A Cultural Task Analysis of Implicit Independence:

Comparing North America, Western Europe, and East Asia

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Abstract

Informed by a new theoretical framework that assigns a key role to "cultural tasks" (culturally prescribed means to achieve cultural mandates such as independence and interdependence) in mediating the mutual influences between culture and psychological processes, the authors predicted and found that North Americans are more likely than Western Europeans (British and Germans) to 1) exhibit focused (vs. holistic) attention, 2) experience emotions associated with independence (vs. interdependence), 3) associate happiness with personal achievement (vs. communal harmony), and 4) show an inflated symbolic self. In no cases were the two Western European groups significantly different from one another. All Western groups showed 5) an equally strong dispositional bias in attribution. Across all the implicit indicators of independence, Japanese were substantially less independent (or more interdependent) than the three Western groups. An explicit self-belief measure of independence and interdependence showed an anomalous pattern. These data were interpreted to suggest that the contemporary American ethos has a significant root in both Western cultural heritage and a history of voluntary settlement. Further analysis offered unique support for the cultural task analysis.

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In 1890 the 11th U.S. Census proclaimed that the last frontier disappeared. For nearly two centuries before then, Americans of mostly Western European origin left their East Coast cities to settle in Western frontiers (e.g., Stegner, 1953; Stewart, 1963). For these early settlers, Western frontiers symbolized personal freedom, opportunities, and redemption (Bellah, Madsen, Sullivan, Swindler & Tipton, 1985; Dewey, 1930; Tocqueville, 1969; Turner, 1920). Yet, the frontier did not cease to be relevant when it physically vanished in 1890. Once initiated, any culture can have its own life (Cohen, 2001). In fact, there is every reason to believe that a dream for personal success and redemption – the American Dream – has continued to influence the American cultural ethos to this day. For example, the U.S. programs for space exploration, cutting-edge sciences, and many others are framed in terms of exploration of frontier (e.g., Faludi, 2003; Klerkx, 2004). Moreover, the discourse of American Dream has continued to shape each and every person's life by providing forceful narratives to live by (Hochschild, 1995; McAdams, 2006). These considerations suggest that there should be substantial differences in mentality between Western Europeans and North Americans even though they share a common Western cultural heritage (see Turner, 1920, for an earlier sociological analysis of the issue).

There is an emerging consensus in personality and social psychology that cultures vary in the extent to which either independence or interdependence is sanctioned (Kitayama, Duffy, & Uchida, 2007; Markus & Kitayama, 1991, 2004; Nisbett, 2003; Shweder & Bourne, 1982; Triandis, 1989; see also Greenfield, Keller, Fuligni, & Maynard, 2003). Up to this point, however, this literature has focused nearly exclusively on differences between West and East, with scant attention paid to possible differences within the West, between Western Europeans and North Americans in particular (see e.g.,

Varnum, Grossmann, Katunar, Nisbett, & Kitayama, 2008 for an exception). This has been the case despite some obvious problems many scholars in political science (e.g., Inglehart & Baker, 2000), economics (e.g., Perlman & McCann, 1998), and philosophy (e.g., Russell, 1945/1992) have recognized in the notion of monolithic "Western mind."

In the present work we seek to fill in this gap of psychological knowledge. In so doing, we will present a new theoretical framework that places a key role in the notion of *cultural tasks* in accounting for the mutual influences between culture and psychological processes. Informed by this theoretical framework, we will test the hypothesis that the history of voluntary settlement fostered an especially high degree of implicit independence among North Americans (Kitayama & Bowman, in press; Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006).

It is challenging to test any historical hypotheses with contemporary psychological data. We tried to overcome this difficulty by comparing matched samples from North America, Western Europe (United Kingdom and Germany), and East Asia (Japan). We expected that the three Western groups (U.S., U.K., and Germany) would be more independent or less interdependent than the Eastern group (Japan) and, more importantly, we also anticipated that North Americans should be substantially more independent or less interdependent than Western Europeans as predicted by the voluntary settlement hypothesis. In an effort to exclude a number of confounding variables and thus make our conclusion more compelling, our design included the two divergent Western European groups.

Culture and the Self

It has been proposed that Western cultural contexts emphasize a view of self as independent, defined primarily by its internal attributes such as preferences, desires, and traits (Kitayama et al., 2007; Markus & Kitayama 1991). Such a view can be traced back to the ancient Greek civilization, where logic was invented as a practical means of differentiating good arguments from bad ones, and rhetoric was developed as a tool for

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debate (Morris, 1991; Nisbett, 2003; Taylor, 1979). Yet, most notably, the view of the self as independent was rediscovered and extensively elaborated in Western Europe during the era of Reformation and Renaissance. One pivotal event was the birth of Protestantism in the 14th and 15th centuries. Some novel conceptions such as calling and predestination underscored the idea that each person has his or her inherent merit and, moreover, he or she is in direct communication with God (Weber, 1958). Furthermore, a number of prominent thinkers in the era of Enlightenment reinforced similar themes. All these forces converged to yield a general conception of self as independent, autonomous, and separate or socially disengaged. Within this framework, social relations are conceived as voluntary and thus optional (Morris, 1991; Taylor, 1979). This broad view of the self provides an epistemic basis for a social ideology of individualism, and has become a major cultural imperative or mandate.

In contrast, in Eastern civilizations a contrasting view of self as interdependent, interpersonally connected, and socially embedded has been elaborated (Kitayama et al., 2007; Markus & Kitayama, 1991). This general view of self can be found in the ontology of Buddhism (which emphasizes a unity of the universe including all creatures both past and present), Confucian ethics (which is grounded in the central significance given to hierarchical relationships at both societal and personal levels), and a variety of indigenous, holistic beliefs, such as Bushido and Taoism. Of course, the relational, interdependent view of self acknowledges one's internal attributes such as desires, intentions, and attitudes. However, these attributes are not considered as primary. Instead, they are seen as coexisting with, contingent on, and often to be subordinated to the social order. These broad views of the self as relational provide an important epistemic basis for a social ideology of collectivism, and have become a major cultural mandate.

Mutual Influence between Culture and Psychological Processes: A Cultural Task Analysis

In an attempt to better understand how culture might influence psychological processes, we propose a new framework called *the cultural task analysis* (Kitayama & Imada, in press-b). The main goal of this analysis is to understand how the cultural mandates such as independence and interdependence might influence and eventually shape various aspects of psychological processes. Any such effort must specify the nature of socio-cultural processes that link the collective or societal level reality, here represented by the cultural mandates, to psychological or personal level reality and vice versa. Moreover, any such analysis must be capable of illuminating the nature of cultural differences without assuming homogeneity in each of the cultures that are compared. In other words, it must be sensitive to both systematic cross-cultural variation and within-culture variation among individuals.[1] Here the notion of cultural task is proposed to address these theoretical concerns.

Our proposal is illustrated in Figure 1. There are three key components in the cultural task analysis: cultural mandates, cultural tasks, and psychological tendencies. By cultural mandates, we mean the ideals or general goal states that are strongly sanctioned and encouraged by a given cultural group. These mandates are typically embodied in the culture's philosophical traditions. Moreover, they are inscribed into the culture's daily practices and public meanings. The cultural mandates are quite abstract and, as such, by themselves they do not offer specific routines or procedures that enable people to achieve the mandates. By cultural tasks, we mean such culturally scripted procedures or means by which to achieve the culture's mandate. Cultural tasks are defined at the level of abstraction that is high enough to offer a comprehensive meaning for the action at issue in a particular social context and, yet, that is low enough to enable people to behave effectively in the context (Vallacher & Wegner, 1987). In other words, cultural tasks are defined at the "basic" level of action identification.

The cultural mandate of independence can be achieved by performing various tasks such as "expressing one's unique self (Kim & Markus, 1999)," "personal goal

pursuit and self-promotion (Oishi & Diener, 2001)," and "maintaining high self-esteem (Crocker & Park, 2004)." Conversely, the cultural mandate of interdependence can be achieved by engaging in various tasks such as "being similar to others (Ohashi & Yamaguchi, 2004)," "self-effacement, self-criticism, and fitting-in (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997)", and "receiving respect and honor from others (Kitayama & Imada, in press-a)." Recent priming studies have used priming manipulations that mimics these "cultural tasks" and shown that they in fact are causally linked to independence and interdependence, respectively (Oyserman & Lee, 2007, 2008 for a review and meta-analysis). There is reason to believe that these links are quite common across cultures.[2]

The last of the three key components of the cultural task analysis is the notion of psychological tendencies. By psychological tendencies we mean each individual's mode of thinking, feeling, and acting. The psychological tendencies are grounded in biological potential and, yet, they are profoundly influenced by experience. Specifically, individuals in all cultures are likely to strive to be a "good" person by achieving the mandates of their own culture such as independence and interdependence (Heine, Lehman, Markus, & Kitayama, 1999). The cultural task analysis proposes that each individual seeks to achieve his or her culture's mandate by actively and repeatedly engaging in one or more of the cultural tasks that are made available in the cultural context. The engagement with culture starts very early on in socialization and continues throughout life (Cole, 1996; Greenfield, et al., 2003; Greenfield, Maynard, & Childs, 2003; Keller, 2006; Lave & Wenger, 1991; Maynard & Greenfield, 2003; Rogoff, 2003; Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000; Valsiner, 1989). The selected cultural tasks are carried out first with substantial effort; when repeated a number of times, however, the willful engagement in the cultural tasks will cause enduring changes in pertinent psychological processes and their underlying brain pathways (Schwartz & Begley, 2003). For most adults of any given cultural group, then, the resulting psychological tendencies will

become habitual (Wood & Neal, 2006) and automatic (Bargh & Ferguson, 2000). We thus call these tendencies "implicit" and distinguish them from "explicit" beliefs about the self as independent or interdependent.

Roughly speaking, by "implicit" tendencies, we mean how people habitually think, feel, and act. These tendencies therefore correspond closely to what Wood and Neal (2006) recently called habits. By "explicit" beliefs, in contrast, we mean what people believe themselves to be. The habitual mode of psychological operation is often tested by examining biases in responses to an explicit psychological instrument. These biases are called "implicit" here, not because the instrument is implicit (it is not), but because the biases result from one's habits rather than from one's explicit beliefs or goals (see De Houwer & Moors, 2007, for more nuanced differences among various tendencies that are referred to as "implicit"). These habitual or implicit tendencies may or may not be aligned closely with explicit personal beliefs about the self as independent or interdependent (Kitayama, 2002; Kitayama & Markus, 1999).

We propose that various tasks linked to the mandate of independence such as self-uniqueness, personal goal pursuit and self-promotion, and maintenance of high self-esteem often require individuals to distinguish themselves from the social surroundings, focus attention on objects that are relevant to their personal goals, and make decontextualized decisions and judgments. In support of this proposal, the last two decades of cultural psychological research has suggested a number of psychological tendencies that are linked to independence. They include focused attention (Masuda & Nisbett, 2001), a tendency to experience disengaging rather than engaging emotions (Kitayama, Mesquita, & Karasawa, 2006), a tendency to experience personal happiness (Kitayama et al., 2006), an expanded symbolic self (Duffy, Uchida & Kitayama, 2006), and a tendency to draw dispositional attributions (Morris & Peng, 1994).

In contrast, various tasks linked to the mandate of interdependence such as "to be similar to others and be ordinary," "self-criticism and fitting-in," and "respect and honor"

are expected to encourage a contrasting set of psychological tendencies that tend to embed the self in the social setting, allocate one's attention broadly to the social surrounding, and make decisions and judgments that are context-dependent and situation-sensitive. The psychological tendencies linked with interdependence include attention (Masuda & Nisbett, 2001), a tendency to experience engaging emotions and social or interpersonal happiness (Kitayama et al., 2006), a more balanced symbolic self (Duffy et al., 2006), and a tendency to draw less dispositional attributions with a greater emphasis on situational constraints (Morris & Peng, 1994).

The critical causal role of the cultural mandates such as independence and interdependence in fostering the respective set of psychological tendencies has been strongly suggested by a number of priming studies. Several different ways of priming independence or interdependence have been shown to increase many of the tendencies identified in the cross-cultural studies (Oyserman & Lee, 2007, for a review). For example, when reminded of one's uniqueness, individuals tend to be more focused in attention (Kühnen, Hannover, & Schubert, 2001; Kühnen & Oyserman, 2002). Conversely, when reminded of one's similarity to others, an opposite tendency toward holistic attention accrues.

