Argote, Ingram, Levine, & Moreland, 1995; Chang *et al*., 2011; Cohen, 2001). This implies that even though specific cultural solutions to basic problems were initially haphazard, once instantiated they are likely to remain and become rooted in context, yielding a very particular way set of practices from an initial set of core concerns.

Basic Constructs

For CSC theorists, studying these processes requires understanding why and how peoples' reasoning, emotional, and behavioral responses should be situated—sensitive to the immediate situation they are in and the meaning that they make of the situation including their meta-cognitive experience, as outlined next.

Situated Cognition. Situated cognition refers to the often-nonconscious impact of social contexts on thinking and action (Smith & Collins, 2010; Smith & Conrey, 2010; Smith & Semin, 2004). This implies that thinking is "in the world" not just "in the head" (e.g., Norman, 1993). That is, what one thinks about and feels and how one thinks are not autonomous, invariant, and context-free functions of knowledge, memory, and memory capacity but dynamic constructions scaffolded by accessible knowledge and how it is interpreted (Fiske, 1992; Schwarz, 2007; Smith & Semin, 2004).

Dynamic Construction. Dynamic construction implies that immediate context influences what accessible knowledge is taken to mean (Cesario, Grant, & Higgins, 2004; Schwarz, 2002, 2004, 2007). Judgment, behavior, and affective response are based on how accessible knowledge is interpreted (Oyserman & Lee, 2008a, 2008b; Schwarz, 2007), whether accessible knowledge is semantic content (e.g., Srull & Wyer, 1979), goals (e.g., Förster, Liberman & Friedman, 2007), or mental procedures telling people how to process information to make sense of experience (e.g., Oyserman & Lee, 2008a, 2008b; Schwarz, 2002, 2007; Wyer & Xu, 2010). People tend to include accessible knowledge in their judgments unless something about the situation provides a reason not to; then they can exclude accessible knowledge as irrelevant to their judgment or even use accessible knowledge as a contrasting standard judgment they are making (Bless & Schwarz, 2010).

Situated approaches highlight the constructive nature of cognition, thinking is for doing: people are sensitive to their immediate environment, use the subset of all their knowledge that is accessible in the moment and interpret what comes to mind in light of contextual demands (Fiske, 1992; Srull & Wyer, 1979). That is, what matters is not just the situation but what the situation is taken to be about. The same experience can have different consequences depending on how it is interpreted.

Meta-Cognitive Experience. An important part of the interpretive process involves what has been termed *meta-cognitive experience*, that is, one's interpretation of the feelings of fluency (ease) or disfluency (difficulty) that emerge while thinking (Schwarz, 2004). People assume that their meta-cognitive experiences are relevant to the task at hand and so pay attention to them; however, people are not sensitive to the specific source of their meta-cognitive experiences and so they may use even irrelevant meta-cognitive experiences to inform judgment (Schwarz, 2004; Schwarz & Clore, 2007). Experimental evidence supports these claims (Schwarz 2004; Song & Schwarz, 2008a, 2008b). Unless their attention was drawn to the extraneous source of their experienced difficulty, people assumed that their meta-cognitive experience was informative.

Culture as Situated Cognition. Rather than focus on fixed differences, CSC theory focuses attention on the (often nonconscious) impact of social contexts, human artifacts, physical spaces, tasks, and language, on what and how people think. Situations can make one or another of the universal cultural mindsets accessible. Accessible cultural mindset (e.g., individualistic mindset, collectivistic mindset, honor mindset) is predicted to influence affect, behavior and cognitive processes including judgment. These effects can occur outside of conscious awareness and are multiply determined. Moreover situations also evoke tacit expectations about how things will unfold, if things do not unfold as expected experienced cultural disfluency should result in a shift toward systematic reasoning.

