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Indecisiveness and Culture: Incidence, Values, and Thoroughness

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Abstract

Three studies examined cultural variations in indecisiveness among Chinese, Japanese, and Americans. In Study 1, validated self-report, comprehensive measures of indecisiveness indicated large cultural differences, with Japanese participants exhibiting substantially more indecisiveness than Chinese or Americans. Study 2 provided evidence that such cultural variations correspond to variations in people's positive versus negative values for decisive behaviors, suggesting that such values are plausibly an important means for motivating and sustaining cultural differences in indecisiveness. Study 3 provided direct behavioral instances of the differences in indecisiveness implicated in Studies 1 and 2. It also suggested that thoroughness might be an important cognitive mechanism whereby cultural differences in indecision actually occur, with thoroughness being especially prominent among Japanese decision makers. Suggestions for theory concerning the nature and foundations of indecisiveness and its cultural variations are developed and discussed, along with plausible implications for real-life practical issues, for example, in politics and management.

Keywords

indecisiveness, indecision, culture, Japanese, Chinese, Americans

A "decision" is a commitment to a course of action that is intended to yield outcomes that serve the interests and values of particular people (Yates, 2003). Thus, when parents select a preschool for their child, they seek to create experiences that they and their child will find pleasing and that will prepare the child well for later challenges in kindergarten and beyond. Almost all psychological decision scholarship has sought to illuminate the processes by which people arrive at their decisions. But in a given situation, suppose that the decision maker fails to make a commitment

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at all or cancels every commitment before it is enacted. This possibility highlights the notion of "*in*decision," which can be defined as a state in which a person remains uncommitted to any particular course of action despite having acknowledged the need for some such commitment. And a given person is said to be "indecisive" to the extent that he or she exhibits indecision chronically, beyond some norm.[1] Clearly, a truly comprehensive understanding of human decision processes requires accounting not only for instances in which people decide but also for those in which they fail to decide—that is, when they are indecisive.

Despite their importance, with only a few exceptions (e.g., Anderson, 2003; Ferrari & Dovidio, 2001; Janis & Mann, 1977; Patalano & Wengrovitz, 2007), indecision and indecisiveness have seldom been the subject of research by scholars who also study other, perhaps more "mainstream," decision topics, for example, utility theory, social dilemmas, heuristics, and biases. But they have been discussed with some regularity in two practically oriented research streams, one concerning educational or career counseling, the other the treatment of personal adjustment problems—psychopathology, in the extreme. Career counselors seek to help people find suitable fields of study and work. A significant challenge they often report is that some clients experience great difficulty settling on fields they like. For some time, career psychologists have thus devoted considerable attention to diagnosing, understanding, and counteracting such career indecision (e.g., Holland & Holland, 1977). Various forms of obsessive behavior are among the disorders that psychotherapists try to help people manage. Practitioners and clinical researchers have long recognized that obsessives exhibit marked indecisiveness (e.g., Reed, 1985, p. 170), and they have learned that this characteristic is associated with others that plausibly feed into it, for example, persistent self-doubt.

The fundamental question motivating the present research was this: Why is it that some people are more indecisive than others? For the most part, the career counseling literature on indecisiveness has not addressed this question. The primary aims there have been how to accurately assess and manage "excessive" indecisiveness in the career choice arena. Similar practical objectives have compelled clinical research on indecisiveness. Nevertheless, that work has also shed some light on possible contributors to indecisiveness, such as anxiety and depression (e.g., Rassin & Muris, 2005a). Developmentally oriented research by Ferrari and his associates (e.g., Ferrari & Olivette, 1993) has found that certain child-rearing practices can account for some of the observed variance in indecisiveness, too, perhaps via their influences on more proximal contributors, such as anxiety. Despite such insights, it is clear that sufficient explanations for indecisiveness remain far beyond the reach of existing data. The present studies therefore explored insights from a perspective that seemed to promise significant advances beyond current understanding—the perspective of culture.

Our starting point was the proposition that culture is an important high-level contributor to indecisiveness. If confirmed, such a thesis would be especially enlightening in that known variations among the cultures distinguished would point toward plausible conclusions about the nature and foundations of indecisiveness. The specific initial hypothesis examined was that three particular cultures—Chinese, Japanese, and American—differ substantially in the extent to which their members manifest indecisiveness. Although studies of cultural variations in indecisiveness are uncommon, two previous research programs have in fact investigated indecisiveness differences among the same or similar cultures. Puzzlingly, their conclusions have seemed contradictory.

Relying largely on arguments citing Asian collectivism versus Western individualism, researchers in both programs predicted that indecision would be greater in Asia than in the West. Mann et al. (1998) found that, for the most part, their Asian participants (from Japan, Hong Kong, and Taiwan) did indeed evidence more indecision than their Western participants (from Australia, New Zealand, and the United States). In contrast, however, Tse, Lee, Vertinsky, and Wehrung (1988) found that their mainland Chinese participants exhibited substantially *less* indecisiveness than their Western (specifically, Canadian) counterparts, not more.