One important shortcoming of the current priming literature stems from the fact that in any given study only one priming manipulation is used with respect to only one dependent measure. Thus, one cannot be certain about the extent to which the different ways to be independent or interdependent (i.e., cultural tasks) are in fact differentially linked to the pertinent psychological tendencies associated with independence and interdependence. Nevertheless, it is quite likely that exactly which psychological tendencies are fostered depends on the specific nature of the tasks one engages in. The cultural task analysis therefore assumes that any given cultural task of independence or interdependence is strongly linked only to a small subset of psychological tendencies that are generally associated with the respective cultural mandates of independence and

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interdependence. For example, trying to be unique (an independent task) may increase attention focus (an independent psychological tendency), but doing so, by and in itself, may not necessarily increase dispositional attribution. Likewise, trying to be similar to others (an interdependent task) may increase holistic attention (an interdependent psychological tendency), but doing so may not necessarily increase situational attribution. By making this assumption, the cultural task analysis seeks to explain why individuals in any given group are often markedly different from one another and, yet, they appear simultaneously similar in terms of global markers of culture inscribed into their ways of thinking, feeling, and acting. To use a music metaphor, cultural mandates define "themes", with cultural tasks adding to them a number of "variations."

Once psychological tendencies have become automatic and habitual, they become important elements of the cultural tasks, which in turn are embedded in a larger cultural network of practices and public meanings. Furthermore, a number of socio-cultural processes are always in operation to create new tasks, change or sometimes even dump old ones. For example, the cultural task of self-esteem maintenance is arguably old and well-rooted in American culture (James, 1890), which in turn can be traced back to some Western European sources including Protestantism (Crocker & Park, 2004), but it has attained a new emphasis and significance through the self-esteem movement of the 1970's and 1980's (see e.g., Neuman, 1992, for the movement and a subsequent backlash on it). These socio-cultural processes that link individual agencies back to the maintenance and change of the collective level reality are also in the purview of the cultural task analysis. Yet, our emphasis in the present work is on the influence of cultural mandates on a variety of psychological tendencies associated with them.

Psychological Tendencies Associated with Independence and Interdependence

Cognitive tendencies of independence or interdependence. Whereas virtually all independent cultural tasks (e.g., self-initiatives, personal goal pursuit, being unique) are based on an assumption that individuals act on the basis of their own attitudes and

preferences, virtually all interdependent cultural tasks (e.g., conformity and obedience, social harmony, being similar) are based on a belief that people act in reference to norms and expectations. These contrasting beliefs are likely to bias social inferences. People chronically engaging in independent tasks should be more likely than those chronically engaging in interdependent tasks to infer that another person's behavior is caused internally by the person's dispositional characteristics such as attitudes and preferences, while ignoring potentially important external or situational determinants of the behavior. Cross-cultural evidence for this prediction is strong. Numerous studies have shown that the dispositional bias in social explanation is more pronounced among North Americans than among Asians (e.g., Kitayama, Ishii et al., 2006; Miller, 1984; Morris & Peng, 1994; see also Choi, Nisbett, & Norenzayan, 1999, for a review).[3]

Engagement in different cultural tasks may also result in attention differences. Independent tasks often require pursuit of personal goals in lieu of other, contextual considerations and, as a consequence, people engaging in these tasks may develop a habit of focusing their attention to goal-relevant objects while ignoring other contextual cues. In contrast, interdependent tasks often require broad attention to the social surrounding, resulting in more holistic attention tendencies.

Evidence is consistent with this reasoning, showing that such attention differences exist between members of North American cultures (where independence is highlighted) and Asian cultures (where interdependence is highlighted). Masuda and Nisbett (2001) found that when asked to describe what is happening in a video vignette of underwater scene, North Americans begin their story by pointing to focal (i.e., large and centrally located) fish and describing features of the fish. Only later do they mention features in the background. In contrast, Japanese are more likely to begin their story by referring to the background, describing the entire scene first and then moving on to mention the fish that are moving therein. The researchers also used a recognition memory task to show that whereas Americans tend to encode the focal fish separate from its background, Asians

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tend to encode the fish and its background as inherently connected. Conceptually equivalent findings have subsequently been obtained with diverse measures including behavioral performance (Kitayama, Duffy, Kawamura, & Larsen, 2003; Masuda & Nisbett, 2001), eye movement (Chua, Boland, & Nisbett, 2005), and neurological measures such as electroencephalography (Lewis, Goto, Kong, & Lewenberg, 2008) and functional magnetic resonance imaging (Hedden, Ketay, Aron, Markus, & Gabrieli, 2008).

Emotional tendencies of independence and interdependence. Kitayama and colleagues have proposed that some emotions are related to success or failure of independence whereas some others are more pertinent to success or failure of interdependence (e.g., Kitayama & Park, 2007). Emotions such as pride in self and feelings of self-confidence result from success in achieving one's independence, but emotions such as anger and frustration stem from an external interference with the goal of achieving independence. The researchers refer to these emotions as socially disengaging. In contrast, emotions such as feelings of connectedness and communal feelings result from a success in maintaining harmonious interdependence, whereas emotions such as guilt and shame stem from a failure to do so and subsequent effort to restore a much-valued state of interdependence. These emotions are called socially engaging. One straightforward prediction would be that those chronically engaging in independent tasks should experience disengaging emotions (e.g., pride and anger) more and those chronically engaging in interdependent tasks should experience engaging emotions (e.g., friendly feelings and shame) more. This in fact is the case in recent studies that compared Americans and Japanese (Kitayama, Mesquita, & Karasawa, 2006).

Motivational tendencies of independence and interdependence. People who chronically and repeatedly engage in cultural tasks of independence or interdependence may be expected to acquire motivations toward the respective forms of the self. One relevant goal involves uniqueness or similarity of the self to others. As may be expected,

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Kim and Markus (1999) have shown that Americans are much more likely than Asians and Asian Americans to prefer unique as opposed to conventional figures. Another relevant goal is to maintain self-esteem or social approval. Kitayama and colleagues have conducted a series of studies suggesting that both self-justification and intrinsic motivation are mediated by one's desire to promote self-esteem in North America but by one's desire to maintain social approval in Asia (see Kitayama & Imada, in press-a, for a review).

The motivations toward either independence or interdependence have emotional consequences. Kitayama and Park (2007) pointed out that if one's chronic goal is that of independence, the person's happiness and well-being should be enhanced especially when some form of independence is achieved, whereas if his or her chronic goal is that of interdependence, his or her happiness and well-being should be enhanced especially when some form of interdependence is achieved. Using a diary method, Kitayama and colleagues (2006) found that Americans were more likely than Japanese to report happiness when they felt positive emotions associated with personal achievement and accomplishment (e.g., pride and feelings of self-esteem). Conversely, Japanese were more likely than Americans to report happiness when they felt positive emotions associated with harmonious social relations (e.g., friendly feelings and feelings of connection with others).

Another potential consequence of the drive toward independence or interdependence has been investigated by Duffy et al. (2008). They argued that if individuals are motivated toward independence of the self, they symbolically inflate the representations of their personal self relative to those of others related to the self. To test this idea, Duffy and colleagues asked participants to draw a sociogram wherein circles are used to designate the self and others in their social network. Consistent with their analysis, the researchers found that North Americans consistently draw a larger circle for

the self than for their friends. As may be expected, this effect of symbolic self-inflation is much less and often non-existent among Japanese.

<u>The Present Study</u>

The growing body of evidence reviewed above shows that various aspects of implicit independence differentiate between North Americans and East Asians. As compared to East Asians, North Americans are more likely to show dispositional bias in attribution, to be focused (vs. holistic) in attention, to experience disengaging (vs. engaging) emotions, to experience personal (vs. social) happiness, and to exhibit an inflated symbolic self.

So far, however, little is known on where Western Europeans are located on the continuum of implicit independence and interdependence. While North America owes substantial cultural heritage to Western Europe, American culture is distinct from European cultures in one key respect. Only American culture has undergone a history of settlement in a new continent and its western frontiers. Voluntary settlement is a highly independent undertaking, requiring a number of independent tasks such as self-preservation and self-promotion (as opposed to altruistic helping and fitting in of the self to social expectations), personal initiative and success (as opposed to social conformity and social acceptance), and creativity and risk-taking (as opposed to anxiety over security and satisfaction in status quo). On the basis of these considerations, we may predict that North Americans should show more independent implicit psychological tendencies than Western Europeans.[4]

We are cognizant of a notorious difficulty involved if we are to conclude that observed differences across cultures are due to a specific historical fact such as voluntary settlement. However, such reasoning can be made more plausible with triangulation (Kitayama, Ishii et al., 2006; Medin, Unsworth, & Hirschfeld, 2007). It will be important to use two different European groups and compare them with an American group. If we can find that the American group is more independent than the two European groups and,

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further, if we can find that the two European groups are no different, any factors that are not shared between the two European groups will be less plausible candidates for explaining the difference between Americans and Europeans. Thus, the more dissimilar the two European countries are, the stronger a conclusion we will be able to reach.

To this end, we chose the United Kingdom and Germany. While seen as typical of Western European nations, these two countries are quite distinct in terms of 1) ethnicity, 2) language, 3) prevalence rates of specific denominations of Christianity, 4) geography and traditional forms of subsistence, and 5) institutional influences on the formation of the U.S. and the American culture.

Finally, to enhance this design, we added Japanese from the mainland Japan as a control. We expected all the Western groups – including the two Western European groups – to be more independent or less interdependent than Japanese.

<div align="center">Method</div>

<u>Participants</u>

We recruited 113 undergraduates from the University of Michigan, 166 undergraduates from the University of Hamburg, Germany[5], and 126 undergraduates from the University of Essex, the United Kingdom[6]. After excluding a small number of ethnic minorities, our final sample consisted of 94 European Americans (32 men and 62 women, M age = 18.69), 125 Caucasian Germans (39 men, 84 women, and 2 unidentified, M age = 26.84), and 95 Caucasian British (12 men, 79 women, and 4 unidentified, M age = 20.53). In addition, 122 Japanese undergraduates were recruited. Among them, 90 were from Kyoto University (67 men, 25 women, and 8 unidentified, M age = 21.24) and the remaining 32 were from Tokyo Woman's Christian University (all women, M age = 20.07). All participants completed the study for partial fulfillment of a course requirement. German participants were older on average than the rest. Preliminary analyses using age as a covariate showed no effect of age.

<u>Experimental Tasks</u>

Five psychological tendencies known to be associated with independence and interdependence were tested: 1. the degree of dispositional bias in social explanation, 2. focused vs. holistic attention, 3. salience of disengaging vs. engaging emotions, 4. personal vs. social correlates of happiness, and 5. symbolic self-inflation. These psychological tendencies are in large part habitual, non-self-reflective, automatic, and thus "implicit" because they have been internalized through repeated engagement in independent (as opposed to interdependent) tasks.

All the materials were originally developed in English. Two Japanese-English bilinguals and two German-English bilinguals translated and back-translated the materials, respectively, in order to ensure that the English, Japanese, and German versions were comparable and equivalent in meaning.

Dispositional bias in attribution. We used a measure of dispositional bias in social judgment (Kitayama, Ishii et al., 2006). Participants were presented with four vignettes. In two of the vignettes the protagonist engaged in a socially desirable behavior (e.g., a baseball player holding free baseball camps during his vacation), and in the remaining two the protagonist engaged in a socially undesirable behavior (e.g., a surgeon covering up a major medical mistake). After reading each vignette, participants indicated the extent to which they agreed with each of four statements: 1) features of the protagonist such as his/her character, attitude, or temperament influenced his/her behavior (dispositional attribution judgment), 2) features of the environment that surround the protagonist such as the atmosphere, social norms, or other contextual factors influenced his/her behavior (situational attribution judgment), 3) the protagonist would have acted differently if his/her dispositional features had been different (counterfactual dispositional judgment), and 4) the protagonist would have acted differently if features of his or her environment had been different (counterfactual situational judgment). Seven-points rating scales were used (7 = strongly agree and 1 = strongly disagree). In each country we first collapsed the four stories and performed a factor analysis on the resulting

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mean scores for the four question items. After a varimax rotation, we found two factors in all cultures, with one represented by the two dispositional items (the statements 1 and 3) and the other one represented by the two situational items (the statements 2 and 4). Thus, we obtained means for the two sets of items. An independent tendency is indicated by a greater weight given to disposition relative to situation.