Methods: Priming

If thinking, doing, and feeling are situated, then situations and the meaning made of them matter. This implies that it is not possible to study people outside of situations and that it is not sufficient to sample situations and see how people respond. Observing that peoples' responses do or do not differ is insufficient because it does not provide information as to why. To get at "why" it is necessary to manipulate the meaning people make of situations and see if people respond in patterned ways depending on the meaning they

make of the immediate situation. To study the possibility that cognition as both situated and constructive, the method of choice is called *priming*.

In priming studies, participants are asked to engage in ostensibly unrelated tasks. The first task is the priming task. The associative network (including semantic content and procedural knowledge) cued by the first task is expected to "spill over" into subsequent tasks unless the relevance of accessible information for the task at hand is undermined (e.g., Bargh & Chartrand, 2000; Bless & Schwarz, 2010; Schwarz, 2007; Srull & Wyer, 1979). That is, accessible information is used whether it is relevant or not if participants are not made aware of either the researchers' intention to influence them or of the posited connection between the first and next tasks. Knowledge made accessible in the priming task is accessible for use in subsequent tasks whether or not it would otherwise have come to mind (for a review, Bargh & Chartrand, 2000). In this way, priming methods test the effect of accessible knowledge on current judgment. Primes can be presented either subliminally or supraliminally before presentation of the dependent variable of interest.

Priming using this structured method is assumed to mimic priming that occurs outside laboratory settings in the real world. Knowledge accessibility can be the temporary result of priming (Srull & Wyer, 1979; Strack, Schwarz, Bless, Kübler, & Wänke, 1993) or a more chronic result of routine or habitual activation of a construct in one's everyday environment (Higgins, 1989, 1996). Priming does not influence subsequent performance if the cued content, procedure, or goal is not already available in memory. In this way, experimental priming methods mimic effects of chronic accessibility. In the case of chronic accessibility, information is on one's mind because it is usually useful or important, though in a particular instance, otherwise irrelevant information may be taken into account because it is accessible, just as occurs in structured priming research.

Indeed, temporary and chronic accessibility effects are similar (thus comparable) but independent (thus additive) in influencing social judgments (for a review, Bargh & Chartrand, 2000). Because the effect of accessible knowledge is equivalent whether accessibility is due to something having just been brought to mind (a recency effect) or to something always being on one's mind (a chronicity effect), it is possible to test the effect of chronically accessible knowledge by making that knowledge temporarily accessible.

FUTURE DIRECTIONS

Culture-as-Situated-Cognition (CSC) Theory: Universal and Particularistic

Future directions for research using CSC theory involve studying the surprising downstream consequences of culture as universal yet highly particularistic. At the universal level, culture involves a number of tacit meta-theories

that facilitate getting along and sharing resources within the group, protection from and exploitation of out-groups, and, where reasonable, individual initiative. The tacit meta-theory of individualism is that institutions and relationships are just backdrops to individual striving, what matters is one's own goals; the tacit meta-theory of collectivism is that individuals take on value through their engagement with social institutions and within their relationships with others. The tacit meta-theory of honor is that the combination of threat of aggression and structured reduction of the likelihood of aggression is central to preserve the purity and hence survival of the group. Contextual cues automatically and nonconsciously activate the relevant cultural mindset (e.g., collectivistic mindset, individualistic mindset, honor mindset). Accessible mindset shapes perception, reasoning, and response. Although these cultural mindsets are likely to be automatically and nonconsciously activated, even when brought to conscious awareness, the mental content, cognitive procedures, and goals that they make salient are likely to be applied unless a reason not to is also brought to mind.

While these universal aspects of culture can be found within any specific instantiation of a culture, the specifics of how to be a person is highly particular to each culture. This means that within one's own culture, one has a rich associative network of knowledge so that situations typically unfold as expected, without requiring much systematic reasoning. This experience, termed, *cultural fluency*, allows one to "go with the flow" and not pay much attention to culture as it unfolds, which is why, in one's own culture, it is often hard to even notice that things could happen in another way (Mourey, Lam, & Oyserman, 2014; Oyserman, 2011).

