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### Culture as situated cognition: Cultural mindsets, cultural fluency, and meaning making

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## Culture as situated cognition: Cultural mindsets, cultural fluency, and meaning making

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Culture is a human universal, a “good enough” solution to universal needs. It is also a specific meaning-making framework, a “mindset” that influences what feels fluent, what is attended to, which goals or mental procedures are salient. Cross-national comparisons demonstrate both universality and between-group difference (specificity) but cannot address underlying process or distinguish fixed from context-dependent effects. I use a situated cognition framework and experimental methods to address these gaps, demonstrating that salient cultural mindsets have causal downstream consequences for meaning making, self-processes, willingness to invest in relationships, and complex mental procedures. Moreover, individualistic and collectivistic mindsets are accessible cross-culturally so both can be primed. Between-group differences arise in part from momentary cues that make either individualistic or collectivistic mindset accessible.

**Keywords:** Culture; Situated cognition; Individualism; Collectivism.

“Everyone should understand this in this way. This is in the national interest. It is the image of our national music, national culture, especially during the entrance of our national flag. This is an extremely important, extremely serious matter.”  
(Chinese Olympic official, *New York Times*, 2008).

During the opening ceremony of the 2008 Summer Olympic Games in Beijing China a beautiful young girl stood alone on stage, opened her mouth, and a sweet voice filled the air with a patriotic tune. The *New York Times* later reported that the performance involved not one but two girls:

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one the onstage beauty and the other the off-stage voice (Collins, 2008; Yardley & Yuanxi, 2008). Initial reports from the American press focused on the possibility that the girls' self-esteem would be harmed because essentially each had been told that she was not enough—not pretty enough, not a good enough singer. In contrast, as reflected in the opening quote, Chinese initial reports focused on the two girls working together for the common good of successfully representing China. Both focused on what they saw as the essence of the situation. Yet what the essence was differed between countries because the countries differed in whether attention was initially drawn to the group (with individuals deriving meaning from group service and membership) or to the individual (with groups being created and maintained to serve individual goals). Because of this difference in *cultural mindset*,<sup>1</sup> what was the obvious, fluent, first meaning in one country was not the obvious, fluent, first meaning in the other—what people attended to and therefore what they saw and understood differed.

The first fluent meaning felt right and, if comparison stopped there, the inference might be drawn that these first meanings expressed fixed differences based in lengthy socialisation processes. But, as outlined in this chapter, this is not the case. Instead, while culture does cue a first, fluent meaning, people across societies can use both individualistic and collectivistic cultural mindsets. Which mindset comes to mind is dependent on features of the immediate context. Contextual cues automatically and non-consciously activate the relevant cultural mindset, which shapes perception, reasoning, and response. Although mindsets are likely to be automatically and non-consciously activated, even when brought to conscious awareness, the mental content, cognitive procedures, and goals that cultural mindsets make salient are likely to be applied unless a reason not to is also brought to mind. I term this new perspective *culture as situated cognition*, connect it to prior work (Operationalising Culture; Individualism and Collectivism), describe the model (Culture as Situated Cognition), and then show how it addresses gaps and makes new predictions in the final two sections (Culture as Fluency Cue, Cultural Mindsets).

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<sup>1</sup> I use the term *cultural mindset* to mean a set of mental representations or cognitive schema containing *culture-congruent* mental content (knowledge about the self and the world), cognitive procedures (e.g., “find relationships and connect” or “find main point and separate”) and goals (e.g., “fit in and be sensitive to context” or “stick out and do your own thing”) (Oyserman & Lee 2008a, 2008b; Oyserman, Sorensen, Reber, & Chen 2009). When in an *individualistic mindset* people attend to content, procedures, and goals relevant to distinction; when they are in a *collectivistic mindset* people attend to content, procedures, and goals relevant to connection

## OPERATIONALISING CULTURE

### Cultural universals

#### *Humans are cultural beings*

No aspect of human life takes place outside human culture. Human culture (operationalised as a set of solutions to basic problems of survival) evolves within ecologies to provide a “good enough” working solution to three basic problems: sustaining the group over time, organising relationships, and facilitating individual welfare (Schwartz, 1992). These basic problems require that people join and cooperate with an in-group, regulate themselves to fit in, and are motivated to initiate and invest in problem solving (Schwartz & Bardi, 2001). Within these universals specifics differ; cultural solutions can put more emphasis on one or another of the three basic problems of survival, depending on the ecological niche, but all must be addressed. Once developed, cultural solutions permeate all aspects of behaviour 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 & Noranzayan, 2002; Shweder, 1994). Culturally appropriate situations seem right; culturally inappropriate situations seem wrong or off-key (Triandis, 2007).

#### *Cultural solutions are “good enough” rather than optimal*

Cultural solutions are “good enough”, they do not need to be the best or most-efficient solution, they are better than no solution (e.g., Cohen, 2001). This means that the initial formulation of a solution may be relatively haphazard, in that a variety of solutions could have been pursued for survival problems such as harsh climate (Van de Vliert, 2009), environmental pathogens (Fincher, Thornhill, Murray, & Schaller, 2008), or population-specific genetic sensitivities (Way & Lieberman, 2010). However, once a good-enough solution is attained, since it is better than nothing 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.

*Cultural solutions spread unevenly*

Both reproduction and any (incremental) change in cultural solutions occur via a combination of individual innovation and social learning (imitation)—people doing things that others do whether or not they understand why or even what they are doing (Boyd, Richerson, & Henrich, 2011; Chang et al., 2011; Cohen, 2001; Vandello & Cohen, 1999). In that sense, culture entails the specific methods and the general styles used to adapt to a local environment and to the stability of that environment over time (Chang et al., 2011). Culture is thinking for doing—the way things are done in a time and place influences how they are thought about.

More proximally, culture can be operationalised as a set of structures and institutions, values, traditions, and ways of engaging with the social and non-social world that are transmitted across generations in a certain time and place (e.g., Shweder & LeVine, 1984). That is, culture is both temporally continuous (transmitted over generations) and temporally specific (located in a time and situated in a geographic and social place). Because culture is situated in time and place, it is neither perfectly transmitted to nor perfectly uniform across all members of a culture. In that sense culture is shared but practised in settings. It is not fully “in the head” of any particular member of a cultural group (e.g., Mendoza-Denton & Mischel, 2007). One’s place within a society, and the social networks within which one is embedded, influence which aspects of a culture one is exposed to (Atran, Medin, & Ross, 2005; Sperber, 2001). Immigration and other changes in context may result in cultural change (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006) or not, depending in part on features of the social networks one is embedded in before and after the change (Atran et al., 2005).

**Cultural specifics***Societal cultures appear quite different*

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. Differences between groups (racial-ethnic, religious, gender, and social class), societies, nation-states, and regions of the world have been addressed within a variety of theoretical frameworks (Cooper & Denner, 1998). Felt difference can be large, including how time is understood, what appropriate norms for politeness are, and so on.

Differences are reflected in everyday nuances: in communication about sports (Markus, Uchida, & Omoregie, 2006), in how organisational

structures, documents, and mission statements are organised (e.g., Rokeach & Ball-Rokeach, 1989), in what advertisers emphasise (Morling & Lamoreaux, 2008). Beyond differences in what is said, there are differences in *how* things are said. These differences may be subtly embedded in language and syntax. Consider the following examples. First, when the referent is obvious, some languages allow personal pronouns to be dropped (so a man introducing his wife can simply say “wife” while pointing to the woman next to him; Kashima & Kashima, 1998). Second, in some languages personal pronouns differ depending on who the other is in relation to the self (Kashima, Kashima, Kim, & Gelfand, 2006). Third, languages differ in the propensity to use specific action verbs (he is late to class) rather than general adjectives (he is disorganised) (for a review, see Semin, 2009). Cultural psychologists both note these differences and predict that they matter.

How things are said may influence how one thinks. Travelogues, diversity training, and business guides all attempt to illuminate how everyday life differs, showing that what is normal and obvious to insiders is opaque and odd to outsiders and in this way bridge differences. People who live in more than one society become exposed to the fact that assumptions and practices can differ widely. They know that things that go together in one society either do not go together at all or fit in different ways in another. It is perhaps not surprising, then, that living in more than one society is associated with more creativity and that creativity can be primed by reminding people of these experiences (Leung & Chiu, 2010; Maddux & Galinsky, 2009).

### *Differences are often rooted in cultural universals*

What at first appear to be idiosyncratic society-specific differences in thinking and communicating may be rooted in society-general, universal solutions to the three basic problems of survival (sustaining the group over time, organising relationships, and facilitating individual welfare). Consider relationships. Relationships are a core universal part of human cultures because people cannot survive alone and need others. All humans are likely to be sensitive to the possibility of relationships (e.g., Mellar, Boyle, Bar-Yosef, & Stringer 2007). At this level, having relationships is a cultural universal. On the other hand, relationships are likely to be differentially central across different societies (Chen 2011; Chen, Chung, Lechcier, & French, 2011; Hofstede, 2001; Mascarenhas, Dias, Prada, & Paiva, 2009; Sanchez-Burks, Caroline, & Blount, 2009; Schwartz, 1992; Triandis 1995). Salient relationship concerns should be reflected in a society’s unique language, religion, norms and values, sayings, metaphors, and axioms (Kashima et al., 2006; Morling & Lamoreaux, 2008; Smith, Bond, & Kağıtçıbaşı, 2006) as well as in its outcomes—including its governance and

corruption and its suicide, marriage, divorce, and fertility rates (for reviews, see Oyserman & Uskul, 2008; Smith et al., 2006).

Similarly, consider reasoning about culturally central but abstract constructs such as power, morality, time, and agency. All humans reason about abstractions by linking the intangible abstraction to tangible, concrete, lived experience in the form of metaphors (Lakoff & Johnson, 1999) and bodily experiences (Barsalou, 2008; Niedenthal, Barsalou, Winkelman, Krauth-Gruber, & Ric, 2005). Thus power is big and up (e.g., Schubert, Waldzus, & Seibt, 2008). Morality is clean, cleaning restores morality, and many abstractions can be washed away, including luck (for a review see Lee & Schwarz, 2010, 2011a). Time is passage through space, causality follows the trajectory of time in space (e.g., typically following the direction of writing in one's language; Casanto & Boroditsky, 2008; Fuhrman & Boroditsky, 2010). Similarly, agency is also located in space, typically on the left, following language (e.g., Maas, 2009; Maas & Russo, 2003; Maas, Suitner, Favaretto, & Cignacchi, 2009). However, societies differ in what specific smells, postures, stances, and gestures mean, and the direction of time. For example, in some societies but not others an erect stance cues honour (Ijzerman & Cohen, 2011), a middle finger cues hostility (Chandler & Schwarz, 2009), a "fishy" smell cues suspicion (Lee & Schwarz, 2011b), and the past is to one's left (Fuhrman & Boroditsky, 2010). The specifics differ, but use of metaphor and embodiment does not.

### Simplifying models

It is the interface between cultural universals and cultural specifics that is of most interest to social psychologists interested in culture. Understanding culture generally or describing a specific culture or a certain group within a specific culture at a certain time and place are interesting but not the primary goals of social psychologists interested in culture. Rather, the goal of these cultural psychologists is to provide a parsimonious and predictive simplifying model that can make sense of seeming divergence and convergence across societies and groups. Put another way, the goal is not to understand the ways in which Americans and Japanese or Germans and Chinese differ but to understand the ways in which 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), how (process), and why (goals) of cognition. A number of potentially useful basic organising 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. I focus here on the best-researched, best-understood, and most general simplifying framework: individualism and collectivism (e.g., Hofstede, 1980, 2001; Kağıtçıbaşı, 1997; Kashima, Kashima, & Aldridge, 2001; Oyserman, Coon, & Kimmelmeier, 2002; Triandis, 1995, 2007). Individualism and collectivism are typically studied by looking for between-country differences that map onto the basic operationalisations provided below. Much of this research involves contrasts between East Asian (Japan, China and Korea) and Western (USA, Canada) countries. While a number of targeted reviews exist, the most comprehensive empirical review of the evidence is that of Oyserman, Coon, et al. (2002). I summarise this review to lay out the evidence supporting between group differences in individualism and collectivism.