What factors might contribute to differences in indecision among Chinese, Japanese, and Americans? How could one reconcile the seemingly conflicting indications from previous studies about exactly what those differences might be? And what would those variations tell us about indecision generally? The studies described here were intended to move us closer to satisfactory answers to these questions.

It is appropriate to begin the conceptual analysis where others have, with collectivism and individualism, the most commonly discussed distinction between Western and Asian cultures (e.g., Markus & Kitayama, 1991; Triandis, 1995). People in collectivist cultures are said to be relatively more focused on the social groups to which they belong than are people in individualist cultures. As proposed by Mann et al. (1998) as well as Tse et al. (1988), such group consciousness should be expected to discourage decisiveness (see also Gaenslen, 1986). One key argument is that a collectivist society typically demands roles for numerous people in every major decision, even decisions that would be considered "personal" or "private" in individualistic societies. Decisiveness would be antithetical to such roles and therefore discouraged.

On its face, this individualism-collectivism argument would seem to imply that indecisiveness should be largely the same for individuals in all East Asian cultures, including Japanese and Chinese, because each of those cultures is collectivist. Nevertheless, there are several reasons to expect that indecisiveness might not be uniform across distinct East Asian groups. First of all, there has been increasing recognition that collectivism takes different forms in different places (e.g., Triandis & Gelfand, 1998). This suggests the possibility that the collectivism underpinnings of indecisiveness might differ correspondingly. And then there are the data. Recall that the Asian respondents studied by Tse et al. (1988), who evidenced less indecisiveness than their Western respondents, were all Chinese. In contrast, in the study by Mann et al. (1998), who found stronger Asian than Western indecisiveness, the Asian participants included not just Chinese but also Japanese participants. This indirectly suggests that perhaps Japanese indecisiveness might be stronger than Chinese. There is also more direct evidence of a particular form of marked Japanese indecisiveness. Recall that a key element of the concept of indecisiveness is that an indecisive person remains uncommitted for an inordinately long period of time. Yates, Lee, Shinotsuka, Patalano, and Sieck (1998) examined the processes by which Japanese, Chinese, and American participants arrived at the kinds of diagnostic judgments used to inform medical decisions, and they allowed participants to take as much time as they liked before rendering those judgments. The Japanese participants consistently chose to take substantially more time than their Chinese and American counterparts; they were quite literally more indecisive in the given domain.

Study 1: Comprehensive Indecisiveness Across Cultures

Study 1 was intended to provide additional, more definitive evidence about the relative incidences of indecisiveness among Chinese, Japanese, and Americans under arguably general circumstances. The approach used here sought to go beyond the previous tests mainly with respect to how indecisiveness was conceptualized and assessed. Mann et al. (1998) relied on indexes of decision avoidance. One particular measure they used focused on procrastination: how often the respondent recalls purposely postponing decision-making tasks. A second one assessed buck-passing: self-reports of the frequency with which decision-making responsibility was shunted off to other people. In contrast, Tse et al. (1988) focused on the person's behavior once he or she is actually engaged in the decision-making process. Specifically, Tse et al. presented participants with (hypothetical) decision situations and required each participant to rate how strongly one of two alternatives was preferred over its competitor. Indecision was inferred to the degree that those ratings indicated indifference rather than strong preferences for or against each option. And recall that indecision in the study by Yates et al. (1998) was represented by the time

participants required before recording their diagnostic judgments. There is a good case for the legitimacy of decision avoidance, decision indifference, and judgment time as indicators of indecision. Yet each of them is arguably only one specific and limited reflection of the more complete indecisiveness construct. The present study therefore employed a more comprehensive, validated indecisiveness measure, one that reflects not only avoidance and indifference but also other aspects of indecisiveness. It was thus expected to afford a more definitive sense of how Chinese, Japanese, and American cultural groups differ with respect to indecisiveness generally.

Method

Participants. The volunteer participants in the study were 79 Chinese students at Beijing University (40 men and 39 women), 80 Japanese students at the University of Tokyo (54 men and 26 women), and 80 European American students (23 men and 57 women) at the University of Michigan in Ann Arbor. The Chinese and American participants were paid small sums of money for their participation. Per local customs, the Japanese participants did not receive a monetary fee but instead were given small unexpected gifts (e.g., stationery items) as tokens of appreciation.