Focused vs. holistic attention. We employed the Framed Line Task (FLT) (Kitayama et al., 2003). On the first page of an FLT booklet, participants were presented with a square with a line drawn in it. Participants looked at the framed line for five seconds and then moved to the next page, on which an empty square frame that was larger, smaller, or of the same as the first frame was shown. They drew a line that was the same as the first one in terms of either the absolute length (the absolute task) or the proportion of the line relative to the height of the respective squares (the relative task). The absolute task requires attention focused on the target line, whereas the relative task requires attention allocated broadly to both the target line and the surrounding square. They repeated the same task 9 times with different configurations of framed lines. The first 3 trials were practice, and the remaining 6 were the critical trials. The order of the two tasks was counterbalanced. Average error size (in mm) from the critical trials was analyzed. Errors were moderately correlated within each task. However, the alphas were no greater than .6 in all cases. Interpretation of the results from this task, therefore requires caution.

Propensity to experience disengaging vs. engaging emotions. We used an Implicit Social Orientation Questionnaire (ISOQ, Kitayama & Park, 2007) to assess the extent to which socially disengaging emotions such as pride and anger (which are contingent on achieving independent, personal goals, or failing to achieve them) are experienced relative to their socially engaging counterparts such as friendly feelings and guilt (which are contingent on achieving interdependent, communal goals, or failing to achieve them).

Participants were given 10 mundane social situations. Some of the situations involved social relations (e.g., "having a positive interaction with friends"), some were related to study and work (e.g., "being overloaded with work"), and some others concerned daily hassles and bodily conditions of the self (e.g., "being caught in a traffic jam"). Participants were asked to remember the latest occasion when each of the 10 situations happened to them. Then they were presented with a list of emotions and asked to report the extent to which they experienced those emotions in each situation. The emotions were either: 1) socially disengaging and positive (pride in self and feelings of superiority), 2) socially disengaging and negative (frustration and anger), 3) socially engaging and positive (feelings of connection with others and friendly feelings), or 4) socially engaging and negative (shame and guilt). Several additional emotion terms were used to measure well-being or general positive emotion (elated, happy, and calm) and negative well-being or general negative emotion (unhappy). Six-point scales were used (1= not at all and 6 = very strongly).

To ensure that the meanings of the engaging and disengaging emotion terms are equivalent across cultures, we first obtained a mean intensity rating for each term across all the 10 situations for each participant. We then computed correlations among the 8 positive or negative terms that are either engaging or disengaging. The resulting correlation matrix was subjected to a multidimensional scaling analysis. Replicating an earlier analysis by Kitayama, Markus, and Kurokawa (2001), this analysis showed two consistent dimensions in all the four countries. The first dimension was valence differentiating positive versus negative emotions and the second was social orientation differentiating engaging versus disengaging emotions. Because the results were no different across the four cultural groups, it is safe to assume that the meanings of the emotion terms were sufficiently equivalent.

Our focus was on the extent to which disengaging (vis-à-vis engaging) emotions were experienced in situations that were matched in valence to the emotions (Kitayama et

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al., 2006). For each participant, we first determined the perceived valence of each of the 10 situations. For each situation, the rating of the general negative emotion (unhappy) was subtracted from the average rating of the three general positive emotions (elated, happy, and calm). If the situation was positive (i.e., if the difference was positive), the average rating of disengaging positive emotions (e.g., pride in self) and the average rating of engaging positive emotions (e.g., friendly feelings) were obtained; conversely, if the situation was negative (i.e., if the difference was negative), the corresponding average ratings were obtained for the disengaging negative emotions (e.g., anger) and the engaging negative emotions (e.g., shame). We then averaged the index across the 10 situations to yield an aggregate measure of the propensity to experience disengaging emotions and another aggregate measure of the propensity to experience engaging emotions. Reliabilities were high for both types of emotions, with alphas ≥ .64 in all the four samples.

Personal vs. social correlates of happiness. We used the ISOQ for another purpose, namely to assess emotional consequences of motivation toward independence vs. interdependence. For each participant we assessed whether happiness was correlated more strongly with engaging positive emotions or with disengaging positive emotions. Separately for each participant, we first obtained the mean ratings for general positive emotion, disengaging positive emotion, and engaging positive emotion in each of the 10 situations. Reliability of each of the three emotion types was obtained within each participant across the 10 situations. The average reliabilities across all participants in each of the four countries were high, with average alphas > .75. Engaging positive emotion and disengaging positive emotion were correlated, but still distinct (.45 < rs < .65). Next for each participant we regressed the average rating for general positive emotions on both the average rating of disengaging positive emotions and the average rating for engaging positive emotions across the 10 situations. The size of the resulting

unstandardized regression coefficients for disengaging emotions (or engaging emotions) is a measure of independence (or interdependence).

Symbolic self-inflation. Participants drew their social network. They were asked to use circles to designate the self and friends, and lines to display the relationships among them (Duffy et al., 2008). They were given 5 minutes to complete the task. We first measured the horizontal diameter of all the circles. The relative size of the self circle in comparison to the average size of the circles for the friends is our measure of symbolic self-inflation. Greater symbolic self-inflation is a measure of independence (as opposed to interdependence).

Singelis scale of independent and interdependent self-construal. In addition to the five measures of implicit psychological tendencies discussed above, we included the Singelis (1994) self-construal scale, which is one of the most commonly used belief-based measures of independence and interdependence. Unlike the measures discussed above, the scale measures explicit beliefs of the self as independent or interdependent. These self-beliefs on independence and interdependence are known to be largely orthogonal. The scale is composed of 24 items. Half of the items assessed self-beliefs about independence (e.g., "I am comfortable with being singled out for praise or rewards") and the other half assessed self-beliefs about interdependence (e.g., "It is important for me to maintain harmony within my group"). Participants reported their agreements on 5-point scales (1 = strongly disagree, 5 = strongly agree). Reliabilities were adequate for both independence and interdependence, with alphas > .56 in all the four countries.

Procedure

In all locations, participants were tested in small groups of up to 6 people. They were tested in their respective native language. Upon arrival at the lab, participants were told that the study was about social relationship and cognitive style, and then each of them was given a booklet for the FLT. Following the FLT, they were given another

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booklet containing the remaining tasks. They performed the sociogram task first, for which they were given 5 minutes to complete. They completed the rest of the tasks at their own pace. The attribution task, the ISOQ, and the Singelis self-construal scale were given in this order in Germany, the U.K., and the U.S. Because of time constraint, the ISOQ was omitted in Japan. Upon completion of the study, they were fully debriefed about the goal of the study and thanked for their participation.

Although the ISOQ was not included in Japan, Kitayama, Mesquita, and Karasawa (2006; Study 2) administered an expanded version of the current ISOQ to 55 college students in Kyoto University (20 males and 35 females). Because the current ISOQ was a subset of the ISOQ used by Kitayama and colleagues (2006), we could obtain pertinent measures by using the relevant subset of the data from this study.

Results and Discussion

We expected that the three Western groups (Americans, British, and Germans) would be more independent (or less interdependent) than Japanese in all measures of implicit independence and interdependence. Of greater relevance to the present study, we expected that Americans would be generally more independent (or less interdependent) than both Germans and British. We had no a priori reason to expect any differences between the two European groups. In all analyses, gender was included as an additional factor to explore possible gender differences. No gender effects proved statistically significant in all analyses. Although women are often shown to be more interdependent or less independent than men, this demonstration is often based on self-belief measures of independence and interdependence (Cross & Madson, 1997). It appears that in the measures of implicit independence and interdependence, culture plays a much more potent role than gender.

Implicit Psychological Tendencies of Independence and Interdependence

Dispositional bias in attribution. The mean dispositional and situational scores are summarized in Figure 2. A 4 x 2 x 2 ANOVA with country and gender as between-subjects factors and causal locus as a within-subjects factor showed a significant main effect of causal locus, $F(1, 414) = 320.52$, $p < .001$. As predicted, however, this effect was qualified by country, $F(3, 414) = 13.13$, $p < .001$. In all groups, the dispositional score was higher than the situational score. Yet, this difference was quite pronounced in the three Western groups, $t(93) = 11.35$, $t(90) = 13.12$, $t(122) = 12.73$, ps $< .001$, for Americans, British, and Germans, respectively. There was no difference among the three Western groups, ts ≤ 1.14. The same tendency was weaker in Japan than each of the three Western groups, $t(206) = 4.93$, $t(203) = 5.56$, $t(235) = 4.80$, ps $< .001$, for comparisons with Americans, British, and Germans, respectively, although the dispositional bias was still significant in Japan, $t(113) = 4.80$, $p < .001$.

We replicated the previously observed cross-cultural variation in dispositional bias, with Americans showing a stronger bias than Japanese. In this measure, the two European groups were no different from Americans.

Focused vs. holistic attention. The average errors for each of the two FLT tasks (i.e., absolute vs. relative) were submitted to a 4 x 2 x 2 ANOVA with country and gender as between-subjects factors and task type as a within-subjects factor. Overall, the error was greater in the absolute task than in the relative task, $F(1, 410) = 92.44$, $p < .001$. Yet, this effect was qualified by a significant interaction between task type and country, $F(3, 410) = 10.62$, $p < .001$. As shown in Figure 3, the greater accuracy in the relative (vs. absolute) task was most pronounced in Japan, least so in the U.S., with the two European groups falling in-between. A contrast representing the task type x country interaction was computed for all country pairs. The Japanese pattern was significantly or marginally significantly different from each of the three Western patterns ($p = .001$, $p = .07$, and $p < .001$ when compared with Germany, the U.K., and the U.S., respectively). The U.S. pattern was also significantly different from the pattern of each of the remaining three

countries ($p = .005$, $p < .025$, and $p < .001$ when compared with the U.K., Germany, and Japan, respectively). Finally, there was no difference between the two European countries ($F = 1.17$, *n.s.*).

With the FLT, we found that Americans are relatively more focused or less holistic in attention than Japanese. This is in line with the earlier cross-cultural difference in attention between Japanese and Americans (Kitayama et al., 2003; Masuda & Nisbett, 2001). Of note, Americans were less holistic in attention than Europeans. We found no difference between British and Germans.

<u>Propensity to experience disengaging vs. engaging emotions</u>. The mean reported intensities of experiencing disengaging and engaging emotions are summarized in Table 1. These scores were submitted to a 4 x 2 x 2 ANOVA with country and gender as between-subjects factors and emotion type as a within-subjects factor. Main effects of both emotion type and country were significant, $F (1, 355) = 9.80$, $p < .005$ and $F (3, 355) = 28.95$, $p < .001$, respectively. Further, as predicted, the interaction between emotion type and country also proved significant, $F (3, 355) = 24.15$, $p < .001$.

To determine the relative intensity of experiencing disengaging vs. engaging emotions, we subtracted the mean intensity score for engaging emotions from the corresponding score for disengaging emotions. These difference scores are shown in Figure 4. An ANOVA performed on these means show a significant main effect of country, $F (3, 355) = 16.54$, $p < .001$. The Japanese mean was significantly smaller than each of the two European means, which in turn were significantly smaller than the American mean (all ps $\leq .01$). The two European means were no different from one another, $t (212) = .82$, *n.s.* The Japanese mean was significantly negative ($M = -.47$), $t (54) = 5.05$, $p < .001$, meaning that Japanese reportedly experienced engaging emotions more than disengaging emotions. In contrast, all three Western means were positive (Ms $= .16, .23,$ and $.53$), $t (122) = 2.54$, $t (90) = 3.32$, and $t (93) = 7.64$ for Germans, British, and Americans, ps $\leq .01$. Thus, Western participants reportedly experienced disengaging

emotions more than engaging emotions, although this tendency was significantly stronger for Americans than for Europeans.

Personal vs. social correlates of happiness. We expected that people motivated toward independence should feel happy when they achieve independent goals. Conversely, people motivated toward interdependence should feel happy when they achieve interdependent goals. For each participant we regressed the average intensity for general positive emotions on both the average intensity for disengaging positive emotions and the average intensity for engaging positive emotions over the 10 situations. The mean unstandardized regression coefficients (Bs) for disengaging positive emotion and engaging positive emotion were submitted to a 4 x 2 x 2 ANOVA with country and gender as between-subjects factors and emotion type as a within-subjects factor.