## INDIVIDUALISM AND COLLECTIVISM

### Operationalisation

Differences in values, relationship focus, self-concept content, and cognitive processes are all implicated in distinctions between individualism and collectivism (Hofstede, 1980, 2001; Kağıtçıbaşı, 1997; Kashima et al., 2001; Kim, Triandis, Kağıtçıbaşı, Choi, & Yoon, 1994; Oyserman, Coon, et al., 2002; Triandis, 1989, 1995, 2007). In this section implicated distinctions are described followed by a review of the empirical evidence and the gaps in this evidence, which will be addressed using the culture as situated cognition model. But first, a word about methods is in order.

To test predictions about between-culture differences in individualism and collectivism, researchers typically rely on cross-national contrasts. To do so they need to decide which countries are likely to be similar and which are likely to be different in the underlying constructs of individualism and collectivism. The most common solution is to choose two countries based in Hofstede's (1980, 2001) or other country-level (e.g., Gelfand, Bhawuk, Nishii, & Bechtold, 2004; Kashima & Kashima, 1998) scoring of individualism or collectivism, and then to do one of two things. One option is to simply contrast the two countries and assume that any between-country differences are due to individualism and collectivism and are therefore generalisable to other individualistic or collectivistic countries. The other option is to use a scale assessing individualism and/or collectivism to obtain individual-level responses. The strengths of the comparison without additional assessment solution is that it simplifies the otherwise opaque

problem of measuring culture and is a cost efficient way to make generalisations about culture's effects (e.g., on child development, Chen & French, 2008; personality, Triandis & Suh, 2002; organisations, Gelfand, Erez, & Aycan, 2007). The strengths of the direct assessment method are that groups not previously studied can be used, and that measures can be tailored to the specific interests of the researchers.

However, both solutions share a common set of limitations due to the fact that both are based in self-reports. Whether country-level scores or individual-level data are used, assessment is based in self-report. Using self-report as a method implies that culture is a form of declarative knowledge that respondents can report on, and that the subjective meanings assigned to scale-response choices, typically vague quantifiers such as "very much agree" or "very important", are culturally invariant enough to be meaningful (for a detailed critique and review, see Oyserman, Coon, et al., 2002). This limitation is equally applicable whether the self-report is part of the study or taken from a prior study. However, as described below, in spite of this limitation, individualism and collectivism comparisons have yielded a rich body of results which can form the basis of predictions and theorising using the culture as situated cognition model described in the next main section.

## Individualism

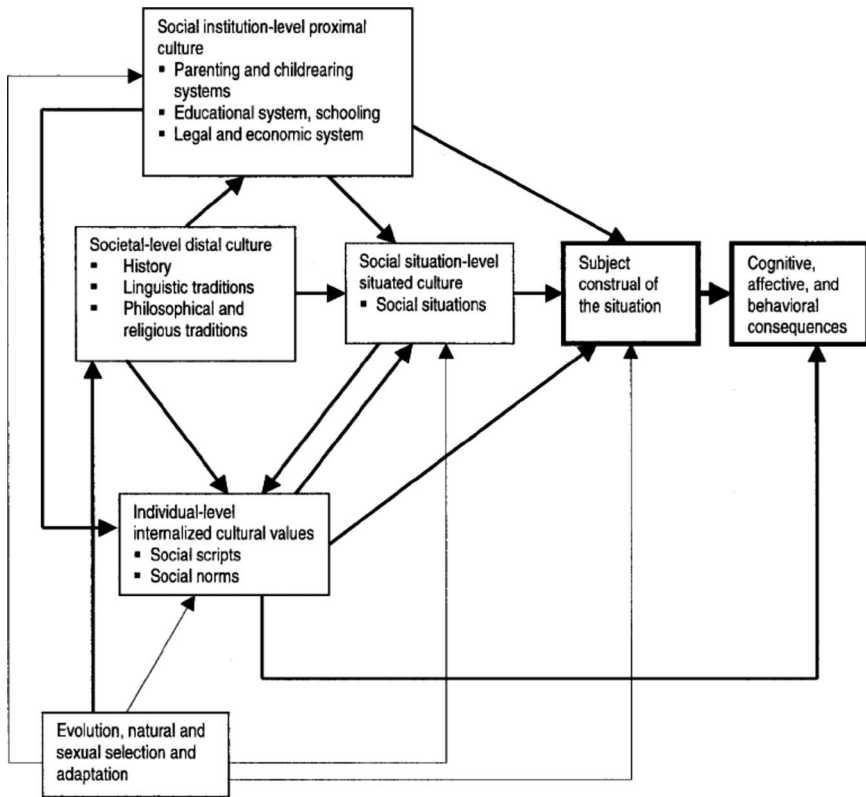
Recall that culture universally involves three core problems (sustaining the group over time, organising relationships, and facilitating individual welfare), a solution that requires that people learn to join in and cooperate with an in-group, regulate themselves to fit in, and initiate and invest in problem solving. Individualism can be considered a cultural solution to the basic problems of survival, which centralises individual initiative, resulting in *social practices* that highlight the individual as the basic unit of analyses and in *social structures* that draw legitimacy from their claim to support individual goals (for reviews, see Triandis, 1995, 2007). Given this focus, sticking out and making one's own way should be salient personal goals, relationships should feel freely chosen and voluntary, and cognitive processes should be attuned to relevant procedures (Oyserman, Coon, et al., 2002). Cognitive procedures suited to individualism, including decontextualising, finding difference, and implementing (rather than deliberating) should be well practised and thus chronically accessible (for somewhat different formulations, see Choi, Nisbett, & Norenzayan, 1999; Markus & Oyserman, 1989; Miller, 1984; Morris & Peng, 1994; Newman, 1993; for reviews see Oyserman, Kemmelmeier, & Coon, 2002; Oyserman & Sorensen, 2009; Oyserman, Sorensen, Reber, & Chen, 2009).

## Collectivism

Collectivism can also be considered a cultural solution to the basic problems of survival, a solution that centralises group relations and bonds, resulting in *social practices* that highlight the group as the basic unit of analyses, and in *social structures* that draw legitimacy from their claim to support group resources (for reviews, Oyserman, Coon, et al., 2002; Triandis, 1995, 2007). Fitting in and making one's way within social ties should be salient personal goals, and relationships should feel ascribed and fixed "facts of life" to which people must accommodate. Boundaries between in-groups and out-groups feel stable, relatively impermeable, and important, so that in-group exchanges may be based in equality or even generosity principles but out-groups exchanges are utilitarian, out-groups are not to be trusted and can be cheated (Morris & Leung, 2000; Sayle, 1998; Triandis, 1995, 2007). Cognitive procedures suited to collectivism including contextualising, finding similarity, relating, considering, and deliberating should be well practised and thus chronically accessible (for somewhat different formulations, see Miller, 1984; Morris & Peng, 1994; for reviews see Oyserman, Coon et al., 2002; Oyserman & Sorensen, 2009).

### What is the evidence?

To test the broad claims that individualism and collectivism theorists have made, researchers typically assume that the geographic place, history, philosophic, religious, and language traditions of a group (the distal past) can predict current values, behaviours, and cognitive procedures. This prediction assumes that the distal past lives on in current social institutions and social situations, leaving a characteristic mark on on-line mental construal as outlined in Figure 1 (taken from Oyserman, Kimmelmeier et al., 2002). To test this prediction, Oyserman, Coon, et al. (2002) obtained all English language studies published between 1980 and 2000 and any unpublished data provided after list serve requests that yielded either comparisons between the USA (mostly European American samples) and other countries or between European Americans and other Americans. Data sought included either responses to individualism and/or collectivism (values) scales or cross-group comparisons about self-concept, goals, relationships, or cognition attributed to individualism and/or collectivism. The goal was to learn whether theories built on the assumed difference between American individualism and East Asian collectivism were supported by the evidence, and to articulate both what the evidence was and what the gaps were that needed addressing. Thus the Oyserman, Coon et al. (2002)



**Figure 1.** A socially contextualised model of cultural influences. From Oyserman, D., Kemmelmeier, M., & Coon, H. M. (2002). Cultural psychology, a new look: Reply to Bond (2002), Fiske (2002), Kitayama (2002), and Miller (2002). *Psychological Bulletin*, 128, 110–117.

meta-analysis and synthetic review differs from others in that their goal was not to support the thesis that individualism and collectivism matter, but rather to ask the question what is the evidence that addresses whether, when, and how individualism and collectivism matter.

### Values

There are a number of clear advantages to operationalising individualism and collectivism in terms of value statements. First, value differences are clearly central to operationalisation of individualism and collectivism and are described as timeless or at least stable. Linking other differences to value differences increases the face validity of a culture interpretation. Second, value differences obtained by one research effort can be used to make sense of differences in another research effort without requiring that value data be

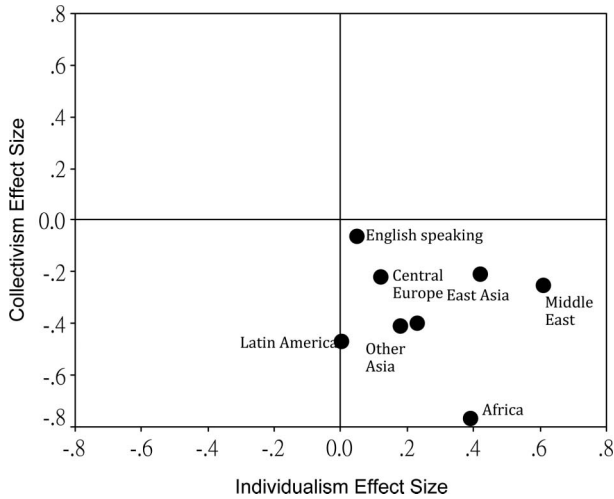
collected again.<sup>2</sup> This efficiency allows for analyses based in secondary sources and has provided some intriguing associations. For example, bribery (Mazar & Aggarwal, 2011) and pathogens (e.g., leprosy, dengue, typhus, and tuberculosis) (Fincher et al., 2008) are both higher in more collectivistic countries.<sup>3</sup>

Rather than use these scales and associate them with other variables, Oyserman, Coon, et al. (2002) used a meta-analytic approach to answer the question of whether cultural values differed in expected patterns across groups. This approach is useful because it summarises across researchers and specific values questions, it also allows the potential to test for whether the content of the value questions matters, as outlined next. The meta-analysis (Oyserman, Coon, et al., 2002) drew on cross-national comparisons involving 64 different countries and 68 comparisons of European Americans with African Americans, Asian Americans, or Latino Americans.

The meta-analysis (Oyserman, Coon, et al., 2002) shows significant differences in endorsement of individualism-related values (e.g., personal independence and uniqueness) and collectivism-related values (e.g., group membership and group processes). Taken as a whole, results corroborate conventional expectations of cultural theorists about cross-national differences. As shown in Figure 2, European Americans are higher in individualism and lower in collectivism values than Africans, Eastern Europeans, and Asians (all data points are located in the lower right

<sup>2</sup> A number of research projects have provided country-level estimates of individualism and collectivism scores. Estimates are typically based on convenience samples of participants and use their responses to value scales (Gelfand et al., 2004; Hofstede, 1980, 2001; Suh, Diener, Oishi, & Triandis, 1998), although one scale focuses on language structure (Kashima & Kashima, 1998). There are also limitations to this approach including slippage between the abstract constructs and specific operationalisation, over-reliance on explicit self-report, concerns about social desirability, and response style differences (for a review of limitations, see Oyserman, Coon, et al., 2002). Moreover, individualism and collectivism values are not fixed, but change with societal wealth so that the assumption that data obtained at an earlier time fit current data or that contemporary data fit an earlier time is not strictly valid (Hofstede, 1980, 2001; Inglehart & Oyserman, 2004; Kağıtçıbaşı, 1997). Of course societies that differ in individualism and/or collectivism values do not necessarily differ in other values (Fischer & Schwartz, 2010).