Instrument and Procedure. The instrument used to assess indecisiveness was the Indecisiveness Scale described and behaviorally validated by Frost and Shows (1993). This scale consists of 15 items, each containing a statement such as the following: "I like to be in a position to make decisions" or "I become anxious when making a decision." The respondent's task is to indicate agreement or disagreement with each statement, on a 5-point scale from –2 to +2, where –2 = *strongly disagree* and +2 = *strongly agree*, and with items directly or reverse coded as appropriate. Thus, total scale scores range from –30 to +30, with higher scores indicating greater indecisiveness. The original Indecisiveness Scale was written in English. The scale was translated and back-translated into Chinese and Japanese using standard methods (Brislin, Lonner, & Thorndike, 1973).

Each participant completed the Indecisiveness Scale individually in his or her own language. Participants carried out the task in group sessions but individually and at their own pace.

Results and Discussion

There has been some discussion of possible gender differences in indecisiveness (e.g., Rassin & Muris, 2005b). However, on the whole, such differences did not emerge in this study. The respective mean indecisiveness scores were $M = –4.38$ and $M = –3.26$ for the male and female Chinese participants (*n.s.*), $M = 2.39$ and $M = 2.73$ for the male and female Japanese participants (*n.s.*), and $M = –6.48$ and $M = –2.86$ for the male and female American participants ($p = .09$). Thus, gender differences are not discussed further.

As anticipated, the culture groups differed significantly in their indecisiveness scores, $F(2, 236) = 14.19$, $p < .001$, $\eta_p^2 = .11$. Figure 1 shows the mean indecisiveness scores for the three groups. The Japanese participants were indicated to be more indecisive than the Chinese participants, $t(157) = 4.55$, $p < .001$, $\eta_p^2 = .12$; as well as the American ones, $t(158) = 4.28$, $p < .001$, $\eta_p^2 = .10$. On the other hand, there was no significant difference in the mean indecisiveness scores of the Chinese and American participants, $t(157) = .06$, *n.s.* It is also noteworthy that, although the scores of the Chinese, $t(78) = –4.89$, $p < .001$, and American, $t(79) = –4.06$, $p < .001$, participants were, on average, on the decisive side of the scale; those of the Japanese, $t(79) = 2.18$, $p = .032$, were toward the indecisive end of the continuum. (Each test was performed against the neutral point of the indecisiveness scale.)

Rassin, Muris, Franken, Smit, and Wong (2007) have offered reasonable arguments that four of the items in the Frost and Shows (1993) Indecisiveness Scale focus too closely on specific

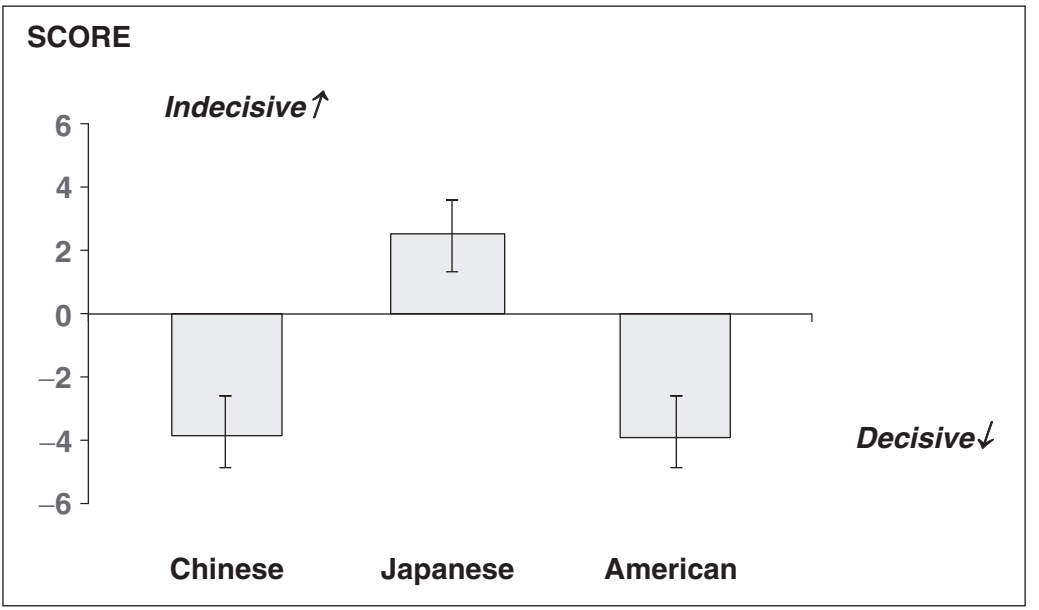

Figure 1. Mean indecisiveness score by participant culture, Study 1
Bars indicate standard errors of the mean.