As predicted, an emotion type x country interaction was significant, $F(3, 350) = 4.43$, $p = .005$. Gender showed no significant effects. Table 2 displays mean Bs. To determine the relative size of the two Bs, we subtracted the B for engaging emotions from the B for disengaging emotions and analyzed this difference score. As shown in Figure 5, the Japanese mean was negative ($M = -.38$), $t(49) = 2.70$, $p = .01$, indicating that their happiness depended more on social engagement than on social disengagement. The mean difference score was still marginally negative for Germans ($M = -.15$), $t(122) = 1.79$, $p = .08$, but became no different from zero for British ($M = .00$), $t(90) < 1$, $n.s.$ It was significantly positive for Americans ($M = .16$), $t(93) = 2.30$, $p < .025$, meaning that their happiness depended more on social disengagement than on social engagement. Simple effect analysis suggested that the Japanese mean was different from the U.K. mean, t $(139) = 2.53$, p = .01 and the U.S. mean, t $(142) = 3.84$, p < .001, but not from the German mean, t $(171) = 1.49$, p > .10. The American mean was different from the German mean, t $(215) = 2.75$, p < .01, and the Japanese mean, t $(142) = 3.84$, p < .001, but not from the U.K. mean, t $(183) = 1.51$, p > .10. As expected, the two European means were no different from one another, t $(212) = 1.26$, p > .20.

Because the ISOQ was originally developed in the U.S. and Japan, its measures may contain a greater amount of noise when used outside of these two countries. Should this be the case, the means would be expected to be more moderate for the two Western European countries, relative to those of either the U.S. or Japan. To examine this explanation, we computed the amount of variance explained in the foregoing regressions. The R^2 was obtained for each participant and averaged in each of the countries. The average R^2 was largest in the U.K. (.78), followed by the U.S. (.73) and Germany (.64), with Japan showing the smallest value (.63). Unlike what might have been expected, R^2 was not higher in the U.S. and Japan where the instrument had been originally developed and validated. As a further step, we computed correlations between the size of the regression coefficient for the disengaging emotions relative to the size of the coefficient for the engaging emotions and the R^2. The correlations were negligible in all the four countries. Thus the cross-cultural variation in the reliability of the measures used here appears to have little to do with the cross-cultural pattern in the correlates of happiness.

Symbolic self-inflation. The width of the circles designated one's friends was averaged for each participant and then subtracted from the width of the self-circle so that higher numbers represent a greater symbolic self-inflation. A 4 x 2 ANOVA with country and gender as between-subjects factors showed a significant main effect of country, F (3, 400) = 14.87, $p < .001$.[7] Relevant means are displayed in Figure 6. The Japanese mean was no different from 0 ($M = -.44$), t (104) = .76, n.s. In contrast, the German ($M = 4.45$), the British ($M = 3.00$), and the American means ($M = 6.22$) were all significantly greater than 0, t (119) = 6.01, t (89) = 3.84, and t (92) = 6.53, ps $< .001$. The American mean was significantly greater than the British mean, t (181) = 2.60, $p = .01$. The German mean fell between the two, with no significant difference from either of the two countries, t (208) = 1.33 and t (211) = 1.49 for comparisons with the U.K. and the U.S., respectively.[8] When Germany and the U.K. were grouped together and compared against the U.S., the difference was significant, t (301) = 2.32, $p < .025$. We replicated an earlier finding on a

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U.S.-Japan difference (Duffy et al., 2008). Moreover, we found that the symbolic self tends to be smaller in the two European countries than in the U.S.

The Findings So Far: Implicit Psychological Tendencies of Independence and Interdependence

The findings so far are summarized in Table 3. Effect sizes (Cohen's *d*) are also reported for all pertinent comparisons on each measure. The overarching pattern is clear. Americans are most independent (or least interdependent) and Japanese are most interdependent (or least independent). The effect size here is moderate to large (.67 ≤ *d*s ≤ 1.47). Europeans tended to fall in-between. In no case were the two European groups significantly different from one another. In fact, the average effect size here was virtually zero (= .02). Western Europeans tended to be different from both Americans and Japanese in all measures except for dispositional bias, which was equally strong in the three Western groups (*d*s ≤ .16). All predicted differences reached statistical significance, except in two isolated cases, in which the difference between one of the Western European groups and the U.S. failed to reach statistical significance (U.K. in the measure of personal vs. social happiness, Germany in the measure of symbolic self-inflation). Finally, in all measures, the three western groups were significantly more independent or less interdependent than Japanese, as expected.

Explicit Self-Belief Measure of Independence and Interdependence

The mean independence and interdependence scores from the Singelis scale are reported in Table 4. A 4 x 2 x 2 ANOVA with country and gender as between-subjects factors and scale type as a within-subjects factor showed a significant interaction between scale type and country, $F (3, 414) = 14.71, p < .001$. In contrast to the highly systematic pattern observed for the measures of implicit psychological tendencies, the pattern of the explicit measure was anomalous at best. The independence subscale shows that Germans are the most independent, and British were the least so. The interdependence subscale also shows an equally puzzling pattern, with Americans coming out as the most

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interdependent and Japanese as the least so. Although the two subscales are only loosely correlated, especially in many instances in daily life that require individuals to choose between independent and interdependent courses of action, it may be the relative strength of the two tendencies more than anything else that matters. We therefore subtracted the interdependence score from the independence score to see the relative degree of independence. Germans proved to be most independent of the four groups (.57), followed by Japanese (.30). Curiously Americans (-.01) and British (.00) were virtually no different and least independent. The contrasts comparing Germans to Japanese, Japanese to Americans, and Japanese to British showed statistical significance (ps < .005).

Correlations among the Measures

The correlations among all the pertinent measures were computed within each country. They are summarized in Tables 5-A, B, C, and D for Americans, British, Germans, and Japanese, respectively. In this analysis, the two subscale scores from the Singelis scale were first employed and then the difference score was examined. The pattern was no different.[9] In these tables, the results for the difference score are reported. Note also that the measures derived from the ISOQ are missing from the current Japanese dataset.

What is the most remarkable here is the absence of any systematic patterns of correlations. There were sporadic correlations that were statistically significant; but they were never replicated in other countries. Twenty seven out of 51 correlations were positive and 24, negative. In fact, the overall mean correlation across all the four countries was .01. Overall, then, this resonates with other recent studies showing similar lack of within-culture correlations among measures of independence/interdependence and its cognitive counterpart of analytic vs. holistic mode of thought (Lan, Park, & Kitayama, 2009; Na, Varnum, Grossmann, Kitayama, & Nisbett, 2009; see also Kashima, in press; Shweder, 1973 for similar observations). Of importance, Lan and colleagues (2009) administered the same set of tasks as the ones used in the present study to a group of

41Chinese students twice with an interval of approximately three weeks and found that each of the measures shows a substantial test-retest reliability. Hence, the measures used here are quite reliable in assessing the pertinent psychological tendencies of each participant.[10]

Paradoxically, then, the measures of implicit psychological tendencies do not cohere together within each culture despite the fact that each of them is reliability capturing what it is designed to capture and, moreover, that they do cohere highly systematically across cultures. In epidemiology and related areas, this paradox has long been acknowledged as the Simpson's paradox (Tu, Gunnell, & Gilthorpe, 2008). More generally, when multiple levels are involved in statistical analysis, there is no reason to believe that an association between two variables at one level (e.g., at the cross-cultural or collective level) is to be replicated at another level (e.g., at the within-cultural or individual-level) (see Vijver, Hermert, & Poortinga, 2008 for discussions on multilevel analysis of individuals and cultures). However, merely naming it does not do much by way of resolving the paradox. We will return to these null correlations in General Discussion.

General Discussion

Western Civilization and Voluntary Settlement

Are Western Europeans and North Americans similar or different in implicit psychological features that constitute independence and interdependence? Here we reported the first systematic investigation into this question. We found that North Americans are systematically more independent than Germans and British in all the implicit psychological tendencies tested except for dispositional bias in attribution: North Americans were more likely than Western Europeans to focus attention to an object, experience disengaging rather than engaging emotions, associate happiness with personal

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achievement rather than social harmony, and show a greater self-inflation. Future work should test different populations sampled from different locations in each country to establish the generality of the present findings.

Interpretation of the U.S.-Western Europe difference observed here is enhanced by the fact that in no cases were the two Western European groups (Germany and the U.K.) different from one another. This substantially reduces the plausibility of the factors that are not shared in the two countries (e.g., ethnicity, language, geography, prevalence rates of specific denominations of Christian Church, and earlier institutional influences on the U.S. among others) as responsible for the U.S.-Western Europe difference. This in turn makes more compelling our contention that the difference is due, at least in part, to one historical fact that is applicable only to Americans, namely, the history of voluntary settlement. This interpretation receives further support from a recent study that examines a Japanese group that went through a recent history of settlement in a frontier in Japan's northern territory (Kitayama, Ishii et al., 2006). This study finds strong implicit tendencies of independence in this group. Future work should examine other voluntary settlers in the world to assess the generality of the hypothesis.

The present work also included mainland Japanese as a control group. It is noteworthy that in all the implicit psychological tendencies, Japanese were more interdependent or less independent than Western Europeans. This extends the existing cultural psychological work and shows that the East-West differences are likely to be observed even when the West is represented by Western Europeans. The two distinct intellectual and cultural traditions of West and East appear to exercise formative influences on implicit psychological tendencies of independence and interdependence. By extension, it is reasonable to suggest that the dominant mentality of the contemporary white European Americans can be traced back to two important factors: Western cultural tradition and voluntary settlement.

Why are European Americans no more dispositional than Western Europeans in attribution? The absence of any difference in this measure is notable because the U.S.-Western Europe difference was consistently observed in all the remaining implicit psychological tendencies. One conjecture is that dispositional bias as measured by the present instrument was caused by cultural knowledge that is available throughout Western civilization and, yet, this knowledge might be relatively detached from mundane and realistic socio-cultural tasks, such as self-promotion, self-initiative, and personal achievement, that make American culture unique relative to its Western European counterpart. One might then expect the predicted difference between the U.S. and Western Europe if dispositional judgments are couched in highly realistic and ego-involving episodes (e.g., adventure, risk taking, entrepreneurship). This possibility must be tested in future work.

What's "Wrong" with the Explicit Self-Beliefs of Independence and Interdependence?

In stark contrast to the highly systematic group differences observed for the measures psychological tendencies of independence and interdependence, the explicit measure of independence and interdependence used here (the Singelis scale) yielded findings that are neither systematic nor readily interpretable. In this measure, Germans were more independent than the two remaining Western groups (Americans and British). It is not clear why. Even more perplexingly, however, Japanese fell between Germans and the remaining two Western groups.

Several researchers have argued that explicit self-belief measures often lack cross-cultural validity (Heine, Lehman, Peng, & Greenholtz, 2002; Kitayama, 2002). The anomaly found here appears congruous with this general point. This said, however, the finding here is curiously consistent with recent reviews of cross-cultural studies that use similar explicit self-belief scales. Oyserman, Coon, and Kemmelmeier (2002) observed that Americans are, in general, more independent and less interdependent than many other cultural groups of the world. Yet, the researchers quickly noted that this

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generalization cannot be taken too far because there are too many exceptions to the generalization. For example, as in the present results, Japan came out as much less collectivistic or less interdependent than many other countries even including the U.S. Even more puzzlingly, some other studies show the "expected" cultural differences at least in some respects (e.g., Noguchi, 2007; Schimmack, Oishi, and Diener , 2005), indicating the cross-cultural differences themselves are somewhat unstable. Further, variations within any single region or even within any given country can be quite substantial, calling into question the replicability of many of the findings. Matsumoto (1999) and Takano and Osaka (1999) have also expressed similar skepticisms on the notions of independence and interdependence. These researchers also relied nearly exclusively on existing evidence regarding explicit self-beliefs on independence and interdependence.

In view of the present evidence, the skepticisms expressed by Matsumoto, Oyserman, Takano and their colleagues are justified. One important caveat, however, is that a contrastingly systematic cultural variation can be found in implicit psychological tendencies and, here, the notions of independence and interdependence are crucially important.