<sup>3</sup> With regard to bribery, Mazar and Aggarwal (2011) show both cross-national correlational evidence and mindset priming evidence supporting the association between collectivism and bribery (of out-group members). Primed collectivism reduces sense of personal responsibility, which mediates the effect of collectivism on willingness to bribe. With regard to pathogens, Fincher and colleagues (2008) show that historical and current pathogen levels are higher in regions that are currently higher in collectivism, arguing that when risk of infection and disease is higher people should feel more threatened by out-group members and feel more dependent on in-group members. These data use secondary sources and are correlational so causal argument is not possible.



**Figure 2.** Are Americans more individualistic and less collectivistic than others? Simultaneous mapping of effects sizes of comparisons between the US 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, D., Coon, H. M., & Kimmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128, 3–72.

quadrant, reflecting higher individualism and lower collectivism in US samples).

However, Oyserman, Coon, et al. (2002) also provide detailed analysis of regional differences and similarities that do not fit a simple story of Western individualism and Eastern individualism. Their meta-analytic results show that Americans differ from Western Europeans (although not from other English-speaking countries: Australia, Canada, Great Britain, and New Zealand), with Western Europeans being more collectivistic than Americans. This challenges the notion of a single “Western” culture. Their meta-analytic results also show that although Asians are higher in collectivism (and lower in individualism) than US samples, the size<sup>4</sup> and direction of this difference parallels the difference between Americans and Europeans, who are also higher in collectivism than Americans. This challenges the notion of an East–West axis of difference in individualism and collectivism. Consistent

<sup>4</sup> Effect sizes are reported following the recommendations of J. Cohen (1988) 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”.

with the assumption of high American individualism and low American collectivism, US–China comparisons yield moderate to large effects and do not vary by scale content or reliability. However, neither US–Korea nor US–Japan comparisons show this pattern, these comparisons yield small effects for individualism, and whether collectivism differences exist or are in the predicted direction or the opposite direction of higher American collectivism is contingent on scale content and reliability. No US–Korean difference is found unless collectivism scales include relatedness; if included, Koreans are higher in collectivism. Japanese are lower in individualism than Americans but also lower collectivism, particularly when more reliable scales are used.

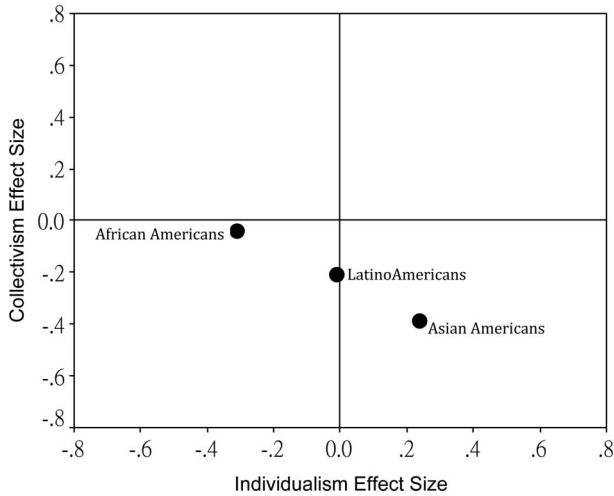
Beyond comparisons with Europe and with Asia, the cross-national meta-analytic results also show that Americans are lower in collectivism and higher in individualism than people from Africa or the Middle East. Effect sizes are large for African comparisons and moderate for Middle East comparisons. With regard to South America (Latin America), participants from Latin America are higher in collectivism but no different in individualism than participants in the United States.

Oyserman, Coon, et al. (2002) also performed a meta-analysis of within US comparisons. Looking at within US comparisons, as presented graphically in Figure 3, European Americans are higher in individualism and lower in collectivism than Asian Americans, and lower in collectivism but not distinguishable on individualism compared to Hispanic Americans. Consider these findings in light of the cross-national ones just summarised. Size and direction of effect for within US comparisons fit cross-national comparisons for Asia and Latin America. However, African Americans differ from Africans. African Americans are higher in individualism and no different in collectivism than European Americans. These findings challenge the assumption that high individualism and low collectivism is part of a European tradition brought to America and most accessible to European Americans.

### Self-concept and self-goals

A large literature suggests that North Americans and Western Europeans tend to promote and protect their self-esteem, what is termed a self-enhancement goal (Leary, 2007). Indeed, some cultural psychologists view self-esteem promotion and protection as so pronounced in the West as to constitute a distinct individualistic phenomenon (Heine & Hamamura, 2007; Heine, Kitayama, & Hamamura, 2007a, 2007b). Other cultural psychologists argue that promoting and protecting self-worth is universal but that individualism focuses on enhancing personal worth and collectivism focuses on enhancing social fit and worth (Sedikides, Gaertner, & Toguchi, 2003;





**Figure 3.** 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. Figure adapted from Oyserman, D., Coon, H. M. & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128, 3–72. Positive effect sizes reflect higher European American individualism and collectivism; negative effect sizes reflect lower European American individualism and collectivism.

Sedikides, Gaertner, & Vevea, 2005, 2007a, 2007b). Other cultural psychologists focus on differences in the extent that the self is viewed as agentic, assertive relational, or collective, finding highest report of agentic self among participants from English-speaking countries, with reports significantly higher than those from Western Europe (Kashima et al., 2005). Similarly, Kashima and his colleagues found that Western European reports of agentic self-concept were significantly higher than those from East Asia. English-speaking and Western European samples did not differ from one another on endorsement of self as assertive, although both samples were higher in assertive self-concept than the East Asian samples. They also found that women reported more relational self-concept than men in English-speaking and Western European samples. East Asian samples were internally heterogeneous and did not show an overall gender effect. Taken together, no main effect of culture on relational self-concept was found.

Oyserman, Coon, et al. (2002, pp. 31–33 and Appendix C, pp. 58–60) surveyed all studies ( $n = 30$ ) which tested or asserted effects of individualism and/or collectivism on self (i.e., self-esteem, self-concept, or personality ratings). Here too, results were suggestive but not conclusive. Studies



typically involved a between-group comparison (often Canadians to Japanese) with individualism and collectivism assumed to underlie between-group difference in optimism and self-esteem or between-group differences in the salience of interpersonal and social descriptions in self-concept. However, whether effects were actually due to individualism and/or collectivism was not tested. Instead the assumption was that if two countries differ in individualism and collectivism then any differences found in self-concept must be due to individualism and collectivism. The literature available for the analysis of self-concept and culture was either correlational or lacked direct assessment or manipulation of individualism or collectivism. Correlational studies make causal inference opaque and cross-national comparison also cannot address if the difference was due to individualism and collectivism, other aspects of culture, or something else. Thus the meta-analytic results do not address whether culture causally influences self-concept.

An emerging body of studies attempts to address this gap by using between-group comparison of brain activation patterns of participants asked to judge whether descriptions are self-relevant or describe someone else (e.g., Zhu, Zhang, Fan, & Han, 2007). The prediction is that the same brain structures will be activated when thinking about the self and close others if the self is collectivistic (including connections to close others) but not if the self is individualistic (separate from even close others). One study found the same brain regions (medial prefrontal cortex and anterior cingulate cortex) were activated for Chinese participants judging if statements describe themselves or their mothers. For Western participants (living in China) this connection is not found (Zhu et al., 2007).

Other neural activation studies involving comparisons to Japanese participants have found less simple between-group effects (Chiao et al., 2009, 2010). White American, native Japanese (Chiao et al., 2009) and Asian American (Chiao et al., 2010) participants all preferred general ("I am honest") to contextualised ("I am honest with my mother") self-descriptions. Replicating the meta-analytic finding of Oyserman, Coon, et al. (2002), Chiao and her colleagues also found that White Americans were more collectivistic in their self-descriptions than Japanese (as scored on a rating scale). American and Japanese participants did not differ in their medial prefrontal cortex responses to judging whether generalised versus contextualised statements were self-descriptive (Chiao et al., 2009). Differences could be found only if participants were split into those endorsing relatively more collectivistic and those endorsing relatively more individualistic statements (Chiao et al., 2009). Asian Americans showed essentially the same pattern, preferring the general to the context specific self-judgements and not showing differences in brain activation unless participants were split into those outside raters coded as highest in

“individualistic” and those highest in “collectivistic” response (Chiao et al., 2010). These and other studies suggest that between-group differences in self-concept are difficult to observe, unlikely to be fixed, and cannot be assumed to be either large or in the direction predicted by an East–West contrast.

## Relationality

Relationships are universally part of human culture, but how relationships are engaged is predicted to differ by individualism and collectivism. Oyserman, Coon, et al. (2002, pp. 36–40, and Appendix C, pp. 66–72) reviewed 71 studies that assessed family and intimate relationships, interactions between in- and out-group including social behaviour, communication and conflict resolution style, and relationships at work including working in groups and conflict management in organisations. Across this large array of topics they find moderate to large, though highly variable effect sizes. There is evidence that individualism is associated with ease of interacting with strangers, and preference for direct rather than indirect communication style, and that collectivism is associated with in-group preference in relationships and different forms of face saving. Effects for conflict management are heterogeneous. Work and organisational 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-US only comparison.

## Cognition

The potential impact of culture on cognitive process is an emerging focus of attention (see Nisbett & Norenzayan, 2002; Norenzayan, Choi, & Peng 2007). Oyserman, Coon, et al. (2002, Appendix C pp. 63–66) reviewed 39 studies examining cultural and cross-cultural differences in social cognition—attribution style, explanations, and persuasion. On average, Americans were more likely to focus on dispositions rather than situations in providing rationales for behaviour 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. In the past few years evidence of cross-national differences between the US, 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 more accurate with details and elements of the whole (including the background), and Japanese more accurate with proportions between elements. Chinese participants and American participants make sense of a scene differently, with Chinese participants focusing equally on various aspects of it and American participants focusing more on a focal object (for a review, see Nisbett, 2003; see also Kitayama et al., 2003). However, effects are not always consistent, appearing when participants are under time pressure or have high need for closure, not otherwise (Chiu, Morris, Hong, & Menon, 2000). Cross-cultural comparisons cannot address what the appropriate interpretation of these differences is. One possibility is that differences are fixed by geography (Nisbett, 2003) or long-term socialisation (Kitayama et al., 2003); the alternative, as addressed next, is to move beyond between-group comparisons to consider culture as situated cognition.

### Beyond group comparison: Situated difference in salience of individualism and collectivism

#### *Taking stock*

Taken together, Oyserman, Coon, et al. (2002) meta-analysis and emerging additional studies yield moderate-to-large between group differences in individualistic and collectivistic values, small and heterogeneous effects for self-concept, and moderate-to-large effects for relationality and cognition. This means that, above and beyond any particular study, there are average effects, *something* is going on, but what exactly, by what process, and what moderates effects is unclear. A main strength of the cross-group comparison approach is that it is close to the ecological experience of group difference, it fits the assumption that current between-group differences in values, ways of thinking, and engaging the world are due to differences that lie in a groups' distal past and are therefore not amenable to direct assessment. As outlined in Figure 1, such "distal features" of cultures are assumed to produce current difference.

Taken together, the cross-national literature implies that culture results in tacit but chronically accessible meta-theories about what is important and valued (content), how to think (procedures), and why act (goals). The tacit meta-theory of individualism is that institutions and relationships are just backdrops to individual striving; the tacit meta-theory of collectivism is that individuals take on value through institutions and relationships. These meta-theories spill over into cognitive processes that facilitate meaning making. For individualism this entails segmenting and parsing out a central

point, implementing rather than deliberating; for collectivism this entails connecting and integrating across elements. The application of cognitive procedures that facilitate either the isolation of individual stimuli or the perception of their embeddedness in a context is not limited to social tasks and results in pervasive differences in perception, judgement, and memory in the social as well as non-social domain (Oyserman et al., 2009).