situations to justify being included in a domain-free, general measure of indecisiveness. Those items deal with using spare time, making selections from menus, and doing schoolwork. These authors thus created a more refined "alternative" indecisiveness scale that is the same as the original Frost and Shows scale except that it excludes the four domain-specific items. We therefore performed the same analyses as above, but applied to the alternative scale scores. The pattern of results was virtually identical, for example, with the Japanese participants' alternative indecisiveness scores being significantly higher than those of the Chinese, $t(157) = 4.90$, $p < .001$, $\eta_p^2 = .13$, and American, $t(158) = 4.52$, $p < .001$, $\eta_p^2 = .12$, participants and the mean scores of the latter groups nonsignificantly different from each other, $t(157) = 0.17$, *n.s.* These findings therefore lend even more support to the earlier conclusions.[2] This is not to say, of course, that indecisiveness might not manifest itself differently for different kinds of decisions in distinct cultures. After all, the traditions and stakes surrounding those decisions might differ substantially. For instance, it is known that end-of-life decisions entail very different roles and meanings for family members in Japan as opposed to the United States (Fetters, 1998).

In summary, there are clear indications that culture can be strongly associated with indecisiveness. Consistent with previous suggestive findings, indecisiveness was markedly stronger among our participants in Japan than those in China and the United States. However, indecisiveness was no greater among the Chinese than the American participants (a finding that agrees with that of Patalano & Wengrovitz, 2006).

Study 2: Culture and Values for Decisive Behaviors

In principle, there could be any number of reasons that people from distinct cultures differ in indecisiveness. Indeed, the literature on indecisiveness has suggested a variety of drivers of the phenomenon at the individual level, including factors such as low self-esteem (Ferrari, 1994).

But the potential contributor considered in Study 2 concerned social values attached to indecisive versus decisive behaviors, for example, values implicit in traditions of collaboration or independence. The hypothesis was that cultural variations in indecisiveness are motivated and sustained at least partly by the values associated with such behaviors—either positive or negative. In effect, people seek and often become what their society values and hence rewards. By this view, Study 1's results suggest that individuals in Chinese and American cultures would regard decisive behaviors more favorably than those in a Japanese culture.

Method

Participants. The participants were 70 Chinese (44 men and 26 women), 114 Japanese (92 men and 22 women), and 98 American students (30 men and 68 women) from the same universities as in Study 1.

Instrument and Procedure. A new instrument, which we might call the "Indecisiveness Value Scale," was derived from the Frost and Shows (1993) Indecisiveness Scale. Specifically, the respondent reads the following at the beginning of the instrument:

> Each of the items below presents a statement made by a different person, concerning how he or she makes decisions. For each statement, circle the number that best describes how much you would expect to admire the person who made that statement.

The respondent then sees each of the statements contained in the 15 items comprising the Indecisiveness Scale, but each is described as having been articulated by a different individual, for example,

> Person 10: "I become anxious when making a decision."

In each instance, the respondent circles one of five alternatives on a 0 to 4 scale, where 0 = *would not admire at all* and 4 = *would admire very much*.

As in Study 1, participants completed the instrument individually, at their own pace, in a group setting, and with a version of the instrument in the local language, per standard translation and back-translation procedures.

Results and Discussion

When necessary, for analysis purposes, items that described decisive behavior were reverse scored. And to make scoring comparable with that for the Indecisiveness Scale, responses to the Indecisiveness Value Scale were shifted downward by 2. Thus, for instance, a rating of 0 was transformed to –2, corresponding to the highest regard for decisive behavior.

As was done in Study 1, we first tested for potential gender differences in the values attached to various indecisive behaviors. The gender effects for the Japanese ($M = 0.75$ and $M = 1.18$ for men and women, respectively) and American ($M = –6.10$ and $M = –6.49$, respectively, for males and females) participants were nonsignificant (ps > .76). However, the female Chinese participants ($M = –8.81$) appeared to be more favorably disposed toward decisiveness than their male counterparts ($M = –5.70$), $t(68) = 2.00$, $p = .049$, $\eta_p^2 = .06$. But because, for the most part, the gender differences were only slight, they are not discussed further.

Figure 2 presents the mean indecisiveness value scores for the various participant groups. Consistent with the impression conveyed by the figure, there was a significant effect of culture, $F(2, 279) = 49.96$, $p < .001$, $\eta_p^2 = .26$. And the pattern closely matched that of Figure 1, which