How can we understand the dramatic discrepancy between the measures of implicit psychological tendencies and those of explicit self-beliefs? The cultural task analysis of independence and interdependence might help. As illustrated in Figure 1, we maintain that cultures vary in terms of the repertoire of cultural tasks that have been created and accumulated therein over the course of history (Kitayama, 2002; Kitayama & Markus, 1999). Moreover, these cultural tasks require and thus foster a variety of habitual psychological tendencies. In general, tasks of independence are much more likely than tasks of interdependence to afford habitual psychological tendencies that separate and disengage the self, such as focused attention, dispositional bias, disengaging emotion, personal happiness, and inflated self. For those who repeatedly engage in the pertinent

cultural tasks, the corresponding psychological tendencies will be well rehearsed, become automatized and habitual, and thus implicit.

Notice, however, that explicit beliefs of the self may rarely be involved in either the acquisition or the operation of the implicit psychological tendencies. Developmental evidence strongly suggests that basic implicit personal and interpersonal inclinations toward independence or interdependence are inculcated very early on, even before school age, through various parenting practices (Keller, 2007; Rothbaum et al., 2000). The explicit beliefs of independence and interdependence will be formed only afterward under the influence of a number of haphazard factors. For example, many young people in contemporary Japan may be wedded to a "Western" idea of individualism (Matsumoto, 1999; Oyserman et al., 2002); yet, this explicit belief may be acquired during adolescence or even later, quite independent of their earlier socialization that makes them to think, feel, and act in highly interdependent fashion. This explains why cross-cultural variation in explicit beliefs about the self's independence and interdependence is much less systematic and thus more unpredictable than the corresponding variation in implicit psychological tendencies of independence and interdependence.

When a Coherent Construct Fails to Cohere

Another noteworthy finding comes from correlations among the measures of independence and interdependence. The correlations among the measures of implicit psychological tendencies of independence or interdependence were virtually zero within each culture. According to a central principle of psychometrics (Allen & Yen, 2002), this demonstrates that the concepts of independence and interdependence are not "real." Notice that the explicit self-belief measures of independence and interdependence typically show reasonably high inter-item correlations, that is, they are reasonably reliable. So, paradoxically, the same concepts (i.e., independence and interdependence) appear "coherent" and thus "real" when assessed explicitly in terms of self-beliefs, but not so when assessed implicitly in terms of habitual psychological tendencies. Moreover,

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the same set of implicit psychological tendencies differentiated among the cultural groups in highly systematic fashion. As may be predicted, each of the measures of implicit tendencies was demonstrably reliable (Lan et al., 2009). Thus, equally paradoxically, when assessed in terms of implicit or habitual psychological tendencies, the constructs appear "coherent" and "real" at the cross-cultural, collective level, but they appear not so at the within-culture, individual level. As mentioned earlier, this is a special case of the Simpson's paradox (Tu et al., 2008; Vijver et al., 2008).

How can we resolve the two paradoxes noted here? Again the cultural task analysis might prove useful (see Figure 1). We maintain that in adapting to their own cultural context, people are motivated to be independent or interdependent in accordance with the overarching mandate of the culture. Further, they do so by performing various cultural tasks of the relevant kind. However, it is very unlikely that any single person whole-heartedly takes up and performs all pertinent tasks available in his or her culture. Aside from the fact that there are too many relevant cultural tasks for any single individual to perform (see Shweder, 1973 for additional reasons), the underlying motivation for the person to engage in cultural tasks is to affirm the status of the self as living up to the standard or the mandate of the culture. From this person's point of view, available cultural tasks represent alternative means or procedures to attain his or her culture's mandate of the self as independent or interdependent. The person may therefore become independent or interdependent in his or her own way. This means that specific features that define independence or interdependence should vary from one individual to the next within any given cultural group. For example, Tom, an American, may seek to be independent by being a unique person, but Nancy, another American, may do so by aggressively pursuing her personal goals and ambitions. Likewise, Takeshi, a Japanese, may seek to be interdependent by being an ordinary person, but Naoko, another Japanese, may do so by being self-effacing and fitting-in to her primary groups. As noted earlier, this feature of the cultural task analysis enabled us to simultaneously explain both

cultural "themes" and individual "variations", integrating global similarities and relatively specific differences among members of the cultural group.

Which tasks people choose for the sake of realizing or living up to their culture's mandate is likely to depend on myriad factors including specific styles of early socialization one receives, situational priming one is repeatedly exposed to, and social networks one develops (Cantor, 1994). Furthermore, all these factors are embedded in macro, societal, or collective-level contexts such as social class, ecology, and political and economic conditions among others (e.g., Berry, 1976; Greenfield et al., 2003; Inglehart & Baker, 2000; Kitayama & Markus, 1994, 1999; Oyserman & Lee, 2007; Triandis, 1995; Uskul, Kitayama, & Nisbett, 2008). Thus, clearly much more has to be learned on the specific processes involved in how engagement in cultural tasks of independence or interdependence may actually transform various psychological processes.

Nevertheless, two important implications of the cultural task analysis should be clear. First, various psychological tendencies required by cultural tasks of independence (e.g., focused attention, activation of disengaging emotions, big symbolic self, etc.) will be internalized more by members of Western cultural contexts. Conversely, various psychological tendencies required by cultural tasks of interdependence (e.g., holistic attention, activation of engaging emotions, small symbolic self, etc.) will be internalized more by members of Eastern cultures. Second, exactly which of the relevant psychological tendencies are acquired and internalized by any given member of the respective cultures should depend on his or her idiosyncratic ways in which to realize the pertinent cultural mandates of independence and interdependence. Accordingly, whatever associations there might be among different features of independence or interdependence would be minimal within a given culture even when cultures vary systematically, on aggregate, at the collective level, on the very dimensions defined by these psychological features. Moreover, this is the case even when the constructs themselves are clearly

recognized as meaningful and coherent as the level of individual beliefs. The two paradoxes noted above have thus begun to dissolve.

In short, the key finding here is that the constructs of independence and interdependence fail to cohere when assessed in terms of implicit psychological tendencies. Although seemingly paradoxical at first glance, the zero correlations among implicit psychological tendencies can be interpreted as a necessary consequence of the process of culture-mind interaction that is postulated by the cultural task analysis. This analysis assumes that individuals seek to achieve their culture's mandate of independence or interdependence in highly idiosyncratic fashion. Because which psychological tendencies they may acquire and internalize over the years of socialization depend on the specific ways in which they continuously and repeatedly seek to achieve the mandate, different sets of psychological tendencies may eventually be acquired as the defining feature, or the "signature", of independence or interdependence for different individuals. In other words, there may be substantial individual differences in the "profile" of how to practice independence or interdependence and how to put these cultural mandates into action even though the individuals in a given cultural group are likely to share the commitment to their culture's mandate (see Mischel & Shoda, 1995 for a similar analysis on personality).

We thus believe that while not fully anticipated, the zero correlations reported in Tables 5-A through D offer rather unique empirical support for the cultural task analysis. Future work must explore further implications of this conceptualization of the mutual influences between cultural mandates and psychological processes.

Knowledge-Activation Approach to Culture: Is It Viable?

One approach that has attracted considerable research attention in recent years as an explanation of cultural differences in psychological processes highlights the notion of knowledge-activation (Oyserman & Lee, 2007, 2008; see also e.g., Bargh, 2006; Bargh & Chartrand, 2000; Higgins, 1996 for reviews). By no means, this approach is monolithic.

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Nevertheless, this theoretical approach typically assumes that the constructs of independence and interdependence are linked to an array of behavioral characteristics and, as a consequence, once activated, these constructs cause the associated behavioral characteristics to show up. As Oyserman, Sorensen, Reber, Chen, and Sannum (in press) observed, researchers working within this research tradition typically assume that "when an independent or interdependent self concept is cued, the relevant procedures are also cued (p. 51)." According to this view, cultures are different in terms of the likelihood with which situations (primes) activate either independence or interdependence, resulting in the corresponding behavioral differences. North Americans, for example, show a variety of independent behaviors because these behaviors are linked to the construct of independence, which in turn is chronically primed by a variety of practices and artifacts available in this cultural context. Notably, this approach can account for situational variations as a function of the availability of different primes (Bargh, Lombardi, & Higgins, 1988). It therefore is capable of explaining both systematic cultural differences and within-culture individual differences within a single theoretical framework. The most important contribution of this approach is to show that how people think, feel, and act can be quite malleable across situations. As Oyserman and colleagues (in press) note, "cultural mindsets can be relatively easily shifted (p. 52)."

Nevertheless, the current data presents some significant challenges to the knowledge-activation approach as a comprehensive account of cultural variations in psychological processes. The knowledge-activation approach starts with the assumption that individuals who endorse the mandate of independence (or interdependence) will do so because they are exposed to various situations (primes) that encourage independence (or interdependence) (see Gardner, Gabriel, & Lee, 1999 for evidence). Typically, this approach is couched within a spreading activation model of long-term memory (Anderson, 1983). Thus, it would hold that the chronic activation of the construct of independence or interdependence is linked systematically to corresponding psychological

differences across cultures. One implication of this theorizing is that there should be a strong link between the degree to which the mandate is endorsed (the explicit self-belief measures of independence or interdependence) and the corresponding implicit psychological tendencies. This clearly was not the case in our data. The knowledge activation paradigm would have to make additional assumptions to accommodate the present findings. One could argue, for example, that explicit responses are influenced by numerous superfluous factors such as self-presentational concerns and response sets, thereby disturbing the otherwise systematic correspondence between the mandate and the corresponding psychological tendencies (e.g., Fazio & Towles-Schwen, 1999). While plausible, it is not clear if this is always the case.

More importantly, the spreading activation theory of semantic memory holds that memory activation spreads spontaneously and automatically from the higher-order node (i.e., a mandate) to the lower-order features (psychological tendencies linked to the mandate) (Anderson, 1983). A straightforward prediction would be that the activation of the cultural mandate would lead to the activation of all of the associated psychological tendencies. One may then expect high degrees of coherence among the pertinent psychological tendencies.[11] Moreover, from these standard postulates of the knowledge-activation approach, it would also follow that the implicit psychological tendencies and the explicit self-beliefs show the same cross-cultural pattern. Again, both of the predictions were contradicted by the data. Clearly, something is amiss.

Together, while we believe that various important effects do occur as a function of knowledge activation and, moreover, they can sometimes be implicated in a variety of cultural differences that are observed, we also contend that very different mechanisms are required to account for the relatively enduring cross-cultural variations in implicit psychological tendencies of independence and interdependence. The cultural task analysis offers a theoretical framework that plausibly explains the very phenomena that pose serious difficulties to the knowledge-activation approach: This new framework

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implies, first, that there can be a strong dissociation between the explicit self-beliefs and the corresponding implicit tendencies. Second, the implicit tendencies, in principle, are unlikely to cohere together even when the corresponding self-beliefs are highly coherent and, finally, the cultural differences observed in the implicit tendencies need not be duplicated in the corresponding self-beliefs.

Toward a Comprehensive Theory of Culture and the Mind

It is important to note that the process depicted in Figure 1 is socio-cultural and collective in nature. This process involves behaviors which different members of a cultural group engage in (i.e., cultural tasks) as they pursue their culture's mandate. These behaviors, in turn, are assumed to result, over time through repeated engagement in them, in a variety of psychological tendencies. According to this view, both tasks and psychological correlates of independence or interdependence are socially and collectively distributed. In particular, individuals shown in Figure 1 are very different in terms of both 1) the specific tasks of independence or interdependence they perform and 2) the specific psychological tendencies they exhibit. Yet, when many such individuals are aggregated in a collective within a cultural group, a clearly patterned correspondence emerges between cultural mandates and psychological tendencies.

In this crucial respect, the cultural task analysis departs substantially from and, thus, likely complements social cognitive theories of culture including the knowledge-activation approach discussed above. Although diverse, the social cognitive theories share an important premise that knowledge associated with independence or interdependence is "packed in the head." Again our position is that both approaches are correct. On the one hand, we believe that knowledge pertaining to independence or interdependence is in fact acquired through socialization and can be "packed in the head" to varying extents. As suggested by numerous priming studies, this knowledge in turn can mediate the observed fluctuation of psychological behaviors across variable situations. On the other hand, we also maintain that to understand the nature of relatively chronic

cultural differences, a socio-cultural, collective process must be taken into account. This collective process motivates members of a cultural group to pursue their cultural mandate through engagement in pertinent cultural tasks. We, in fact, suspect that further examinations of this collective process may be the key in understanding how the knowledge on independence or interdependence is acquired and cognitively represented to begin with.