### Situated or fixed effects?

How are these results to be interpreted? One possibility is that individualism and collectivism are specific cultural adaptations rooted in distal cultural features such as philosophy, religion, or language and that these features directly influence values, relationality, self-concept, cognitive style, and characteristic motivations. This interpretation is congruent with common approaches to cross-cultural difference (e.g., Nisbett, 2003). However, the other possible interpretation of between-group comparisons is that distal features do not directly effect current judgement, affect, and behaviour but rather reflect average differences in what is likely to be on participants' minds as they respond to researchers' questions. Demonstrating between-group differences does not necessarily imply the source of these differences or whether they are fixed and not situated. A main weakness of the cross-group comparison approach is that it does not allow for testing its core underlying assumption that groups are either essentially individualistic or collectivistic rather than capable of being both. Indeed, the between-group comparison approach cannot address whether documented differences are due to individualism, collectivism, both individualism and collectivism, or some other factor.

Most provocatively, if effects are situated and not fixed, it should be possible to reverse seemingly fixed between-group differences by making accessible a different cultural mindset or cognitive schema containing *culture-congruent* mental content, cognitive procedures (e.g., "find relationships and connect" or "find main point and separate") and goals (e.g., "fit in and be sensitive to context" or "stick out and do your own thing") (Oyserman & Lee, 2008a, 2008b; Oyserman et al., 2009). Relevant situations should make accessible an individualistic or a collectivistic mindset if both individualistic and collectivistic mindsets are part of universal human culture so that both exist as structures in memory. If average cross-national effects are due to average differences in which mindset is accessible at the moment of response then between-group comparisons should yield heterogeneous and not always consistent responses, just as the Oyserman, Coon, et al. (2002) meta-analyses revealed. To more fully understand and test these possibilities, it is necessary to consider how culture may situate

cognition. The next section begins with an overview of what it means to say that cognition is situated and what this implies for understanding cultural processes.

## CULTURE AS SITUATED COGNITION

### The model

Situated cognition refers to the often non-conscious impact of social contexts on thinking and action (Smith & Collins, 2010; Smith & Conrey, 2010; Smith & Semin, 2004, 2007). This focus on the contexts in which thinking occurs or “thinking in the world” contrasts with the more traditional approach to cognition, which focuses on symbolic processes or “thinking in the head” (e.g., Norman, 1993). Situated approaches highlight that how one thinks, what one thinks about, and feels is not an autonomous, invariant, and context-free function of knowledge, memory, and memory capacity but a dynamic construction scaffolded by accessible knowledge and how it is interpreted (Fiske, 1992; Förster, Liberman, & Kuschel, 2008; Schwarz, 2007; Smith & Semin, 2004, 2007). Although they are varied, each of these formulations highlights the constructive nature of cognition. That is, 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; Schwarz, Bless, Wänke, & Winkielman, 2003; Srull & Wyer, 1979; Wyer & Srull, 1989).

The culture as situated cognition model refers to the often non-conscious impact of social contexts, human artefacts, physical spaces, tasks, and language, on accessible cultural mindset. As outlined next, accessible cultural mindset influences affect, behaviour, and cognitive processes including judgement. These effects can occur outside conscious awareness and are multiply determined. From a culture as situated cognition perspective, describing a society as individualistic simply means that members of this society are, on average, more likely to construe situations as being “about” things centralised and valued in individualism; describing a society as collectivistic means that members of this society are, on average, more likely to construe situations as being “about” things centralised and valued in collectivism. These differences could come about as implied in standard cross-group comparison models because only individualistic or only collectivistic knowledge is available in memory. But, as articulated by the opening description of culture as solutions to universal problems, the alternative is that both individualistic and collectivistic is available, but differentially likely to be currently accessible knowledge.

## Accessible knowledge

Immediate context influences both what knowledge is accessible and what it is taken to mean (Cesario, Grant, & Higgins, 2004; Schwarz et al., 2003; Schwarz, Sanna, Skornik, & Yoon, 2007). What comes to mind can be semantic content (e.g., Srull & Wyer, 1979), goals (e.g., Förster, Liberman, & Friedman, 2007), or procedures that tell people how to process information to make sense of experience (e.g., Oyserman & Sorensen, 2009; Schwarz, 2002, 2007; Wyer & Xu, 2010). Judgement, behaviour, and affective response are based on how accessible knowledge is interpreted (Oyserman & Lee, 2009; Schwarz, 2007). People tend to include accessible knowledge in their judgements unless they have reason to exclude it as irrelevant or as a contrasting standard rather than as part of the judgement they are making (Bless & Schwarz, 2010).

Priming methods are used to test the effect of accessible knowledge on current judgement. Primes can be presented subliminally or supraliminally prior to presentation of the dependent variable of interest, typically participants engage in two ostensibly unrelated tasks. The first task is the priming task. When participants are not made aware of a connection between tasks (that is, of the researcher's intent to influence them), then semantic content and procedural knowledge cued by the first task "spills over" into subsequent tasks. Knowledge made accessible in this task is accessible for use in the second task whether or not it would otherwise have come to mind (for a review, see Bargh & Chartrand, 2000). The specific content, procedure, or goal made temporarily accessible in the first task carries over to the next task 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).

Accessibility can be the temporary result of priming (Srull & Wyer, 1979, 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 (Bargh, 1984; Higgins, 1988, 1996). Priming does not influence subsequent performance if the cued content, procedure, or goal is not already available in memory. In this way priming mimics effects of chronic accessibility. That is, information that is on one's mind because it is usually useful or important. Indeed, temporary and chronic accessibility effects are similar (thus comparable) but independent (thus additive) in influencing social judgements (for a review, see 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.

With regard to cultural mindset effects, priming creates an experimental analogue 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.

To prime individualistic or collectivistic mindset, it is necessary to manipulate whether individualistic or collectivistic semantic content (values, self-definitions) or other aspects of individualistic or collectivistic mindset (goals, procedures) are accessible. To see if priming matters, it is necessary to then assess the impact of accessible cultural mindset on a dependent measure of interest (see Oyserman & Lee, 2008a, 2008b, for review and meta-analysis). A wide array of subtle situational cues can “turn on” or elicit either an individualistic or a collectivistic mindset (Oyserman & Lee, 2007, 2008a, 2008b). Within-participants, priming individualistic and collectivistic knowledge makes both accessible and predicts that effects will be driven by whichever is more strongly endorsed (e.g., Oyserman, Sakamoto, & Lauffer, 1998). Between-participants, priming either individualistic or collectivistic knowledge makes one or the other accessible and predicts different average responses on the dependent measure of interest. In both cases priming involves a carryover of previously stored cultural-relevant mental content, procedures, or goals to a subsequent task. Individualistic cultural mindsets make goals, content, procedural knowledge about separating accessible while collectivistic mindsets do the same for goals, content, and procedural knowledge about connecting.

Priming techniques cover the range from standard priming techniques to culture-specific ones. Standard techniques include subliminal priming or creating sentences from a scrambled word set including individualism-relevant and collectivism-relevant words such as “unique”, “different”, or “similar”, “together”. The words are incidentally processed while creating the sentences and the content, procedures, and goals cued while doing so are non-consciously carried over to the subsequent task. In their meta-analytic review Oyserman and Lee (2008a), note that the three most common priming techniques used in this literature were specifically developed to study culture.

Thus cultural mindset is primed by 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 (Trafimow, Triandis, & Goto, 1991). Alternatively, cultural mindset is primed by having participants consider their similarities or their differences to friends and family (e.g., Trafimow et al., 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 mouseclick on (e.g., Oyserman et al., 2009) these pronouns. Participants are randomly assigned to a paragraph with first-person plural or first-person singular pronouns. Paragraphs vary in content across studies, ensuring that results are not based on a particular paragraph. A large array of less-common primes produces convergent effects. These include seeing a company logo with a single vs multiple stick figures (Mourey, Oyserman, & Yoon, 2011) or receiving different instructions before solving problems (e.g., instructions that focus on analytic or holistic strategies; Spina, Ji, Guo, Zhang, Li, & Fabrigar, 2010). Other methods include hearing and responding to the task in a language associated with individualism (e.g., English) or one associated with 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.

### How accessible knowledge is used depends on the sense made of it

Priming makes knowledge accessible. How it is used depends on how it is interpreted in context. 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 judgement (Schwarz, 2004; Schwarz & Clore, 2007). Experimental evidence supports these claims (Schwarz 2004; Song & Schwarz, 2008a, 2008b). If people experience difficulty in thinking of reasons they are satisfied with their marriage, they infer that this difficulty means that they are not satisfied. If they experience difficulty in reading a recipe, they infer that this implies that the recipe will be difficult for them to make. If they experience difficulty in reading a question, they infer that they are not confident of the answer. All these results are found even though, in these experiments, difficulty was manipulated to be external to and irrelevant for the judgement—sometimes the print font was difficult to read, other times participants were asked to list a standard deviation more reasons than the average person did. Unless their attention was drawn to the extraneous source of their experienced difficulty, people assumed that their meta-cognitive experience was informative (Schwarz, 2004; Song & Schwarz, 2008a, 2008b).



A situated cognition approach to culture predicts that culture frames expectations for what a situation is likely to be “about”. If the situation fits cultural expectations then it should yield a meta-cognitive experience of fluency, which may carry over into ongoing judgement. In contrast, if the situation does not fit cultural expectations it should yield a meta-cognitive experience of disfluency, and this too may carry over into ongoing judgement. A meta-cognitive experience of fluency implies that one can keep going; a meta-cognitive experience of disfluency implies that one should stop and reconsider one’s course. Given that people are sensitive to their meta-cognitive experiences but not to their source (Schwarz, 2007), these meta-cognitive experiences should influence judgement and behaviour even when the experience is extraneous to judgement. Therefore it should be possible to shift behaviour by manipulating aspects of the situation to fit or not fit cultural expectations. Participants should misread cultural fluency as a sign to keep going and cultural disfluency as a sign to stop on an unrelated task. Evidence supports these predictions, as reported in the section entitled Culture As Fluency Cue.

### Predictions from the culture as situated cognition model

Taken together, situated approaches make a number of key points relevant to thinking about culture as situated cognition. First, cognitive processes are context sensitive. Thinking and action are influenced by what comes to mind and feels relevant in the moment (Bless & Schwarz, 2010; Smith & Semin, 2004). What comes to mind is a subset of all one’s existent knowledge. Second, context sensitivity can proceed automatically and does not depend on conscious awareness of the impact of psychologically meaningful features of situations on cognition (Fiske, 1992; Förster et al., 2007; Schwarz, 2007). Third, meta-cognitive experiences, the feelings of fluency and disfluency that accompany reasoning, influence judgements (Schwarz, 2004). Fourth, context effects on cognitive processes are multiply determined, effects can occur through deliberative or associative reasoning paths (Lieberman, 2007).

The culture as situated cognition model builds on what is known about cultural universals and cultural specifics (see Operationalising Culture), uses the simplifying individualism and collectivism model of culture (see Individualism and Collectivism), and integrates these with insights from situated and social cognition research to develop a set of core predictions. First, culture itself can produce a meta-cognitive experience of fluency or disfluency that will be used in the judgement process. Second, accessible cultural mindset effects will parallel chronic mindset effects. Third, both individualistic and collectivistic mindsets are available across groups, regions, and societies termed individualistic or collectivistic in cross-group

comparisons. Fourth, the process 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.