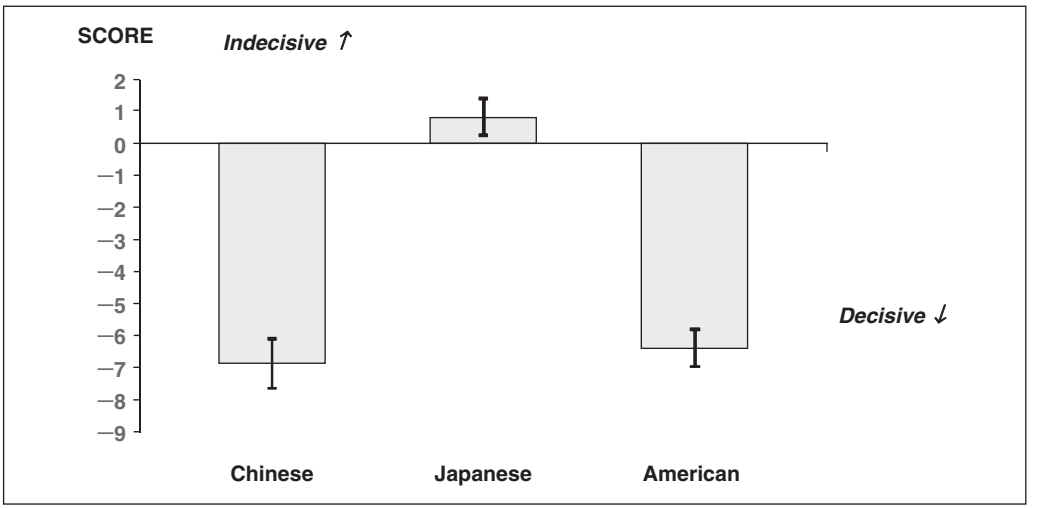

Figure 2. Mean indecisiveness value score by participant culture, Study 2
Bars indicate standard errors of the mean.

described indecisive behavior self-reports. Mean Chinese and American value scores were nonsignificantly different from each other, $t(166) = .55$, *n.s.*, and both of those were significantly lower, that is, in the decisiveness direction, than the mean Japanese value score, $t(182) = 8.06$, $p < .001$, $\eta_p^2 = .26$, and $t(210) = 8.68$, $p < .001$, $\eta_p^2 = .26$, respectively.

Another window on the proposed influence of values on indecisiveness is provided by correlations between mean indecisiveness scores from Study 1 and mean indecisiveness value scores from Study 2.[3] Over all participants, that correlation was $r(14) = .546$, $p = .035$, with similar although varying correlations for the respective culture groups (Chinese: $r[14] = .660$, $p = .007$; Japanese: $r[14] = .437$, $p = .103$; Americans: $r[14] = .609$, $p = .016$). That is, generally, just under 30% of the variability in indecisiveness scores could be explained on the basis of values for indecisiveness.

To summarize, the results of Study 2 are entirely consistent with the suggested hypothesis. That is, they agree with the proposition that cultural differences in indecisiveness might be supported to at least some degree by values representing either admiration or disdain for decisive versus indecisive behaviors.

Study 3: Possible Behavioral Mechanisms Contributing to Cultural Variations in Indecision—Including Thoroughness

Self-reports of indecision, as in responses to procrastination and indecisiveness scales, are fine. Nevertheless, more direct behavioral evidence bearing on cultural variations in indecisiveness would add even more credence to conclusions about such differences. The diagnostic judgment time data of Yates et al. (1998) are one example of such indications. One primary purpose of Study 3 was to provide additional, converging behavioral evidence, in a similar yet different judgment context.

Judgment latency differences constitute direct measures of differences in indecision. But they do not, in and of themselves, tell us much about how and why those differences occur. For instance, if one group takes longer to make decisions than another, this could be because—for whatever reason—that first group carries out the same mental operations as the other, just more slowly. Thus, a second major aim of the present study was to gain insight into what the cognitive

mechanisms underlying cultural variations in indecision might actually be. We doubted that distinctive Japanese indecision is a product of slower execution of the same activities carried out by Chinese or American decision makers. Specifically, the proposition under consideration was that Japanese decision makers appear indecisive because their analyses of decision problems are especially thorough. Although, at this exploratory stage, we did not test the idea directly, this hypothesis is consistent with the value differences implicated in Study 2. For instance, according to this view, Japanese admiration for ostensibly indecisive behaviors (e.g., "I try to put off making decisions," from the Frost & Shows [1993] Indecisiveness Scale) makes sense if the prevailing norm for how one ought to decide is to be thorough. This suggestion of a possible thoroughness contributor to cultural variations in indecisiveness has not been empirically evaluated directly—hence this study. But an emerging line of scholarship is consistent with the core idea. That research stream has discovered that there are circumstances when indecisive persons are distinctive in the large amounts of information they require before choosing particular decision alternatives (e.g., Rassin, Muris, Booster, & Kolsloot, 2008).

Judgments about propositions concerning current facts, past occurrences, or future events are essential ingredients in deliberations for most decisions. For instance, suppose that a physician is deciding how to treat a patient's illness. That doctor's deliberations almost certainly will draw on his or her judgments about what the patient's sickness actually is and why it occurred. Importantly, such judgments nearly always contain doubt, and those judgments vary in their accuracy from one occasion (and physician) to the next. And naturally, the more accurate are the judgments, the better the resulting treatment decision can be potentially.