Concluding Comment

In his characteristically astute observation, Bob LeVine (1977, p. 17) once noted that "[the ways of social life including parenting] are 'rational' in that they contain information about environmental contingencies previously experienced by the population and assimilated into its cultural tradition" (see Boyd & Richerson, 1985; Campbell, 1975; Tooby & Cosmides, 1992, for related "functionalist" proposals; see also Kashima, 2000 for a review). Importantly, however, there is no reason to expect that such contingencies are transparent to the current residents of the culture at issue. More often than not, the contingencies inherent in any given cultural tradition are not consciously recognized, much less articulated by the members of the culture. LeVine, therefore, pointed out a need to empirically unpack "the adaptive component concealed in [cultural] practices" (p. 17) if one is to fully understand the current form of any given culture and its future prospect for change.

Informed by the cultural task analysis, we offer three specific contributions to add to the crucial insight brought forward by the prominent cultural anthropologist. First, the voluntary settlement hypothesis is our way to address the nature of pervasive "environmental contingencies." Second, the experimental tasks we have devised to assess implicit independence and interdependence may prove useful in further investigations into psychological effects of these contingencies. Last, but not the least, we showed that the environmental contingencies are inscribed into psychological systems. In particular,

the frontier is still alive and well on the mind of individuals engaging in the contemporary American culture.

Footnotes

[1] One prominent approach that deals with the issue of cross-cultural and within-culture variation is based on the notion of knowledge activation (Oyserman & Lee, 2007, 2008; see also Higgins, 1996). This approach assumes that any cultural context provides a number of priming stimuli that chronically activate knowledge associated with the core value of the culture (e.g., independence or interdependence). These priming stimuli also temporarily change the activation levels across situations and over time. The activation of knowledge is then assumed to lead to a variety of cognitive, motivational, emotional, and behavioral responses linked to the knowledge. This approach presupposes the existing linkages between the knowledge of, say, independence or interdependence and the host of psychological responses associated with it without specifying exactly how the linkages are made and established. The cultural task analysis seeks to address socio-cultural processes that motivate the development of these linkages. We believe that addressing this issue is crucial for a comprehensive understanding of the culture-mind interface and, moreover, there is a host of contrasting empirical implications of the two approaches that can be tested. We shall return to this issue in General Discussion.

[2] In addition, it is also possible that a socio-cultural process builds on these cross-culturally common contingencies to make some links more powerful and some others less so. In particular, a task of, say, "self-expression" may tend to promote a mandate of independence in all cultures. However, in some cultures people consensually agree that "self-expression" is a legitimate means for achieving independence, but not in many other cultures. Only in the former cultures will the act of self-expression be normatively sanctioned and socially rewarded. More generally, as noted by Thomas & Thomas (1928), beliefs imagined as real do become real in their consequences. Anecdotally, this point is painfully experienced by many of us who have ever tried to adjust to a foreign culture. The best conceivable and best intended action to adjust to a new culture (e.g., self-

expression for lay Americans visiting Japan or self-effacement for lay Japanese visiting the U.S.) typically not only never works as intended, but often backfires miserably in the new culture. For instance, self-expression-in-American-style could be a sign of ultimate immaturity in Japan, whereas self-effacement-in-Japanese-style could merely demonstrate that the actor is a liar who must not be trusted in the U.S.

[3] One exception to this generalization happens when situational constraints are not perceptually salient. Under these conditions, both Caucasian Americans and Asians show equally strong dispositional biases. However, once the situational constraints are perceptually made available, Asians do take them into account, but Caucasian Americans do not (Choi & Nisbett, 1998; Masuda & Kitayama, 2004).

[4] Our analysis implies that the psychological tendencies required for independent tasks are diametrically opposed to those required for interdependent tasks. Our prediction, therefore, was that the opposite ordering should be observed between the cultural regions in terms of interdependent implicit psychological tendencies.

[5]There are some important regional variations in Germany (Gebhardt, 2001; Tipton, 1976). In particular, traditionally Protestantism (which sanctions a more independent view) is stronger in northern regions of the country whereas Catholicism is a more dominant force in southern regions. Moreover, East Germany went through a prolonged period of communist rule after the World War II, with heavy influences from Russia. We reasoned that the Western tradition with an emphasis on independence is most clearly found in the northern, Protestant regions of the previous West Germany. The choice of a north-western city of Hamburg then enables us to perform the most conservative test of the voluntary settlement hypothesis.

[6]There are some important regional variations in the United Kingdom as well (e.g., Thomas, 1988; Hardill, Grajam, & Kofman, 2001). In particular, Protestantism is stronger in southern regions of the country whereas Catholicism has a greater domination in Northern Ireland. In addition to the prevalence of Protestantism which sanctions a

more independent view compared to Catholicism, various other cultural currents point to the view of the self as independent. They include a strong tradition of empiricism in philosophy, modern emergence of a strong merchant class especially after the Industrial revolution in the late 18th and early 19th centuries. Many of these events occurred in England, of which the county of Essex is part. Again the choice of Essex enables us to perform a conservative test of the voluntary settlement hypothesis.

[7]We also analyzed self size and friend size separately. Overall, the self circle size showed greater cross-cultural variation than the friend circle size. The self circle was largest in the U.S. (27.13) and smallest in Japan (22.33), with the U.K. and Germany falling in-between (26.22 and 26.04, respectively). In contrast, the friend circle was less variable, smallest in the U.S. (20.92), followed by Germany (21.59) and Japan (22.78). It was largest in the U.K. (23.22).

[8]Did Westerners draw a big self merely because they had fewer friends and thus more space was available for the self? This is unlikely. The data showed that on average, Japanese and British had the smallest ($M = 11.30$, $SD = 5.24$) and the largest ($M = 18.12$, $SD = 6.25$) number of friends with Germans ($M = 15.52$, $SD = 5.44$) and Americans ($M = 15.57$, $SD = 6.40$) falling in-between. A country x gender ANCOVA with number of friends as a covariate again yielded a significant main effect of country, $F(3, 399) = 10.85$, $p < .001$. This result indicates that the relative self-size varied in the expected way even when the number of friends was controlled for.

[9]In particular, no significant correlations were found between either one of the two Singelis subscales and the implicit psychological tendencies. Hence, the absence of the correlations between the Singelis difference scores and the implicit psychological tendencies cannot be due to potentially lower reliabilities when difference scores are computed.

[10]One exception was the predictor of happiness measure, which did not correlate over time. No interpretation was attempted.

[11]As Kashima (in press) notes, "[the knowledge activation approach] predicts that when cultural groups are shown to differ in strength in domain-specific constructs that are linked to domain-general constructs, these domain-specific constructs should cohere together (e.g., correlate with each other) (p. 55)." Here by domain-specific constructs he means what we refer to as psychological tendencies and by domain-general constructs he means what we refer to as cultural mandates.

References

Allen, M.J., & Yen, W. M. (2002). *Introduction to Measurement Theory.* Long Grove, IL: Waveland Press.

Anderson, J. R. (1983). A spreading activation theory of memory. *Journal of Verbal Learning and Verbal Behavior, 22*, 261-295.

Bargh, J. A. (2006). What have we been priming all these years? On the development, mechanisms, and ecology of nonconscious social behavior. *European Journal of Social Psychology, 36,* 147–168.

Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 253–285). Cambridge, England: Cambridge University Press.

Bargh, J. A., & Ferguson, M. L. (2000). Beyond behaviorism: On the automaticity of higher mental processes. *Psychological Bulletin, 126*, 925-945.

Bargh, J. A., Lombardi, W. J., & Higgins, E. T. (1988). Automaticity of chronically accessible constructs in person x situation effects on person perception: It's just a matter of time. *Journal of Personality and Social Psychology, 55*, 599-605.

Bellah, R., Madsen, R., Sullivan, W., Swindler, A. & Tipton, S. (1985). *Habits of the heart: Individualism and commitment in American life*. Berkeley, CA: University of California Press.

Berry, J. W. (1976). *Cross-cultural research and methodology series: III. Human ecology and cognitive style: Comparative studies in cultural and psychological adaptation*. Oxford, England: Sage.

Boyd, R., & Richerson, P. J. (1985). *Culture and evolutionary process*. Chicago: University of Chicago Press.

Campbell, D. T. (1975). On the conflicts between biological and social evolution and between psychology and moral tradition. *American Psychologist, 30*, 1103-1126.

Cantor, N. (1994). Life task problem solving: situational affordances and personal needs. *Personality and Social Psychology Bulletin, 20*, 235-243.

Choi, I., & Nisbett, R. E. (1998). Situational salience and cultural differences in the correspondence bias and actor-observer bias. *Personality and Social Psychology Bulletin, 24*, 949-960.

Choi, I., Nisbett, R. E., & Norenzayan, A. (1999). Causal attribution across cultures: Variation and universality. *Psychological Bulletin*, *125*, 47-63.

Chua, H. F., Boland, J. E., & Nisbett, R. E. (2005). Cultural variation in eye movements during scene perception. *Proceedings of the National Academy of Sciences*, *102*, 12629-12633.

Cohen, D. (2001). Cultural variation: Considerations and implications. *Psychological Bulletin, 127*, 451-471.

Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Harvard University Press.

Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin, 130,* 392-414.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122*, 5-37.

De Houwer, J., & Moors, A. (2007). How to define and examine the implicitness of implicit measures. In B. Wittenbrink & N. Schwarz (Eds.). *Implicit measures of attitudes: Procedures and controversies* (pp. 179-194). New York: Guilford Press.

Dewey, J. (1930). *Individualism: Old and New*. New York: Minton Balch and Co.

Duffy, S., Uchida, Y., & Kitayama, S. (2008). *Symbolic self-inflation: A cross-cultural comparison*. Unpublished manuscript, Rutgers University − Camden.

Faludi, S. (2003, March 30). An American Myth Rides Into the Sunset. *New York Times.*

Fazio, R. H., & Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In S. Chaiken & Y. Trope (Eds.), *Dual process theories in social psychology* (pp. 97-116). New York: Guilford.

Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" value freedom, but "we" value relationships: Self-construal priming mirrors cultural differences in judgment. *Psychological Science,* 10, 321-326.

Gebhardt, B. (Ed.) (2001). *Handbuch der deutschen Geschichte* (10th ed.) [Handbook of German history]. Stuttgart: Klett-Cotta.

Greenfield, P. M., Keller, H., Fuligni, A., & Maynard, A. (2003). Cultural pathways through universal development. *Annual Review of Psychology, 54*, 461-490.

Greenfield, P. M., Maynard, A. E., & Childs, C. P. (2003). Historical change, cultural learning, and cognitive representation in Zinacantec Maya children. *Cognitive Development, 18*, 455-487.

Hardill, I., Grajam. D. T., & Kofman, E. (2001). *Human geography of the UK: An introduction.* London: Routledge.

Hedden, T., Ketay, S., Aron, A., Markus, H. R., & Gabrieli, J. D. E. (2008). Cultural influences on neural substrates of attentional control. *Psychological Science*, *19*, 12-17.

Heine, S. H., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*(4), 766-794.

Heine, S. J., Lehman, D. R., Peng, K., & Greenholtz, J. (2002). What's wrong with cross-cultural comparisons of subjective likert scales? The reference-group effect. *Journal of Personality and Social Psychology, 82*, 903-918.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133-168). New York: Guilford Press.

Hochschild, J.L. (1995). *Facing up to the American Dream*. Princeton, New Jersey: Princeton University Press.

Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 65*, 19-51.

James, W. (1890). *Principles of Psychology*. New York: H. Holt and company.

Kashima, Y. (2000). Conceptions of culture and person for psychology. *Journal of Cross-Cultural Psychology, 31*, 14-32.

Kashima, Y. (2003). Person, symbol, sociality: Towards a social psychology of cultural dynamics. *Journal of Research in Personality, 38*, 52-58.

Kashima, Y. (in press). Culture comparison and culture priming: A critical analysis. In R. S. Wyer, Chiu, C-y., & Hong, Y-y (Eds.), *Understanding culture: Theory, research, and application*. New York: NY, Psychology Press / Taylor and Francis.

Keller, H. (2007). *Cultures of infancy*. Lawrence Erlbaum.

Kim, H. & Markus, H. R. (1999). Deviance or uniqueness, harmony or conformity: A cultural analysis. *Journal of Personality and Social Psychology, 77,* 785-800.

Kitayama, S. (2002). Cultural and basic psychological processes-toward a system view of culture: Comment on Oyserman et al. *Psychological Bulletin, 128*, 189-196.