The first prediction stems from an integration of the basic operationalisation of culture as the way things are done in a certain time and place with the social cognition literature on the effects of fluency on cognition. If culture is a way of doing things, then when the culturally correct way of doing things occurs, people should experience a sense of ease and fluency. This sense of ease should carry over into judgements made in context. Recall that the meta-cognitive experience of ease has been shown to influence people's judgements even when the experience is extraneous to the judgement. To test this prediction, we (Mourey, Lam, & Oyserman, 2011) set up culturally fluent (the "right way" of doing things) and disfluent ("not quite right" way of doing things) situations and tested whether fluency translated to action as predicted, as described in the next section.

The second prediction stems from an integration of the between-group comparison literature on individualism and collectivism with the social cognition literature on priming knowledge to make it accessible. Recall that knowledge can be accessible because it has recently been brought to mind or because it is chronically on one's mind, in each case the effect of accessible knowledge should be the same. Between-group differences related to individualism and collectivism should be seen more clearly if at the moment of judgement, an individualistic mindset is accessible to one group and a collectivistic mindset is accessible to the other group.

The third prediction stems from an integration of the culturally universal need for groups to both sustain themselves and provide for individual welfare, the simplifying models of individualism and collectivism that point to differing ways to do both, and the social cognition literature on priming. Merging what is known about cultural universals with the simplifying framework of individualism and collectivism, it predicts that people universally will act, think, feel, and make meaning in ways that fit accessible mindset (individualistic or collectivistic) depending on which is cued. If this is the case, then the culture as situated cognition model will advance thinking about why between-group differences emerge and will disentangle accessible mindset from available mindset. That is by demonstrating that across cultural groups people can use an individualistic or a collectivistic mindset if primed, the situated model will demonstrate that both are available to be used universally. To test predictions two and three I conducted a meta-analysis of the cultural priming literature together with Spike Lee (2008). My colleagues and I, followed up with additional studies to address gaps in this literature as described in the section entitled Cultural Mindsets.

The fourth prediction also stems from an integration of universal cultural processes, the simplifying models of individualism and collectivism, and situated social cognition models. The cultural mindset model assumes that cultural processes may be either implicit or explicit and that the effect of a salient mindset is multiply determined. That means effects may be, but do not have to be, mediated through a certain aspect of cultural mindset—cueing content may cue process, cueing goals may cue content, and so on. Once a cultural mindset has been cued or made accessible, the prediction is that it will carry over to the next task at hand and will continue to be used until it is disrupted by cueing an alternative mindset. The evidence supporting each prediction is presented in the next sections.

## CULTURE AS FLUENCY CUE

### Fluency in context

The culture as situated cognition model predicts that the meta-cognitive experience of fluency (or disfluency) that emerges as part of ongoing processing of experience will be used in the ongoing judgement process. Because people are sensitive to their meta-cognitive experiences but not to its source, felt fluency (or disfluency) that carries over from the context to the judgement task will be (mis)interpreted as pertaining to the judgement itself. As noted in the Operationalising Culture section, one's culture is experienced as fluency—that which goes without saying and just feels right. However, the implications of culture as fluency cue for judgement has not been tested. Therefore, we (Mourey, Lam, et al., 2011) tested whether culture can function as a fluency cue. We started with a field study, observing behaviour of holiday picnic-goers and then conducted two lab experiments to increase control.

In the field study we observed the behaviour of guests at two real events (a Fourth of July picnic and a Labor Day picnic). There were about 20 guests at each picnic. We chose these holidays because they involve the same decoration (red, white, and blue stars and stripes) and are celebrated in much the same way, by eating at picnics. Guests were unobtrusively randomly assigned to condition as they stood at the beginning of the picnic table; each was given a plate from a pre-randomised stack of plates. On the Fourth of July plates were either patriotic-themed or plain white; on Labor Day the plates were either plain white or decorated for next holiday (Halloween). The picnic was set up as a buffet. The amount of food guests put on their plate was unobtrusively weighed at the end of the buffet, and plate condition was noted. If cultural fluency spills over to ongoing judgement, then compared to the control group, picnic goers getting the “right” plate should put more food on their plates while those getting the

“wrong” plate should put less food on their plate. That is what was found. Participants put more food on their plate if the plate was decorated with a holiday theme that fitted cultural expectations (compared to control). They put less food on their plate if the plate was decorated with a holiday theme that misfitted cultural expectations (compared to control). Effects were large: participants with holiday-congruent plates put 25% more food on their plate than participants with plain plates, and participants with holiday-incongruent plates put 18% less food on their plates than participants with plain plates.

We conceptually replicated this finding in a lab-based experiment in Hong Kong. During Chinese New Year we asked Hong Kong Chinese students to participate in a local restaurant’s test of its buffet Chinese New Year Buffet (Mourey, Lam, et al., 2011). Their task was to say how much of various foods they would be likely to choose. The cultural fluency manipulation was the colour of the rim of the plate that participants received (red, black). Red decorations are common in Hong Kong during the Chinese New Year period, black served as the control. As predicted, in the red-rimmed plate condition participants put significantly more food (20% more) on their plate than in the control condition (Mourey, Lam, et al., 2011).

If culture-based experiences result in feelings of fluency that carry over to subsequent judgement, we reasoned that effects should be seen even if the cultural experience is not ongoing. Thus in our third experiment we (Mourey, Lam, et al., 2011) asked students to rate the quality of wedding photographs from an on-line wedding site. The photo-rating task was our fluency manipulation. Photographs were of equal quality, as confirmed by our participants. Unbeknown to them, students were randomly assigned to see photographs of weddings that were either culturally fluent or disfluent. The fluent weddings showed a bride in formal white, a groom in formal black, and a tiered white cake. The disfluent weddings showed a bride and groom and a tiered cake, but the cake and the bride’s dress were not white and the groom was not dressed in black.

After rating the photos, as part of an ostensibly separate study, participants were asked to participate in a consumer survey and rate their willingness to buy one of a number of products (sometimes a fleece blanket, sometimes a shovel). If participants misread cultural fluency as a sign to keep going, participants who saw the culturally fluent wedding photographs should be more willing to purchase unrelated products than participants who saw the culturally disfluent wedding photographs. That is what we found: willingness to purchase the fleece was 14% higher, and willingness to purchase the snow shovel was 40% higher. Participants were sensitive to their meta-cognitive experience but not to its source. They took more food and were more willing to purchase unrelated products in the fluent than in the disfluent conditions. These results support the prediction that culture

functions as a fluency cue, increasing propensity to engage in whichever behaviour is accessible in the context.

### Fluency across contexts

In addition to influencing judgement in the moment, fluency over time may accumulate to a general feeling of ease about one's self—a sense of subjective well-being or self-esteem. This proposition was explored by Fulmer and colleagues (2010). They obtained country-level individualism–collectivism and personality scores, and assessed the association between individual personality and well-being taking into account country-level scores. They predicted and found that controlling for country-level individualism score, if a personality factor was generally associated with well-being, the association was boosted for individuals whose personalities matched their country-average and undercut for individuals whose personalities mismatched their country-average. Here too results were interpreted as due to fluency—feeling “right” in context.

## CULTURAL MINDSETS

The culture as situated cognition model makes three predictions about cultural mindsets: First, accessible cultural mindset effects will parallel chronic mindset effects. Second, both individualistic and collectivistic mindsets are available across groups, regions, and societies termed individualistic or collectivistic in cross-group comparisons. And third, the process 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. Since cross-cultural comparisons of individualism and collectivism have focused on differences in values, relational sensitivity, self-concept, and cognitive processes, each of these domains is discussed separately.

### Values

Do salient cultural mindsets influence the salience of values used to assess individualism and collectivism? We addressed this question by conducting a meta-analytic summary of the cultural mindset priming literature, looking for studies in which the dependent variable was values (Oyserman & Lee, 2008a). We looked first at the effect of priming individualistic vs collectivistic mindset ( $n = 21$  studies, yielding 15 contrasts). We found that effect of primed cultural mindset on values was significant and heterogeneous so we examined possible moderators of the effect. Importantly, we found that effects became homogeneous when studies used as their

dependent variable individualism and collectivism scales commonly used in cross-cultural comparisons ( $d = .40$ ). This effect size reflects the size of cross-cultural comparisons.

### Relational sensitivity

Do salient cultural mindsets influence the salience of relationships in meaning making as implied in the opening Olympics ceremony example? A situated cognition perspective would suggest that they do. Specifically, the prediction is that an individual cultural mindset involves content (main points), procedures (contrast, separate), and goals (be unique) that make relationship perception less likely. In contrast, the content (patterns), procedures (assimilate, connect) and goals (relational harmony) of a collectivistic mindset should make relationship perception more likely. This operationalisation not only suggests differences in the salience of relationships in everyday life, it also implies differences in the propensity to process information in terms of relationships. In our lab we have tested these predictions in a number of ways, as summarised next.

### Meta-analytic summary

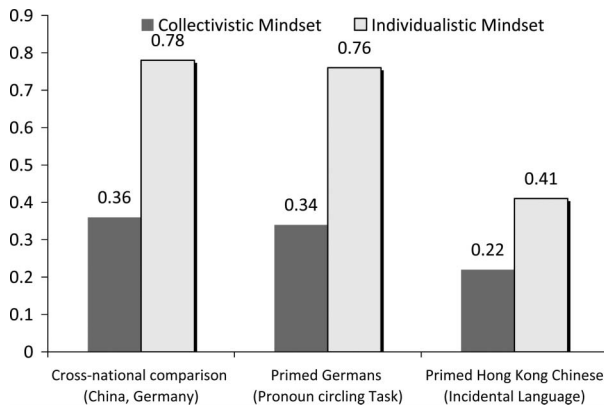
We (Oyserman & Lee, 2008a) conducted a meta-analytic summary of all studies that primed individualistic and collectivistic mindset and assessed relationality ( $n = 15$ ), operationalised as social obligation, perceived social support from others, social sensitivity, and prosocial orientation. For example, participants were asked their opinions on affirmative action, and how much they felt supported by others and avoided social risks. Effects were in the hypothesised direction, homogeneous, and moderate in size ( $d = 0.61$ ), similar to the cross-national findings. A total of 14 additional studies were ambiguous in their priming method or primed either individualistic or collectivistic mindset, comparing one prime to control, here the average effect size was ( $d = .41$ ). Thus, making a collectivistic mindset accessible increased focus on relationships, however assessed. Using the culture as situated cognition framework, a number of more subtle predictions about the effect of cultural mindset on sensitivity to relationships emerge as outlined next.

### Sensitivity to conversational intent

Carrying on a conversation involves paying attention to one's relationship partner and to what the other actually is trying to say or ask. A salient collectivistic mindset should make respondents more sensitive to their conversational context than a salient individualistic mindset. We (Haberstroh, Oyserman, Schwarz, Kühnen, & Ji, 2001) set up situations in which

questions were potentially redundant, to test the prediction that participants in a collectivistic mindset would be less likely to just give the same answer twice than participants in an individualistic mindset. If participants in a collectivistic mindset were focusing on the relationship with their conversation partner, they should interpret the potentially redundant question as implying a request for new information. In contrast, if participants in an individualistic mindset were focusing on themselves, they should simply say whatever is on their mind, in this case a repeated answer. Results fitted these predictions.