The following is an example of a probabilistic "almanac" or "general knowledge" question:

For which is the average gestation period longer?
(a) humans
or
(b) chimpanzees
Chosen Answer (Circle one):
a b
Probability That My Chosen Answer
Is Correct (50%–100%): _____ %

The respondent first reports an opinion as to which of the two options is correct. The respondent then states a probability judgment that the selected option is indeed correct. General knowledge questions are simple, yet they capture many of the essential features of the judgment tasks required in real-life decision situations. That is why researchers have often used them to study judgment processes. It is also why they serve as a useful window on the present thoroughness issues. Chinese, Japanese, and American participants were presented with general knowledge questions. Their recorded judgments and, more important, the processes by which they arrived at those judgments were then monitored for evidence bearing on indecision and thoroughness.

Method

Participants. Volunteers were recruited from psychology student subject pools in three locations. Our 29 Chinese participants were from Chung Yuan University in Taiwan, our 25 Japanese participants were students at Hokkaido University in Sapporo, and our 32 American participants were students at the University of Michigan in Ann Arbor.[4]

Materials. Fifteen general knowledge items were used. They were similar to and included the illustration above.

Procedure. Each participant took part in the study in an individual session in a room containing only the participant and the experimenter. The basic task of the participant was to answer general knowledge questions in the standard format, one after another. However, one feature of the procedure was distinctive. Following guidelines provided by Ericsson and Simon (1993), the participant was required to "think aloud" while responding to the questions.[5]

At the beginning of each session, the basic general knowledge task was explained and practiced. The think-aloud requirement and technique were then described and practiced as well, after the participant was equipped with a microphone for recording his or her utterances. For a given item, the respondent was first asked to read the item aloud. From that point on, the respondent was to "think out loud." If more than 10 seconds of silence elapsed, the experimenter prompted with the request, "Please keep speaking."

Results and Discussion

Confidence and Overconfidence. Confidence and overconfidence have special significance for decision making. For general knowledge questions, confidence is reflected in an individual's probability judgment P'(My chosen alternative is correct). And overconfidence is indexed by a certain bias statistic, the difference between the person's mean probability judgment and the proportion of correct answers he or she selected:

$$\text{Bias} = \text{Mean } P'(\text{My chosen alternative is correct}) - \text{Proportion Correct.}$$

If an individual is overconfident, Bias > 0; underconfidence is indicated when Bias < 0. For instance, when a person correctly answers 60% of a set of questions and, on average, said that he or she was 80% sure that the answers would prove to be correct, it makes intuitive sense to say that this individual is overconfident in her or his ability to pick correct answers.

Figure 3 displays the median bias statistics for the respective culture groups. As suggested by the figure, the groups differed in their tendencies toward overconfidence and underconfidence ($p = .013$ per a Kruskal-Wallis test, $\eta_p^2 = .10$). The contrasts between the bias measures for the Japanese respondents and those in the other two groups were statistically significant ($p = .004$ and $p = .041$ for the comparisons with the Chinese and American participants, respectively, per Wilcoxon tests, with corresponding $\eta_p^2 = .16$ and $\eta_p^2 = .09$). This observed pattern is similar to what has been found previously (e.g., Yates et al., 1989, 1998). The judgments of the Chinese and American participants were distinctively overconfident, with their bias measures significantly greater than 0 ($p = .002$ for the Chinese participants, $p = .027$ for the American ones, with respective effect sizes of $r_{Y\lambda} = .57$ and $r_{Y\lambda} = .42$). In contrast, the judgments for the Japanese participants were well-calibrated; their bias measures did not differ significantly from 0. To the extent that overconfidence is a variety of decisiveness, these results too are consistent with the notion of indecisiveness being stronger among the Japanese.

Coding. The primary questions of interest here, in particular, those concerning thoroughness, required an analysis of participants' reflections. Thus, all participants' utterances were transcribed and, in the case of the Chinese and Japanese participants, translated into English. Assistants naive to the issues and propositions in question were trained to parse the participants' utterances into distinct idea units. An "idea unit" was defined as a string of utterances that conveyed a concept that was significantly different from that conveyed in an adjacent string that either preceded or followed it. The assistants first parsed the protocols individually. Working in pairs, they then reached consensus on the parsing of each protocol.