Kitayama, S., & Bowman, N. (in press). Psychological consequences of settlement in the frontier: Evidence and implications. In M. Schaller, A. Norenzayan, S. J. Heine, T. Yamagishi, & T. Kameda (Eds.), *Culture and evolution*. Mahwah, NJ: Lawrence Erlbaum.

Kitayama, S., Duffy, S., Kawamura, T., & Larsen, J. T. (2003). Perceiving an object and its context in different cultures: A cultural look at new look. *Psychological Science*, *14*, 201-206.

Kitayama, S., Duffy, S., & Uchida, U. (2007). Self as cultural mode of being. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology*. Guilford Press.

Kitayama, S., & Imada, T. (in press-a). Defending cultural self: A dual-process model of agency. In T. Urdan & M. Maehr (Eds.), *Advances in Motivation and Achievement* (Vol. 15)*.* Elsevier Press.

Kitayama, S., & Imada, T. (in press-b). Implicit independence and interdependence: A cultural task analysis. In L. Feldman Barrett, E. Smith, & B. Mesquita (Eds.), *The mind in context*. New York, Guilford Press.

Kitayama, S., Ishii, K., Imada, T., Takemura, K., & Ramaswamy, J. (2006). Voluntary settlement and the spirit of independence: Evidence from Japan's "Northern frontier." *Journal of Personality and Social Psychology*, *91*, 369-384.

Kitayama, S., & Markus, H. R. (1994). Introduction to cultural psychology and emotion research. In S. Kitayama & H. R. Markus (Eds.), *Emotion and culture: Empirical studies of mutual influence* (pp. 1-19). Washington, DC: American Psychological Association.

Kitayama, S., & Markus, H. R. (1999). Yin and yang of the Japanese self: The cultural psychology of personality coherence. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social cognitive bases of personality consistency, variability, and organization.* NY: Guilford. (pp. 242-302)

Kitayama, S., Markus, H. R., & Kurokawa, M. (2000). Culture, emotion and well-being: Good feelings in Japan and the U.S. *Cognition and Emotion, 14*, 93-124.

Kitayama, S., Markus, H. R., Matsumoto, H., & Norasakkunkit, V. (1997). Individual and collective processes in the construction of the self: Self-enhancement in the United States and self-criticism in Japan. *Journal of Personality and Social Psychology, 72*, 1245-1267.

Kitayama, S., Mesquita, B., & Karasawa, M. (2006). Cultural affordances and emotional experience: Socially engaging and disengaging emotions in Japan and the United States. *Journal of Personality and Social Psychology*, *91*, 890-903.

Kitayama, S., & Park, H. (2007). Cultural shaping of self, emotion, and well-being: How does it work? *Social and Personality Psychology Compass*, *1*, 202-222.

Klerkx, G. (2004). *Lost in space: The fall of NASA and the dream of a new space age.* Pantheon.

Kühnen, U., Hannover, B., & Schubert, B. (2001). The semantic procedural interface model of the self: The role of self-knowledge for context-dependent versus contextindependent modes of thinking. *Journal of Personality and Social Psychology, 80*, 397-409.

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.

Lan, X., Park, H., & Kitayama, S. (2009). Unpublished data, University of Michigan.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge, U.K.: Cambridge University Press.

LeVine, R. A. (1977). Child rearing as cultural adaptation. In P. H. Leiderman, S. R. Tulkin, & A. Rosenfeld (Eds.), *Culture and infancy: Variations in the human experience*. New York, NY: Academic Press.

Lewis, R. S., Goto, S. G., Kong, L. L., & Lowenberg, K. (2008). Culture and context: East Asian American and European American differences in P3 event-related potentials. *Personality and Social Psychology Bulletin, 34,* 623-634.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98,* 224-253.

Markus, H. R., & Kitayama, S. (2004). Models of agency: Sociocultural diversity in the construction of action. In G. Berman & J. Berman (Eds.), *The 49th Annual Nebraska Symposium on Motivation: Cross-cultural differences in perspectives on self*. Lincoln NE: The University of Nebraska Press.

Masuda, T., & Kitayama, S. (2004). Perceiver-induced constraint and attitude attribution in Japan and the US: A case for the cultural dependence of the correspondence bias. *Journal of Experimental Social Psychology, 40,* 409-416.

Masuda, T., & Nisbett, R. E. (2001). Attending holistically versus analytically: Comparing the context sensitivity of Japanese and Americans. *Journal of Personality and Social Psychology, 81,* 992-934.

Matsumoto, D. (1999). Culture and self: An empirical assessment of Markus and Kitayama's theory of independent and interdependent self-construal. *Asian Journal of Social Psychology, 2*, 289-310.

Maynard, A.E., & Greenfield, P. M. (2003). Implicit cognitive development in cultural tools and children: Lessons from Maya Mexico. *Cognitive Development, 18*, 489-510.

McAdams, D. P. (2006). *The redemptive self: Stories Americans life by.* New York: Oxford University Press.

Medin, D. L., Unsworth, S. J., & Hirschfeld, L., (2007). Cultures, categorization and reasoning. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology* (pp. 615-644). New York: Guilford Press.

Miller, J. G. (1984). Culture and the development of everyday social explanation. *Journal of Personality and Social Psychology, 46*, 961-978.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review, 102*, 246-268.

Morris, B. (1991). *Western conceptions of the individual*. Oxford: Berg.

Morris, M. W., & Peng, K. (1994). Culture and cause: American and Chinese attributions for social and physical events. *Journal of Personality and Social Psychology, 67,* 949-971.

Na, J. Varnum, M., Grossmann, I., Kitayama, S., & Nisbett, R. E. (2009). *Can cultural differences be reduced to individual differences? Holistic vs. analytic mode of thinking as cultural syndromes*. Unpublished manuscript, University of Michigan.

Neuman, S. G. (1992). The negative consequences of the self-esteem movement. *Alberta Journal of Educational Research, 38*, 251-253.

Nisbett, R. E. (2003). *The geography of thought: How Asians and Westerners think differently and why.* New York: Free Press.

Noguchi, K. (2007). Examination of the content of individualism/collectivism scales in cultural comparisons of the USA and Japan. *Asian Journal of Social Psychology, 10*, 131-144.

Ohashi, M., & Yamaguchi, S. (2004). Super-ordinary bias in Japanese self-predictions of future life events. *Asian Journal of Social Psychology, 7*, 169-185.

Oishi, S., & Diener, E. (2001). Goals, culture, and subjective well-being. *Personality and Social Psychology Bulletin, 27*, 1674-1682.

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical and assumptions and meta-analyses. *Psychological Bulletin, 128*, 3-72.

Oyserman, D., & Lee, S. W. S.. (2007). Priming culture: Culture as situated cognition. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology*. New York: Guilford Press.

Oyserman, D., & Lee, S. W. S. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. *Psychological Bulletin, 134*, 311-342.

Oyserman, D., Sorensen, N., Reber, R., Chen, S. X., & Sannum, P. (in press). Connecting and separating mindsets: Culture as situated cognition. *Journal of Personality and Social Psychology.*

Perlman, M., & McCann, C. R. (1998). *The pillars of economic understanding: Ideas and traditions*. Ann Arbor: The University of Michigan Press.

Rogoff, B. (2003). *The cultural nature of human development*. Yew York: Oxford University Press.

Rothbaum, F., Pott, M., Azuma, H., Miyake, K., & Weisz, J. (2000). The development of close relationships in Japan and the U.S.: Pathways of symbiotic harmony and generative tension. *Child Development, 71*, 1121-1142.

Russell, B. (1945). *A history of western philosophy*. London: Routlegde.

Schimmack, U., Oishi, S., & Diener, E. (2005). Individualism: A valid and important dimension of cultural differences. *Personality and Social Psychology Review, 9,* 17-31.

Schlesinger, A. M. Jr. (1986). *The cycles of American history*. Boston: Houghton Mifflin.

Schwartz, J. M., & Begley, S. (2003). *The mind and the brain: Neuroplasticity and the power of mental force.* New York, NY: Harper Collins.

Schwartz, S. H., & Ros, M. (1995). Values in the West: A theoretical and empirical challenges to the individualism-collectivism cultural dimension. *World Psychology, 1*, 99-122.

Shweder, R. A. (1973). The between and within of cross-cultural research. *Ethos, 1,* 531-545.

Shweder, R. A., & Bourne, E. J. (1982). Does the concept of person vary cross-culturally? In A. J. Marsella & G. M. White (Eds.), *Cultural conceptions of mental health and therapy* (pp. 130-204). London: Reidel.

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin, 20*, 580-591.

Stegner, W. (1953). *Beyond the hundredth meridian: John Wesley Powell and the second opening of the west.* New York, NY: Penguin Books.

Stewart, G. R. (1963). *Ordeal by hunger: The story of the Donner Party*. Boston: Houghton Mifflin.

Takano, Y., & Osaka, E. (1999). An unsupported common view: Comparing Japan and the U.S. On individualism/collectivism. *Asian Journal of Social Psychology, 2*, 311.

Taylor, C. (1979). *Sources of the self*. Cambridge, MA: Harvard University Press.

Thomas, T. (1988). *The British: Their Religious Beliefs and Practices, 1800-1986.* London: Routledge.

Thomas, W.I., & Thomas, D.S. (1928). *The child in America: Behavior problems and programs.* New York: Knopf.

Tipton, F. B. (1976). *Regional variations in economic development of Germany during the 19th century.* Wesleyan University Press.

Tocqueville, A. (1969). *Democracy in America* (13th ed.). J.P. Mayer (Ed.), G. Lawrence, Trans. New York: Doubleday.

Tooby, J., & Cosmides, L. (1992). The psychological foundations of culture. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 19-136). New York: McGraw-Hill.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, *96*, 506-520.

Triandis, H. C. (1995). *Individualism and collectivism.* Boulder: Westview Press.

Tu, Y-k., Gunnell, D., & Gilthorp, M. S. (2008). Simpson's paradox, Lord's paradox, and suppression effects are the same phenomenon – the reversal paradox. *Emerging Themes in Epidemiology, 5:2.*

Turner, J. F. (1920). *The frontier in American history*. New York: Henry Holt.

Uskul, A. K., Kitayama, S. & Nisbett, R. N. (2008). Ecocultural basis of cognition: Farmers and fishermen are more holistic than herders. *Proceedings of the National Academy of Sciences of the USA, 105*, 8552-8556.

Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action

identification and human behavior. *Psychological Review, 94*, 3-15.

Valsiner, J. (1989). *Human development and culture.* Lexington, MA: D. C. Heath.

Varnum, M.E.W., Grossmann, I., Katunar, D., Nisbett, R.E., & Kitayama, S. (2008).

Holism in a European cultural context: Differences in cognitive style between

Central and East Europeans and Westerners. *Journal of Cognition and Culture,

8,* 321-333.

Vijver, F.J.R. van de, Hemert, D.A. van, & Poortinga, Y.H. (2008). *Multilevel analysis of

individuals and cultures*. New York: Erlbaum.

Weber, M. (1904-1906 /1958). *The protestant ethic and the spirit of capitalism* (T.

Parsons, Trans.). New York: Charles Scribner's Sons.

Wood, W., & Neal, D. T. (2007). A new look at habits and the interface between habits

and goals. *Psychological Review, 114*, 843-863.

Table 1

Tendencies of experiencing disengaging emotions (pride in self, feelings of superiority, anger, and frustration) and engaging emotions (friendly feelings, feelings of connectedness with others, shame, and guilt) by the four cultural groups of people.

	Disengaging	Engaging
US	3.57 (.69)	3.05 (.66)
U.K.	3.35 (.73)	3.11 (.56)
Germany	3.70 (.76)	3.54 (.74)
Japan	2.46 (.88)	2.92 (.62)

Note: Relevant standard deviations are presented in the parentheses above.

Table 2

Mean beta in predicting happiness as a function of emotion type and cultural group

	B for Disengaging	*B* for Engaging
US	.54 (.42)	.38 (.33)
U.K.	.44 (.44)	.44 (.36)
Germany	.36 (.68)	.51 (.35)
Japan	.26 (.83)	.64 (.35)

Note: Relevant standard deviations are presented in the parentheses above.

Table 3

Summary of the tri-cultural comparisons involving North America, Western Europe, and Asia on implicit measures of independence vs.

interdependence and effect size.