We began with a cross-national comparison, asking students in Heidelberg, Germany, and in Beijing, China, to report their academic satisfaction and their general life satisfaction. Students reported either on their academic satisfaction or on their life satisfaction first, depending on condition. When life satisfaction was asked about first followed by academic satisfaction, the correlation between the two responses was  $r = .53$  in the German sample and about the same,  $r = .50$ , in the Chinese patterns. Yet as presented in Figure 4 (left panel), results changed dramatically when the order of the two questions reversed so that participants first rated their academic satisfaction and then their life satisfaction. Among German participants the correlation between the two responses increased



**Figure 4.** Cultural mindset influences sensitivity to communicative intent of communication partners: Collective mindset reduces likelihood of potentially redundant responses. Correlation between responses to two potentially redundant questions (academic satisfaction asked first, followed by life satisfaction). Figure drawn using data from both Haberstroh, S., Oyserman, D., Schwarz, N., Kuhnen, U., & Ji, L. J. (2002). Is the interdependent self more sensitive to question context than the independent self? Self-construal and the observation of conversational norms. *Journal of Experimental Social Psychology*, 38, 323–329 (Study 2, Cross-national comparison, primed German participants) and Chen et al., 2011 (Primed Hong Kong Chinese participants, raw data).



dramatically to  $r = .78$  while among Chinese participants the correlation between the two responses decreased dramatically to  $r = .36$ .<sup>5</sup>

The shifting size of the correlation between the responses to the two questions indicates spontaneous sensitivity to context. Specifically, in the first question order all participants first thought about life satisfaction. To do so they may have considered satisfaction in various domains, including school. In the second question order all participants first thought about academic satisfaction, answered the question, and then moved on to the second question about life satisfaction. Academic satisfaction, which had just been brought to mind to answer the prior question, was accessible and relevant to answering the second question about life satisfaction. Chinese (but not German) respondents spontaneously recognised that using this information again would create a redundancy problem (giving pretty much the same answer to two questions) and so they disregarded their previously provided information about academic satisfaction. German respondents either did not notice or were not perturbed by the redundancy issue, and used the information they had just brought to mind in answering the academic satisfaction question again to answer the general life satisfaction question.

To isolate the causal role of salient cultural mindset, we (Haberstroh, et al., 2001) then temporarily induced individualistic or collectivistic mindset among German students using the pronoun-circling task. When primed with an individualistic mindset, the answers of German students correlated  $r = .76$  in the academic life order, paralleling the correlation of  $r = .78$  previously observed in the German sample. In contrast, when primed with a collectivistic mindset, the correlation between answers dropped to  $r = .34$ , paralleling the correlation of  $r = .36$  previously observed in China (see Figure 1, middle panel). We followed up with a priming experiment in Hong Kong to demonstrate that effects generalise across group and priming technique. Hong Kong Chinese participants were primed with individualistic vs collectivistic mindset by incidental use of English vs Chinese in instructions (Chen, Chang, Oyserman, & Schwarz, 2011, raw data). The answers of Hong Kong Chinese students were more correlated when using English ( $r = .41$ ) than when using Chinese ( $r = .22$ ). In combination, these findings highlight that when collectivistic mindset is salient, individuals are more sensitive to the conversational context than when individualistic mindset is salient.

<sup>5</sup> Puente-Diaz (2011) provides an interesting conceptual replication, with Mexican adults in Mexico City. Adults who were asked about their life satisfaction and then about their satisfaction with their romantic life gave answers correlated at  $r = .50$ ; the correlation dropped significantly to  $r = .36$  when the specific question was asked first. Thus results for Mexicans parallel those for Chinese, implicating sensitivity to the conversational norm among Mexican participants.

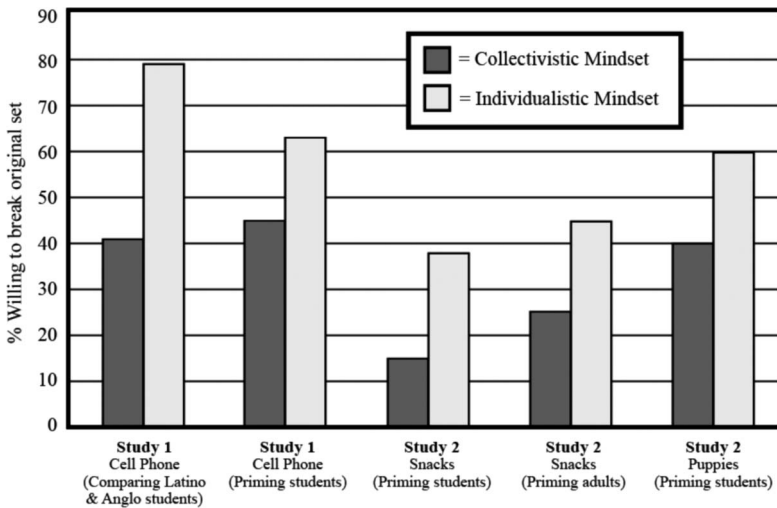


## Sensitivity to relationship possibilities

To study relationship sensitivity as separate from social norms, we (Mourey, Oyserman, et al., 2011) set up situations in which people made a number of consumption or product choices simultaneously, subsequently learned that not all their initial choices could be obtained, and were asked how to proceed. We predicted that salient cultural mindset should shift the *meaning* attributed to these simultaneously made choices. If a collectivistic mindset is salient, we predicted that the accessible content (relatedness), goals, and procedures (assimilate, connect) would support a sense that the items have worth and value together because they have emergent meaning as part of a relationship. Rather than break apart the relationship, participants should prefer to choose something else or pay more to obtain the missing part. No such effect was predicted if an individualistic mindset is salient, in this case each object should be perceived separately, thus if not all items can be obtained it does not diminish the value of the available items and participants should still be willing to take those items that are available.

We tested this prediction first with a cross-group comparison (Mourey, Oyserman, et al., 2011, Study 1). Anglo and Latino students were told that their university was partnering with Amazon.com, shown a display of cell phones and accessories, and asked to choose a cell phone, case, charger, and ear buds for themselves. After making their choices they learned that one of their choices was out of stock. As presented in the first column of Figure 5, when asked if they still wanted the available items, most Anglo participants, but fewer than half of Latino participants, did. Most Latino participants preferred not to break up their chosen set (but instead preferred to exit and purchase nothing or to create a new set).

We replicated this effect by priming cultural mindset (Mourey, Oyserman, et al., 2011, Study 1; second column Figure 5). Participants were randomly assigned to see either one or several stick figures, accompanied by a logo, and asked to imagine, "How can Amazon.com help you stick out (stick together)?" Unbeknown to them, this was the cultural mindset prime. When they learned that some of their choices were out of stock, individualistic-mindset-primed participants responded just as did the Anglo participants in the prior experiment; most agreed to take the available items. In contrast, collectivistic-mindset-primed participants responded as did the Latino participants in the prior study; most were not willing to do so. This study also had a second part. After deciding whether to accept the partial set, participants learned that Amazon could trawl the web and find the out-of-stock element. Participants were asked how much they would be willing to pay for this. As expected, participants in the collectivistic mindset condition were more desirous of restoring their relational set; they were willing to pay 50% more (\$5.41 vs \$2.86) for this service.



**Figure 5.** Salient cultural mindset influences relational sensitivity: Participants in individualistic mindset are more willing to break a set after establishing it. Adapted from Mourey, J., Oyserman, D., & Yoon, C. (2011). One without the other: Seeing relationships in everyday choices. Manuscript submitted for publication.

Relationship sensitivity generalised to choices made for someone else (Mourey, Oyserman, et al., Study 2, 2011; last column Figure 5). Participants were shown five adorable puppies and asked to make a choice of two puppies for a friend who couldn't decide. After choosing, participants learned that the friend's landlord only allowed a single pet per tenant. The friend asked which one they should choose. While most participants primed with an individualistic mindset suggested taking one of the two originally chosen puppies, participants primed with a collectivistic mindset did not see it that way. They were loath to break up the set they had just created in their mind: fewer than half suggested taking one of the original two puppies—most suggested taking one of the other puppies.

We tested the mediational process by asking participants to describe how their choices fitted together, predicting that those in a collectivistic mindset would see more aspects or elements of fit than those in an individualistic mindset (Mourey, Oyserman, et al., 2011, Study 2). Specifically, in Study 2, participants chose a beverage and a snack, were led to believe they would actually get to have their chosen items, and were asked to list the ways their chosen items went well together either before or after they learned that they would only get one snack and chose which single snack to get. As displayed graphically in columns three and four of Figure 5, participants in the

collectivistic mindset condition were loath to break their just-created set and were twice as likely as participants in the individualistic mindset condition to choose something else rather than break their original set. For example, a person who initially chose a soda and chips might switch to milk after learning she could not have both. Participants in the collectivistic mindset condition gave more reasons that their choices went well together and number of reasons mediated the effect of mindset on willingness to break-up the original set.

## Self-concept content and function

### *Meta-analytic summary*

Recall that the cross-cultural literature focuses on differences in content of self-concept, self-esteem, and self-enhancement. To address the question of whether salient cultural mindsets influence these aspects of self-concept, we (Oyserman & Lee, 2008a) conducted a meta-analytic review of all the studies using priming techniques to make salient either an individualistic or a collectivistic mindset and test effect of mindset salience on some aspect of self-concept. We found 25 studies that primed both. For example, Ross, Xun, and Wilson (2002) randomly assigned Chinese-born students living in Canada to answer a questionnaire in English or Chinese, and found that students in the English condition wrote more positive self-descriptions and reported higher self-esteem than those in the Chinese condition.

However, except for the Ross et al. (2002) study, which included a measure of self-esteem, we (Oyserman & Lee, 2008a), found that self-concept was mostly assessed either by content coding responses to the Twenty Statements Task (TST, an open-ended self-concept measure; Kuhn & McPartland, 1954) or by obtaining a mean of items from the Leung and Kim (1997) and Singelis (1994) Self-Concept Scales (SCS). TST studies typically provided content coding of proportion of responses focused on aspects of self-concept predicted to be salient among individualists vs collectivists. That is, the “private” self-concept (e.g., trait, ability, physical descriptor, or attitude) for individualists and relational (e.g., role in a friendly or romantic relationship) and/or collective (e.g., membership in social, ethnic, or religious groups) self-concept for collectivists.

Overall, the size of the effect of cultural mindset was in the hypothesised direction, heterogeneous between studies and small in size ( $d = 0.26$ ), just as found in the cross-national comparison. We (Oyserman & Lee, 2008a) looked for moderators, including the possibility that how self-concept itself was assessed mattered. Effects were inconclusive. For example, effects remained heterogeneous when content-coded and close-ended measures

were examined separately. Generally cultural mindset priming increased the extent that participants describe relational and collective aspects of self-concept but had less effect on descriptions of the “private” self-concept. Here too priming effects parallel cross-national effects as reported in the second section of this paper. When we looked for the subset with the largest effect size, we found that the four TST studies that coded relational-level and group-level collective self-focus in a single category showed close-to-large effects on average,  $d=0.67$  (for details see Oyserman & Lee, 2008a, p. 321 Table 3, fifth to seventh panels of rows).

To address the dearth of studies studying the consequences of salient cultural mindset on self-enhancement, we (Lee et al., 2010) conducted three experiments in Hong Kong in which we primed cultural mindset and assessed effects on self-enhancement. We used language as our mindset prime, having ascertained that it could be used as a mindset prime in our prior studies. Our results, summarised in Table 1, support the prediction that self-enhancement goals can be primed via salient individualistic mindset and that effect sizes vary from small to large depending on the personal relevance and vividness of the task.

In our first experiment we operationalised self-enhancement as the tendency to rate desirable traits as more self-defining, and undesirable traits as more defining of the average student (termed the “better than average” effect; Taylor & Brown, 1994). We used traits from prior studies and traits taken from both Confucian and Biblical (Ten Commandment) values. As predicted, self-enhancement was significant among participants randomly assigned to use English (vs Chinese,  $d=0.29$ ). Participants in the English language condition self-enhanced by rating undesirable traits as descriptive of others and not the self in the English language condition; this did not occur in the Chinese language condition.