A scheme for coding the parsed protocols was developed. The development occurred in two stages. The first stage was preplanned and entailed coding categories for arguments of

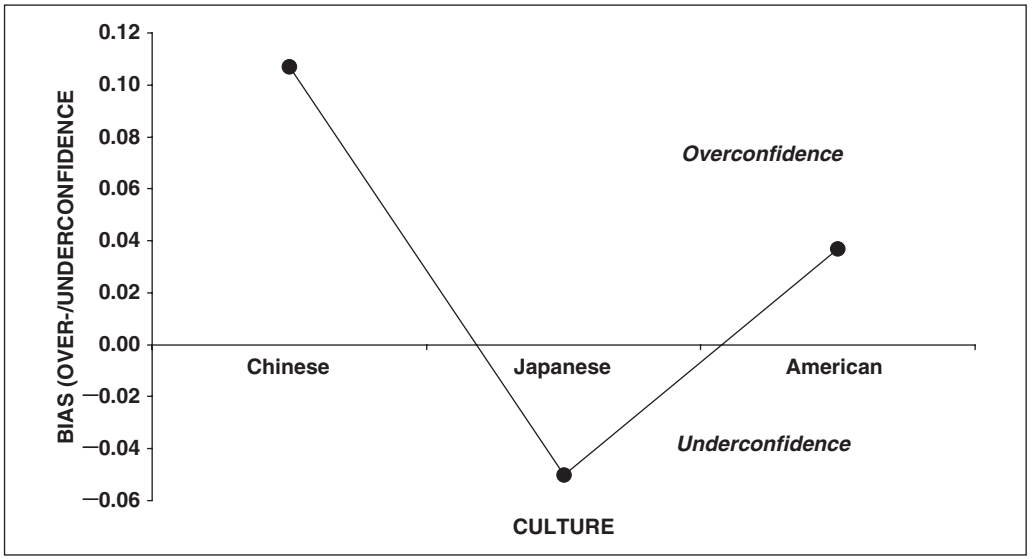

Figure 3. Median bias (overconfidence/underconfidence) measure by culture, Study 3
Bias = Mean Probability Judgment – Proportion Correct; bias > 0 indicates overconfidence; bias < 0 indicates underconfidence.

various kinds. Four argument categories were distinguished. These categories were used to denote instances in which, for a given general knowledge question, the participant appeared to bring to mind arguments that favored alternative answer (a) [Category A+], opposed alternative (a) [Category A–], favored alternative (b) [Category B+], and opposed alternative (b) [Category B–]. The second stage of code development was driven by the protocols. The investigators read through all the protocols and identified the myriad categories of utterances the participants articulated themselves. Beyond particular kinds of arguments, they also included notions such as "guessing," "common sense," "trickiness" (of the question), and "feeling/intuition." After the coding scheme was refined, five coders, blind to the purposes and propositions at issue in the study, were trained to apply the scheme to the entire corpus of participants' protocols. Working in pairs on particular protocols, the coders first encoded each protocol independently. They then met to discuss the protocol and, when necessary, resolve any disagreements that might have existed, arriving at a consensus coding for each idea unit. The preconsensus percentage of agreement between pairs of coders on the encoding of arguments in units was 80.3%.

Thoroughness Indicators. The appendix shows representative protocols that illustrate well several key thoroughness differences in the utterances of the Chinese, Japanese, and American participants. Table 1 displays statistics that summarize those and other distinctions. As the illustrations suggest, and as confirmed by the comparisons among the numbers of idea units generated per item, the Japanese participants' utterances were much more extensive than were those of the American participants and especially the Chinese participants. Yet there is no indication that this was due to the Chinese participants' failing to apply themselves to the task. Observe that the Chinese participants actually devoted (nonsignificantly) more time to each item than did the American participants, a bit less than half a minute. But note that, consistent with the results of Yates et al. (1998), the Japanese participants spent much more time on each item than either the Chinese or the Americans, more

Table 1. Medians of Mean Protocol Thoroughness Indicators by Culture, Study 3

Indicator	Culture		
	Chinese	Japanese	American
No. idea units/item[a]	3.33[b,c]	7.53[d]	4.47
Time (seconds)/item[a]	26.8[b]	91.7[d]	25.5
No. arguments/item[a]	0.80[b]	1.87[d]	0.80
Prop. items with 1+ argument(s)[a]	.73[b]	.93[d]	.67
No. arguments/item with arguments[a]	1.10[b]	2.00[d]	1.20

[a]Overall difference, Kruskal-Wallis test, $p < .05$.
[b]Chinese ≠ Japanese, Wilcoxon test, $p < .05$.
[c]Chinese ≠ American, Wilcoxon test, $p < .05$.
[d]Japanese ≠ American, Wilcoxon test, $p < .05$.

than 1.5 minutes on average. This constitutes additional, behavioral evidence consistent with the previous self-report indications of cultural variations in indecision as well as with the thoroughness idea.