Implicit Measures		Summary				Effect size (Cohen's d)					
						U.S. vs. Japan	U.S. vs. Germany	U.S. vs. U.K.	U.K. vs. Japan	Germany vs. Japan	U.K. vs. Germany
Dispositional bias in attribution	US	= Germany = U.K.	> >	Japan		0.70	0.09	-0.06	0.79	0.62	0.16
Focused (vs. holistic) attention	US	> Germany > U.K.	> >*	Japan		0.67	0.31	0.42	0.26	0.45	-0.15
Propensity to feel disengaging (vs. engaging) emotions	US	> Germany > U.K.	> >	Japan		1.47	0.54	0.45	1.03	0.91	0.10
Personal (vs. social) correlates of happiness	US	> Germany = U.K.	= >	Japan		0.63	0.38	0.22	0.43	0.24	0.18
Symbolic self-inflation	US	= Germany > U.K.	> >	Japan		0.86	0.20	0.39	0.51	0.69	-0.19
Mean						0.87	0.30	0.28	0.60	0.58	0.02

Note: The asterisk (*) above indicates marginal significance.

Table 4

Explicit self-beliefs of independence and interdependence expressed by Americans,

British, Germans, and Japanese. These beliefs were assessed by the Singelis scale of

independent and interdependent self-construals.

	Independence	Interdependence
Japan	3.34 (.53)	3.04 (.52)
Germany	3.68 (.47)	3.11 (.43)
U.K.	3.31 (.52)	3.31 (.37)
U.S.	3.48 (.50)	3.49 (.38)

Note: Relevant standard deviations are presented in the parentheses above.

Table 5-A

Correlations among the five implicit measures (dispositional bias, focused vs. holistic attention, experience of disengaging vs. engaging emotions, personal vs. social happiness, and relative self-size) and one explicit measure (independence score – interdependence score) of independence and interdependence: American participants.

	Dispositional bias	Focused attention	Emotion: DE – E	Personal correlates of happiness	Symbolic self-inflation
Focused attention	−.03				
Emotion: DE – E	.00	.30**			
Personal happiness	−.03	.10	.09		
Symbolic self-inflation	−.13	.04	−.04	−.02	
Singelis: Ind – Int	−.10	.03	.05	−.02	−.09

Note: DE = Disengaging emotions; E = Engaging emotions; On all measures, higher numbers represent a stronger orientation toward independence vs. interdependence; ***p < .001; **p < .01; *p < .05.

Table 5-B

Correlations among the five implicit measures (dispositional bias, focused vs. holistic attention, experience of disengaging vs. engaging emotions, personal vs. social happiness, and relative self-size) and one explicit measure (independence score – interdependence score) of independence and interdependence: British participants.

	Dispositional bias	Focused attention	Emotion: DE – E	Personal correlates of happiness	Symbolic self-inflation
Focused attention	.03				
Emotion: DE – E	−.21*	.06			
Personal happiness	−.01	.04	.21*		
Symbolic self-inflation	.13	−.09	−.12	−.15	
Singelis: Ind – Int	.12	−.02	.04	−.16	.08

Note: DE = Disengaging emotions; E = Engaging emotions; On all measures, higher numbers represent a stronger orientation toward independence vs. interdependence; ***p < .001; **p < .01; *p < .05.

Table 5-C

Correlations among the five implicit measures (dispositional bias, focused vs. holistic attention, experience of disengaging vs. engaging emotions, personal vs. social happiness, and relative self-size) and one explicit measure (independence score – interdependence score) of independence and interdependence: German participants.

	Dispositional bias	Focused attention	Emotion: DE – E	Personal correlates of happiness	Symbolic self-inflation
Focused attention	−.12				
Emotion: DE – E	.15	−.12			
Personal happiness	.02	.05	.14		
Symbolic self-inflation	−.02	−.15	.12	−.00	
Singelis: Ind – Int	.01	−.04	.15	−.01	.07

Note: DE = Disengaging emotions; E = Engaging emotions; On all measures, higher numbers represent a stronger orientation toward independence vs. interdependence; ***p < .001; **p < .01; *p < .05.

Table 5-D

Correlations among the three implicit measures (dispositional bias, focused vs. holistic attention, and relative self-size) and one explicit measure (independence score – interdependence score) of independence and interdependence: Japanese participants.

	Dispositional bias	Focused attention	Symbolic self-inflation
Focused attention	.00		
Symbolic self-inflation	.08	–.00	
Singelis: Ind – Int	–.07	.23*	.17

Note: DE = Disengaging emotions; E = Engaging emotions; On all measures, higher numbers represent a stronger orientation toward independence vs. interdependence; ***p < .001; **p < .01; *p < .05.

Figure Captions

Figure 1. The cultural task analysis of the interaction between socio-cultural environment and psychological processes. This theoretical framework proposes that cultural mandates, cultural tasks, and psychological tendencies are linked to one another in a dynamic fashion. Cultural mandates refer to the ideals or general goal states (such as independence and interdependence) positively sanctioned by a given cultural group. Cultural tasks are composed of different procedures, means, or routines to achieve the pertinent mandate of culture. Any given person engages in a small number of cultural tasks to achieve his or her culture's mandate. Moreover, each cultural task is linked to only a small subset of psychological tendencies associated with independence or interdependence. With these assumptions the cultural task analysis accounts for global cross-cultural differences without homogenizing each of the cultures. Within-culture individual differences are analyzed within the same theoretical framework. It may be anticipated that all individuals in any given culture are similar in terms of the mandate they seek to achieve, but they can differ markedly in terms of both the tasks they select to achieve that mandate and the psychological tendencies they acquire through repeated engagement in the selected tasks.

Figure 2. Dispositional bias in the U.S., U.K., Germany, and Japan: Dispositional judgment is stronger than situational judgment in all countries, but this effect was particularly pronounced in the three Western countries. There was no difference among these three countries.
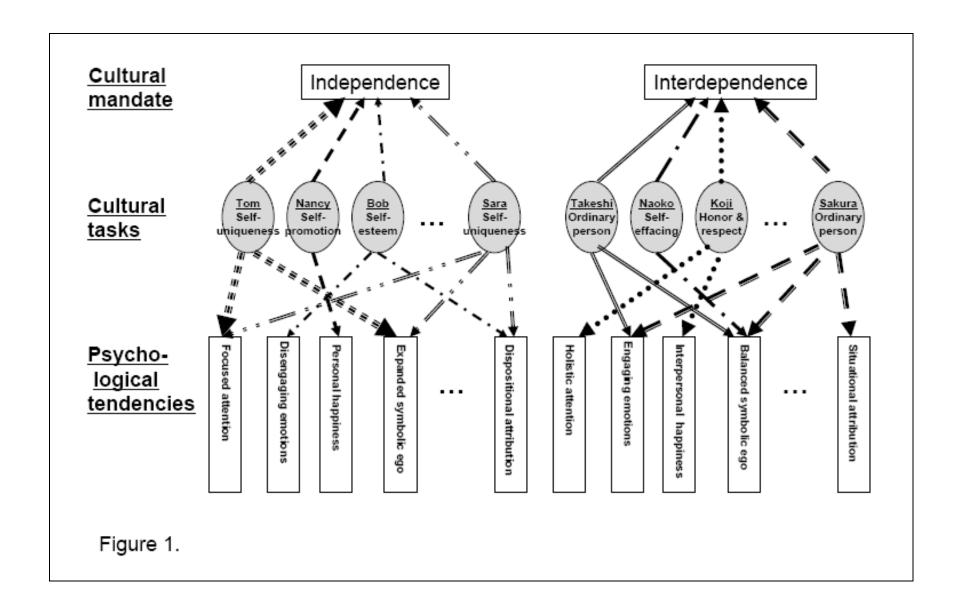
Figure 3. Mean errors in the absolute task and the relative task of the FLT in the U.S., U.K., Germany, and Japan: Although the error is generally smaller in the relative task than in the absolute task, this holistic tendency is most pronounced in Japan, least so in

the U.S., with the two European countries falling in-between. There was no difference between the two European countries.

Figure 4. Tendency to experience disengaging vs. engaging emotions in 10 different social situations for Americans, British, Germans, and Japanese: Whereas Japanese experienced engaging emotions more, Americans experienced disengaging emotions more. The two European groups fell in-between, with no difference between them.

Figure 5. Tendency to experience personal vs. social happiness in the U.S., the U.K., Germany, and Japan: Unstandardized regression coefficients used to predict happiness as a function of engaging positive emotions (e.g., friendly feelings) were subtracted from those used to predict happiness as a function of disengaging positive emotions (e.g., pride in self). Japanese show a tendency toward social happiness (i.e., greater effect of engaging than disengaging emotions) whereas Americans show a tendency toward personal happiness (i.e., greater effect for disengaging than engaging emotions). European countries fell in-between with no difference between them.

Figure 6. Symbolic self-inflation (the tendency to see the self as bigger than friends) in the U.S., the U.K., Germany, and Japan: The symbolic self-inflation is most pronounced in the U.S., moderate in the two European countries, and non-existent in Japan.

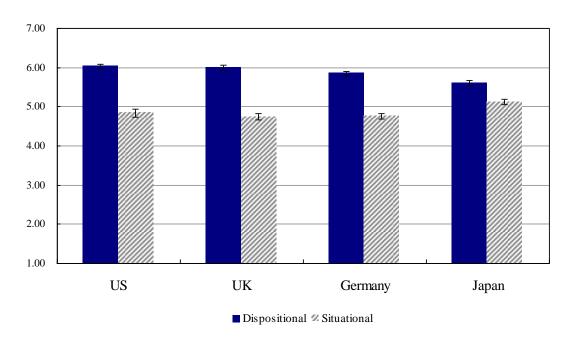Figure 1.

Degree of agreement
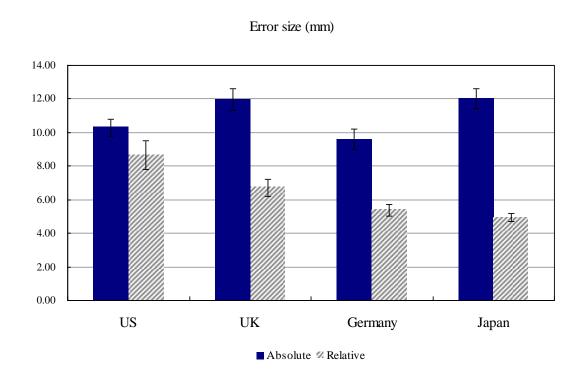

Figure 2

Error size (mm)

Figure 3

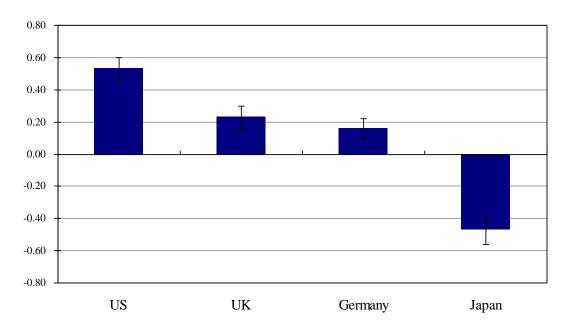Disengaging emotions - Engaging emotions
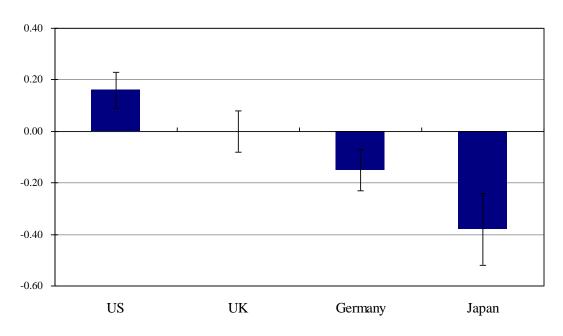

Figure 4

Beta for disengaging emotions - Beta for engaging emotions
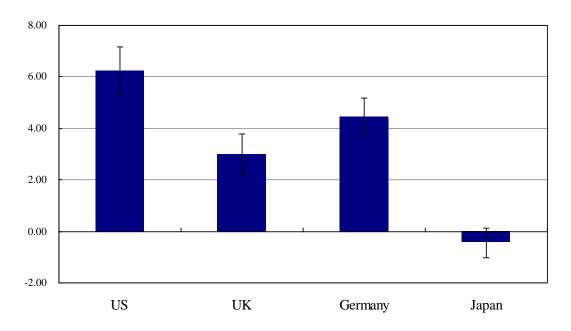

Figure 5

Relative self-size (mm)

Figure 6