Next we (Lee et al., 2010) adopted an idiographic approach to self-description, asking participants to first describe a moral success or failure of their own and then rate whether others would have behaved as they had. In this study we operationalised self-enhancement as the tendency to see one’s moral successes as unique and moral failures as common. Participants were given 5 minutes to think of a time when they resisted (or succumbed to) temptation and write about it and then were asked to rate how unique or common their response to temptation was. Whether describing their moral successes or their moral failures, participants in the English language condition reported significantly more self-enhancement than participants randomly assigned to the Chinese language condition ( $d=0.54$ ). Participants randomly assigned to use English, but not those randomly assigned to use Chinese, perceived their moral failures as common. We looked for but did not find differences in thematic content (most commonly, academic situations) or in whether emotional experience

TABLE 1  
Effect of salient cultural mindset on self-enhancement (Studies 1, 2) and social distancing (Study 3)

Study	Dependent variable	Condition <sup>a</sup>	Mindset prime <sup>a</sup>						<i>d</i>
			English			Chinese			
			<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
Study 1	Self-enhancement score	Desirable traits <sup>b</sup>	52	5.91	0.60	47	5.77	0.73	0.21
		Undesirable traits		5.39	0.85		5.11	1.02	0.30
Study 2	Self-enhancement score	Moral success <sup>c</sup>	17	6.65	1.73	20	5.60	1.57	0.64
		Moral failure	17	5.71	1.45	22	5.09	1.41	0.43
Study 3	Felt closeness to outperforming peers	Not self-affirmed	47	3.47	1.69	38	5.11	1.87	0.92
		Self-affirmed	45	4.27	1.66	44	4.55	1.84	0.16

Table 1 adapted with permission from Lee, S. W. S., Oyserman, D., & Bond, M. (2010). Am I doing better than you? That depends on whether you ask me in English or Chinese: Self-enhancement effects of language as a cultural mindset prime. *Journal of Experimental Social Psychology*, 46, 785–791.

*d* = Effect size of the mindset prime.

<sup>a</sup>Condition is within-participants in Study 1, between-participants in Studies 2, 3; mindset is between-participants in all studies.

<sup>b</sup>Scale was “This trait describes me...” 1 = much less than..., 5 = about the same as..., 9 = much more than... “the average CUHK [Chinese University of Hong Kong] student.” Ratings were reverse-coded for undesirable traits. Higher scores mean greater self-enhancement (i.e., desirable traits rated more self-descriptive, undesirable traits more descriptive of others).

<sup>c</sup>Scale was “An average CUHK student would be...” 1 = much less likely than me..., 5 = just as likely as me..., 9 = much more likely than me... “to stand firm and succeed [or give in and fail].” Rating was reverse-coded in the success condition. Higher scores mean greater self-enhancement (i.e., others as less likely to resist temptation, more likely to succumb to temptation).

was interpersonally engaged (e.g., respectful) or disengaged (e.g., proud; Kitayama, Markus, & Kurokawa, 2000).

In a final study we (Lee et al., 2010) operationalised self-enhancement as the tendency to distance oneself from outperforming others and hypothesised this tendency would be stronger among participants randomly assigned to use English (vs Chinese). We gave participants a difficult maths test

(described as predictive of reasoning ability and course grades) and too little time to compute each answer (15 seconds per question). Then we provided bogus failure feedback, telling participants they had done poorly both in an absolute sense (2 of 6 correct) and relative to the others taking the test at the same time (who averaged 3.7 of 6). Manipulation checks demonstrated that all participants knew that they had failed and felt bad. Half of participants were given a chance to self-affirm by considering and then writing about important values. Then all participants were asked how close they felt to the other students who took the test with them and to their friends who were not in the test room.

Unfavourable social comparison of this type is commonly used to study self-enhancement because it undermines the ability to perceive oneself as positively distinct (Tesser, 2000). If self-worth is based in part on positive contrast from others, an unfavourable comparison should threaten self-worth and instigate attempts to regain it. One way to regain self-worth is to make the unfavourable comparison less salient, so people distance themselves from clearly outperforming others (Tesser, Crepaz, Collins, Cornell, & Beach, 2000)—unless self-worth is protected through other means such as affirming core values (for reviews, see Sherman & Cohen, 2006; Steele, 1988).

As predicted, participants in the English language condition who did not have a chance to buffer through self-affirmation reported self-distancing. The effect of using English on desire to self-distance was large ( $d = 0.92$ ). Participants randomly assigned to the English language and no self-affirmation condition distanced themselves from outperforming peers. Participants randomly assigned to the other conditions did not. The social distancing response specifically targeted outperforming peers (who posed a threat to one's self worth), but not friends (who posed no such threat).

## Mental procedures

### *Meta-analytic summary*

Recall that the cross-cultural literature demonstrates differences in perception, memory, and complex reasoning. For example, Japanese and American participants make different patterns of errors in reproducing lines embedded in frames, with Americans more accurate in recalling the absolute size of the line and Japanese more accurate in recalling the relative size of the line (Kitayama et al., 2003). Similarly, Americans describe a complex scene in terms of its central element while Chinese participants address the scene itself (Nisbett, 2003). The asserted but not tested implication is that effects are due to deep-seated, essentially fixed cultural differences in how the mind works.

In contrast, the culture as situated cognition model predicts that accessible cultural mindset produces differences in mental procedures, and that both individualistic and collectivistic mindsets are available (though differentially likely to be accessible) to people across East and West. To test these predictions we first conducted a meta-analysis (Oyserman & Lee, 2008a) then followed up with empirical studies (e.g., Oyserman et al., 2009) to address gaps in the evidence.

We (Oyserman & Lee, 2008a) found 28 studies that primed individualistic and collectivistic mindset and tested effects on mental procedures, broadly defined. Some studies focused on whether participants were likely to contrast (more likely for participants primed with individualistic mindset) or assimilate information into the judgement at hand (e.g., Gardner et al., 2002). Other studies focused on the likelihood of taking the compromise choice in decision-making task (more likely for those primed with collectivistic mindset (e.g., Briley & Wyer, 2001). A few studies focused on perception and processing of visual information (participants primed with collectivistic mindset had more trouble identifying figures in embedded figures tasks but were better at filling in missing parts of pictures; Kühnen, Hannover, & Schubert, 2001). Overall effects did not differ much in spite of the ranged of specific dependent variables from  $d = .50$  for studies assessing social judgements and attitudes to  $d = .59$  for studies assessing social comparisons ( $d = .52$  for non-social cognitive processes).

To demonstrate that both individualistic and collectivistic mindsets are being primed and have effects, it is necessary to use some tasks that are better solved if a collectivistic mindset is accessible and other tasks better solved if an individualistic mindset is accessible. That is, tasks in which connecting mental procedures and tasks in which separating mental procedures are useful. For example, a task that requires rapid processing of spatial correlations is better solved with connecting mental procedures while a task that requires rapid exclusion of solution-irrelevant information is better solved with separating mental procedures. While an important first start, the meta-analysis highlighted that there were not enough studies of this type and that much of the research had only involved Western participants. We are addressing these gaps in our lab, as outlined next.

### Effects on perception

Initial studies (Kühnen et al., 2001; Kühnen & Oyserman, 2002) of the effect of primed mindset on perception included only Western participants, but did show that collectivistic mindset could be cued among these participants and affected perception. A number of different primes were used to prime



cultural mindset including the pronoun-circling task and the similarities and differences from families and friends tasks. Specifically, Germans assigned to the collectivistic cultural mindset condition were slower and less accurate in finding images embedded in a larger picture than those in the individualistic mindset condition (Kühnen et al., 2001). In a Navon task participants in the collectivistic mindset condition were faster at seeing big letters made up of smaller ones than participants in the individualistic mindset condition, who were faster at seeing the little letters themselves (Kühnen & Oyserman, 2002; participants were Americans). We have since followed up and demonstrated that accessible cultural mindset influences Navon task response among Hong Kong Chinese participants, using a scrambled sentence prime (Oyserman, Lam, Chen, & Novin, 2011 unpublished data).

If accessible cultural mindset influences perception then it should be possible to demonstrate effects on task speed and task accuracy across sensory modes. We (Oyserman et al., 2009, Studies 4–7) used a Stroop colour task (Stroop, 1935) and a dichotic listening task (Hugdahl, 1988, 2003) to test these predictions. In the Stroop task participants were shown colour words (e.g., red, blue), which were printed either in the same or a different colour (e.g., the word red appeared in blue). Participants were to say, as quickly as they could, the colour of the print font while ignoring the meaning of the word. In the listening task participants wore headphones, and nonsense syllables were piped into each ear. Sometimes the same syllables were played in both ears; sometimes each ear was presented a different syllable sequence. Participants were asked to repeat what they heard in one ear and ignore what they heard in the other.

Participants were either not pressed for time (Studies 4, 6) or put under time pressure (Studies 5, 7). To succeed, participants had to focus on relevant and ignore irrelevant contextual information. This involves a pull-apart mental procedure predicted to be part of individualistic cultural mindset; therefore the prediction was that accessible individualistic mindset would improve performance in both tasks. In contrast, accessible collectivistic mindset was predicted to cue connecting and relating mental procedures. These procedures would hinder performance so that participants in the collectivistic mindset condition were predicted to be slower and less accurate. As expected from the cognitive literature on speed–accuracy trade-offs (Dickman & Meyer, 1988; Meyer, Irwin, Osman, & Kounios, 1988), participants in the collectivistic mindset condition were able to sustain accuracy if they slowed down and lost accuracy if they were under time pressure. For example (Oyserman et al., 2009, Study 7), under time pressure participants in the collectivistic mindset condition were able to correctly repeat what they heard in their left ear 55% of the time, compared to a 63% accuracy rate among participants in the individualistic mindset condition. For the right ear, accuracy showed the same pattern (65%



accuracy collectivistic mindset, 74% accuracy individualistic mindset). Effects sizes across all of these studies are small but significant as summarised in Table 2.

### Effects on memory

We also studied effects of accessible cultural mindset for incidental recall of spatial relationships (Kühnen & Oyserman, 2002; Oyserman et al., 2009). We told participants they were participating in a memory task, and would be shown a picture for 90 seconds then asked to remember what they saw. Participants were primed (using the pronoun-circling task) and shown the picture (a randomly spatially arranged array of 28 unrelated items) for 90 seconds (depicted in Figure 6a). The picture was then taken away, participants were given a blank grid (depicted in Figure 6b), and asked to write down (or draw) what they saw and where it was located. There was no effect of priming condition on memory for objects; on average, participants were equally good at remembering what they saw. What differed was that participants who had circled the plural pronouns

TABLE 2  
Average effect of priming a cultural mindset that matches or mismatches the cognitive procedure useful for the task at hand

Study	Sample Country	Dependent Variable	Effect with study removed		
			Effect Size ( <i>d</i> )	95% Confidence Interval	Z-score
1	Korea	Visual Memory	0.34	.22, .46	5.48
2	Hong Kong	Visual Memory	0.34	.22, .47	5.47
3	U.S. (Asian American, European American)	Visual Search and Memory	0.33	.21, .45	5.38
4	U.S. (diverse)	Color Stroop	0.35	.23, .48	5.51
5	Hong Kong	Color Stroop	0.36	.24, .50	5.50
6	U.S. (diverse)	Dichotic Listening	0.36	.24, .49	5.66
7	Norway	Dichotic Listening	0.31	.19, .45	5.01
8	U.S. (African American, Asian American, European American)	GRE	0.31	.19, .45	4.90
<b>Average Effect Across Studies</b>			<b>0.34</b>	<b>.21, .46</b>	<b>5.73</b>

From Oyserman, D., Sorensen, N., Reber, R., & Chen, S. X. (2009). Connecting and separating mind-sets: Culture as situated cognition. *Journal of Personality and Social Psychology*, 97, 217–235.