This also makes movement from one society to another difficult. Even though culture is a human universal, the specific practices that instantiate this universal differ in subtle and not so subtle ways from group to group. Moving involves trying to figure out what is normative, obvious, and so goes without saying in the new context. Acculturation is hard both because rule books do not exist and also because getting "too" fluent in a new culture's way of doing things may feel traitorous, as if one is not being loyal to the former culture's ways. Acculturative stress comes from the fact that people not only need to learn new ways of engaging with others but also need to figure out to what extent engaging in these new ways implies an abandonment of one's prior cultural frame.

By assuming that culture is universal, that it influences cognitive processes, and that the mechanism suits the human sensitivity to context, CSC theory highlights assumptions that future research should test.

Cultural Universals. A first core assumption of CSC theory is that all societies socialize for each of the core cultural mindsets (e.g., individualistic

mindset, collectivistic mindset, honor mindset) because all societies need to address the same core issues: insuring survival of the group, regulating relationships among people within and outside the group, and insuring that innovation is supported. If this assumption is correct, then people across a variety of societies should be sensitive to cues that individualistic or collectivistic or honor mindsets are relevant in the moment. These cues should easily evoke the relevant cultural mindset.

Cultural Mindset Influences Cognitive Processes. A second core assumption of CSC theory is that cultural mindsets, although rooted in meta-theories about social structures and human relationships, spill over from human relationships to influence cognitive processes that facilitate meaning making more generally (Oyserman & Lee, 2008b). The cultural mindset that is accessible at the moment of judgment influences which mental procedures are brought to bear on the judgment task (Oyserman & Lee, 2008a). The procedures cued by an individualist mindset are segmenting and parsing out a central point; the procedures cued by a collectivistic mindset are connecting and integrating across elements; the procedures cued by an honor mindset are ordering and ranking (Oyserman, in press). To test for this possibility, researchers have used a variety of experimental techniques to prime cultural mindsets. To date, the two mostly studied mindsets are individualistic mindsets and collectivistic mindsets. As predicted, individualistic and collectivistic mindsets are accessible cross-culturally so both can be primed. This implies that between-group differences arise in part from momentary cues that make a particular cultural mindset accessible at the moment of judgment.

Capitalizing on New Methods

How Priming Methods Matter. The goal of priming is to create an experimental analog of the posited between-group difference in chronically accessible individualism or collectivism by temporarily shifting accessibility. This allows for test of the prediction that between-group differences are due to differences in accessible cultural mindset. Moreover, because priming can only make knowledge accessible if it already exists in memory, priming cultural mindset allows researchers to test if both individualistic and collectivistic mindsets can be primed across cultural groups, addressing the question of whether both are part of universal culture.

How Priming Is Done. Priming involves a carryover of previously stored culturally relevant mental content, procedures, or goals to a subsequent

task. Cultural mindsets are often accessible in everyday situations and can easily be primed in the laboratory using a variety of methods (Oyserman & Lee, 2007, 2008a, 2008b). Within-subjects priming makes both individualistic and collectivistic knowledge accessible and predicts that effects will be driven by whichever is more strongly endorsed (e.g., Oyserman, Sakamoto, & Lauffer, 1998). Between-subjects priming makes either individualistic or collectivistic knowledge accessible and predicts that accessible mindset will shift average response.

Specific Example Primes. The three most common cultural mindset-priming techniques were specifically developed to study culture (Oyserman & Lee, 2008a, 2008b). These include having participants read a short story about a Sumerian warrior who either chooses a general to reap advantage for his family or chooses the best general regardless of family ties, by having participants consider their similarities or their differences to friends and family (Trafimow, Triandis, & Goto, 1991), or by having participants read a passage with either singular or plural first-person pronouns. Their task is to either circle (e.g., Gardner, Gabriel, & Lee, 1999; Kühnen & Oyserman, 2002) or mouse click on (e.g., Oyserman *et al*., 2009) these pronouns. Participants are randomly assigned to a paragraph with first-person plural or singular pronouns. Paragraphs vary in content across studies, insuring that results are not based on a particular paragraph. Reading a paragraph and clicking on the first-person pronouns in the paragraph influences visual (Stroop task) and auditory (dichotic listening) performance among Chinese, Korean, American, and Norwegian participants (Oyserman *et al*., 2009). No matter the country, participants are better at segmenting out information after clicking on first-person singular (individualism prime) rather than first-person plural (collectivism prime) pronouns (implying that accessible mindset is the cause of between-country differences in the propensity to think in related or holistic terms, e.g., Nakamura, 1966; Nisbett, Peng, Choi, & Norenzayan, 2001).