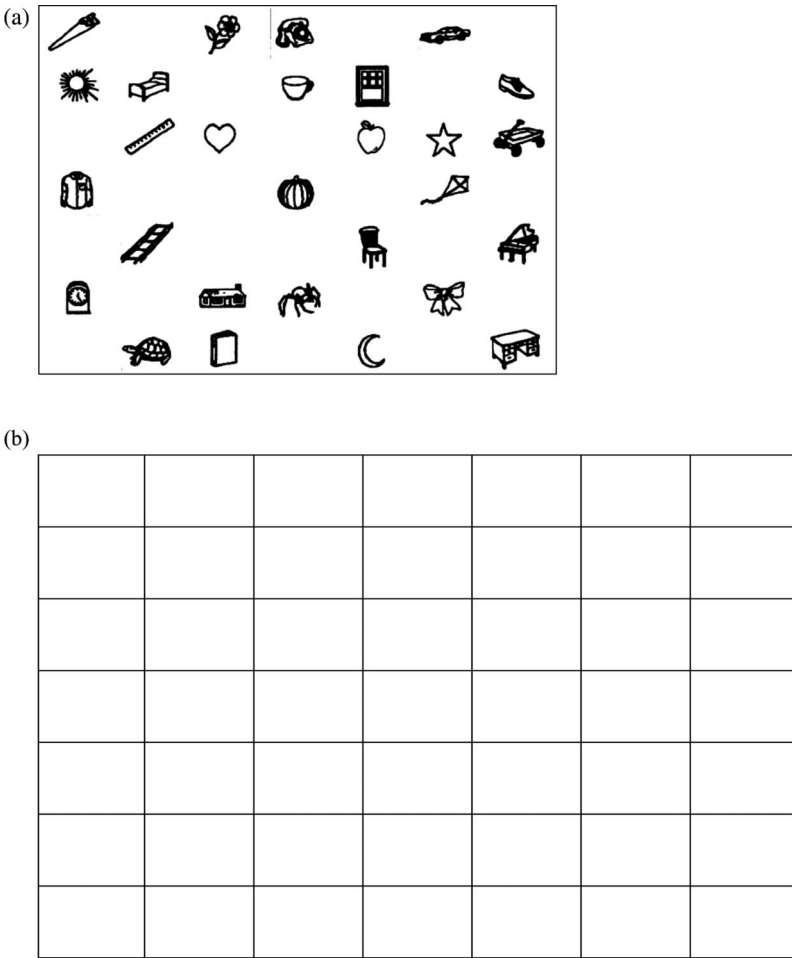
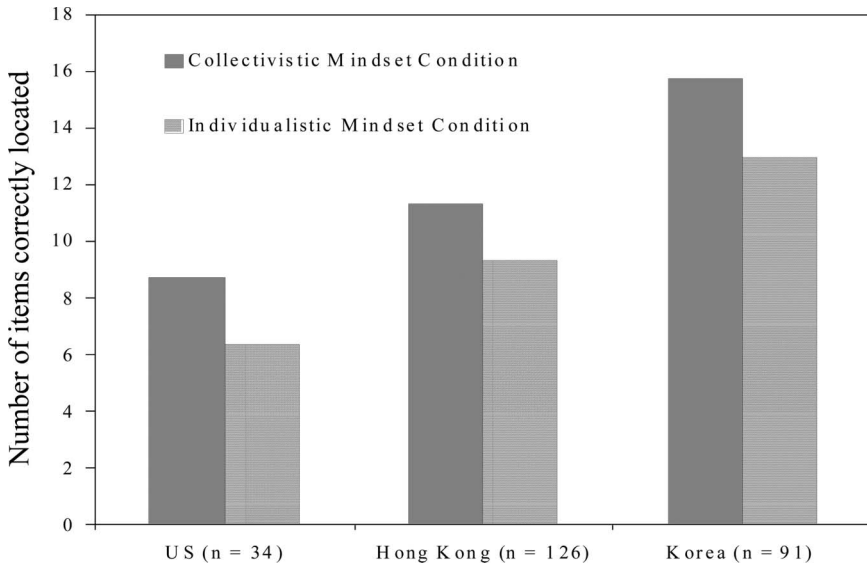


Figure 6. (a) Test Figure in Kühnen, U. & Oyserman, D. (2002) Thinking about the self influences thinking in general: Cognitive consequences of salient self-concept, *Journal of Experimental Social Psychology*, 38, 492–499. Study 1. (b) Grid used in Kühnen, U. & Oyserman, D. (2002) Thinking about the self influences thinking in general: Cognitive consequences of salient self-concept, *Journal of Experimental Social Psychology*, 38, 492–499. Study 1.

were better at recalling *where* the items they recalled were located on the page.

The same pattern of results was found whether the study took place in the US (Kühnen & Oyserman, 2002), Korea or Hong Kong (Oyserman et al., 2009, Studies 1 and 2). Consider the results from the Hong Kong sample. Participants in the plural pronoun (collectivistic mindset)

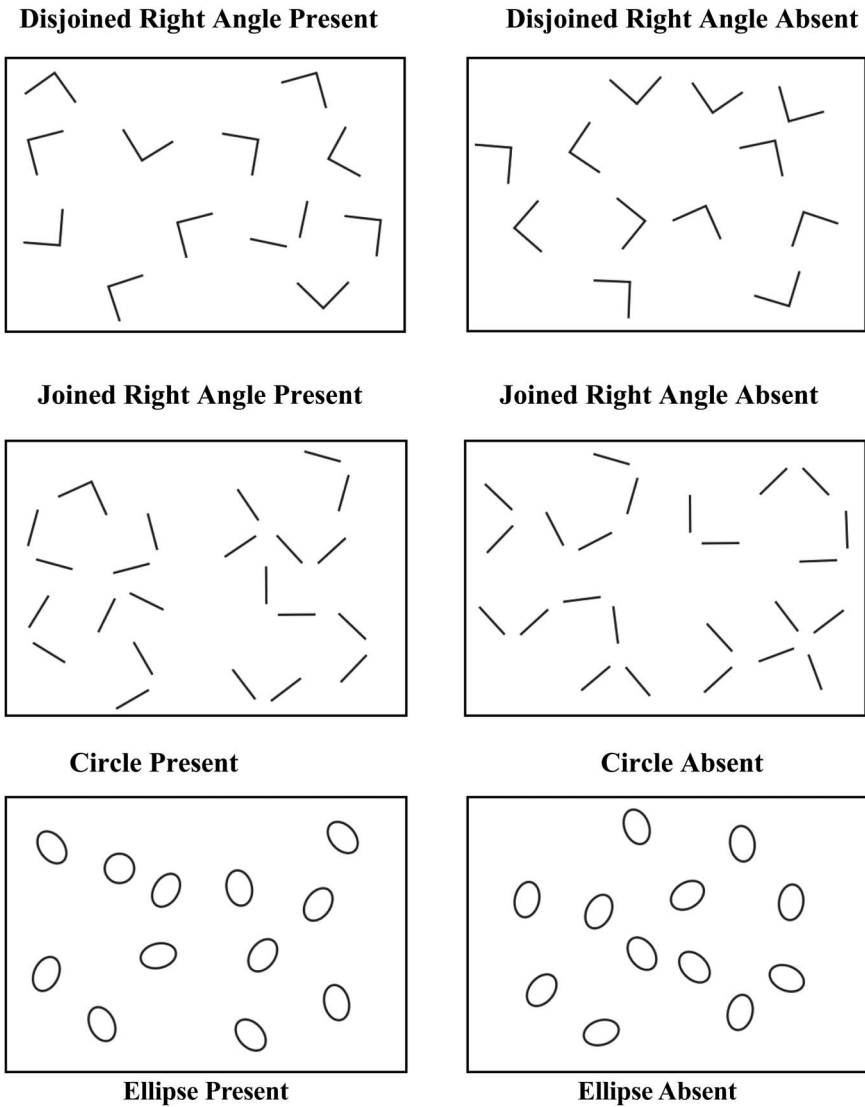


**Figure 7.** Priming cultural mindset influences incidental recall of spatial location of objects: Across countries, salient collective mindset improves location recall. Figure draws from both Kühnen, U. & Oyserman, D. (2002) Thinking about the self influences thinking in general: Cognitive consequences of salient self-concept, *Journal of Experimental Social Psychology*, 38, 492–499 (Study 2, US participants), and from Oyserman, D., Sorensen, N., Reber, R., & Chen, S. X. (2009). Connecting and separating mind-sets: Culture as situated cognition. *Journal of Personality and Social Psychology*, 97, 217–235 (Studies 1 and 2 Korean and Hong Kong participants).

condition were able to locate 11.31 ( $SD = 5.26$ ) items correctly on average, whereas those in the singular pronoun (individualistic mindset) condition were able to locate only 9.82 ( $SD = 4.28$ ) items correctly on average. Parallel effects were found in each sample and are presented in Figure 7.

### Effects on complex reasoning

We (Oyserman et al., 2009) also examined the effect of accessible cultural mindset on more complex reasoning, choosing as our dependent variable segments of the Graduate Record Exam (GRE), which is the standardised test taken for applications to graduate school in the United States. In this experiment (Oyserman et al., 2009) we randomly assigned Anglo American, Asian American, and African American participants to a mindset prime (individualism, collectivism) or a no-prime control condition. Participants were then given a set of antonym and analogy problems taken from practice GRE tests. Participants in the individualistic mindset condition out-



**Figure 8.** Sample figures from Oyserman, D., Sorensen, N., Reber, R., & Chen, S. X., (2009, Study 3). Connecting and separating mindsets: Culture as situated cognition. *Journal of Personality and Social Psychology*, 97, 217–235.

performed participants in the collectivistic mindset condition by 10 to 15 percentage points (with non-prime control participants in between). Results demonstrate that accessible individualistic cultural mindset carried with it

pull-apart and separate strategies, which are effective even in more complex tasks requiring that participants access relevant (but ignore irrelevant) information from memory to construct new solutions to complex problem. We have since demonstrated parallel effects with Hong Kong Chinese participants using a culturally relevant standardised test (Oyserman et al., 2011 unpublished data).

## CONCLUSION

Much of cultural psychology focuses on between-group differences that are assumed to be rooted in distal features of societies. Yet a growing body of evidence demonstrates that small situational cues can “turn on” or make accessible individualistic and collectivistic cultural mindsets. Taken together, these studies support the prediction that individualistic *and* collectivistic knowledge is existent in memory (otherwise it could not be cued; it would have to be learned). There are two important implications of this observation. On the methodological side, this observation highlights the *causal* influence of differences in salient cultural mindset. Given that any two societies differ in numerous respects, the mere naturalistic observation of a cross-national difference does not allow us to identify the causal role of any particular cultural characteristic. To do so requires experimental manipulations of the characteristic of interest. Manipulation allows for experimental test of the processes implied by cross-national differences. Thus cultural mindset priming provides evidence of at least some of the proximally situated processes by which culture matters.

On the substantive side, the observation that small situational cues can “turn on” individualistic and collectivistic mindsets indicates that many key cultural differences in *cognitive procedures* do not require extensive socialisation in the intellectual traditions of a culture. Instead they are better portrayed as efficient responses to culturally dominant tasks, consistent with theories of situated cognition and culture as situated cognition (for a detailed discussion see Oyserman & Lee, 2007; Oyserman & Sorensen, 2009; Oyserman et al. 2009). Between-society differences in how everyday tasks are pragmatically understood are likely to be reflected in between-society differences in responses.

A recurrent theme within social psychology is that cognition is situated and pragmatic. Human judgement is greatly influenced by the information accessible at the moment of decision making, resulting in profound effects of contextually salient information. Studies summarised here also point to growing evidence across a variety of domains that culture situates cognition in at least two ways. First, individualistic and collectivistic cultural mindsets carry with them relevant content, mental procedures and goals. Second, being in a culturally fitting or misfitting context provides a meta-cognitive

experience of fluency or dysfluency: that one knows, or does not know, what the situation is “about”. Unless its relevance is undermined, this interpretation of one’s metacognitive experience is likely to be non-consciously carried over into subsequent judgement and performance. Studies to date have examined effects for choice but effects are predicted across a variety of domains. Cultural fluency effects may be particularly likely as people move across cultural settings.

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