Standard priming techniques (subliminal priming or creating sentences from a scrambled word set including individualism-relevant and collectivism-relevant words such as "unique," "different" or "similar," "together") can be used to study cultural mindsets. The rationale is that words are incidentally processed (e.g., while creating sentences) and with the words come associated content, procedures, and goals that are nonconsciously carried over to the subsequent task.

A large array of less common primes produces convergent effects. These include seeing a company logo with a single versus multiple stick figures

(Mourey, Oyserman, & Yoon, 2013), receiving instructions focusing on analytic or holistic strategies before solving problems (Spina, Ji, Guo, Zhang, Li, & Fabrigar, 2010), and hearing and responding in a language associated with individualism (e.g., English) or collectivism (e.g., Chinese or Russian; Lee, Oyserman, & Bond, 2010). The advantage of using multiple primes is that it is possible to discern which of several posited effects are necessary or sufficient and to test the prediction that a cultural mindset may be cued via relevant content, procedures, and goals.

Predictions from Culture-as-Situated-Cognition Theory

CSC theory makes a number of core predictions (Oyserman, 2011). First, the mindsets needed for a society to survive should be universally accessible across societies. Second, a mindset should have parallel effects whether it is momentarily or chronically accessible. Third, the processes by which accessible cultural mindsets influence content, procedures, and goals is multiply determined and can proceed both through automatic, associative pathways and through conscious, deliberative, reflective processes. Fourth, culture can produce a meta-cognitive experience of fluency or disfluency that will be used in the judgment process. Lastly, the same tacit knowledge structure that facilitates experienced cultural fluency and disfluency in one's own home culture makes learning a new culture (acculturation) fraught, difficult, and often incomplete. All of these areas are deserving of continued research attention.

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DAPHNA OYSERMAN SHORT BIOGRAPHY

Daphna Oyserman joined the University of Southern California January 2014 as a Dean's Professor of Psychology, Professor of Education and Professor of Communication. She also codirects the Dauterive Center for Mind and Society. Dr. Oyserman received a PhD from the University of Michigan (1987) and served on the faculty of the Hebrew University, Jerusalem, before returning to the University of Michigan, where she last held appointments as the Edwin J. Thomas Collegiate Professor of Social Work, Professor of Psychology, and Research Professor in the Institute for Social Research. She is the recipient of W. T. Grant Faculty Scholar Award, the Humboldt Scientific Contribution Prize of the German Alexander von Humboldt Foundation, and a Fellow of the American Psychological Association, Association for Psychological Science, Society for Personality and Social Psychology, and Society for Experimental Social Psychology.

Her research examines how small changes in context can shift mindsets, and so the perceived meaning of behaviors and situations, with large downstream effects on important and consequential outcomes, including health and academic performance. Her theoretical and experimental work conceptualizes the underlying processes, which she then translates into real-world interventions. One line of work focuses on cultural differences in affect, behavior, and cognition—how people feel, act, and think about themselves and the world around them. A related second line of work focuses on racial, ethnic, and social class gaps in school achievement and health. Throughout, she examines how apparently "fixed" differences between groups may in fact mask highly malleable situated processes that can be profoundly influenced through small interventions that shift mindset. Select publications are available at her personal webpage http://sitemaker.umich.edu/daphna.oyserman/home

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