As shown in the third row of Table 1, the Chinese and American participants typically generated no more than a single recognizable argument for a given item. The fourth row of the table indicates that on more than 90% of the items, the Japanese participants generated at least one argument, whereas this was the case for only about 70% of the items considered by the Chinese and American participants. A similar picture emerges when we consider only those items for which at least one argument was articulated (Row 5); the Japanese participants produced arguments at a rate nearly twice as high as those of their Chinese and American counterparts. In sum, the data suggest that the Japanese participants appeared more indecisive at least partly because they were extraordinarily thorough in terms of the sheer extent of their reflections on the problems at hand.

Another dimension of thoroughness is implicit in the data as well. The filled bars in Figure 4 display the median proportions of arguments participants in Study 3 generated that opposed the correctness of the alternatives the participants actually chose. The median incidence of choice-opposing arguments for the Chinese participants was nil. This was significantly lower than the rates for either the Japanese or American participants ($p < .001$ and $p = .011$ for the respective comparisons, per Wilcoxon tests, and with corresponding values of $\eta_p^2 = .32$ and $\eta_p^2 = .07$), which were significantly different from each other as well ($p = .015$, per a Wilcoxon test, $\eta_p^2 = .10$).

The open bars in Figure 4 also show, by culture, the proportions of arguments participants generated that opposed the correctness of the alternative answers that were explicitly displayed (i.e., arguments that alternative [a] and alternative [b] were wrong). Observe that participants were generally unlikely to offer such arguments. Furthermore, this tendency was especially pronounced among the Chinese participants, with their proportions of display-opposing arguments significantly lower than those of the Japanese and American participants ($p < .001$ and $p = .014$ by Wilcoxon tests, and corresponding $\eta_p^2 = .36$ and $\eta_p^2 = .10$). And the Japanese participants' rates of generating such arguments were the highest ($p = .007$ for the comparison with the American rates, per a Wilcoxon test, $\eta_p^2 = .13$). These comparisons on the rates with which participants generated opposing arguments can be interpreted as reflecting another aspect of a decider's thoroughness—pushing beyond the ideas that are most immediately available to consciousness. Again, these data are consistent with the notion that the Japanese tend to appear indecisive because they are pursuing a thoroughness goal.

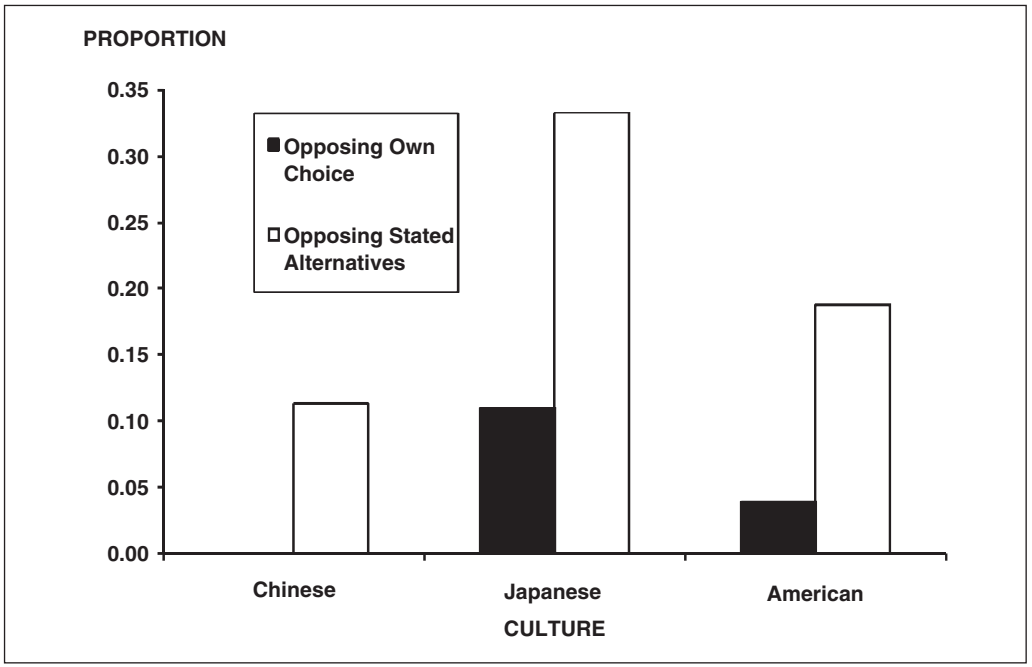

Figure 4. Median argument recruitment statistics by culture, Study 3
The figure shows proportion of arguments generated that opposed the correctness of the alternative the participant chose and proportion of arguments generated that opposed the correctness of either of the explicitly displayed alternative answers.

General Discussion

People differ in the degree to which they are indecisive. The overarching purpose of the present research was to contribute to an understanding of how to anticipate and explain why these differences occur. This is a brief summary of major conclusions suggested by the results:

- *Culture:* The cultures to which people belong can be powerful predictors of their indecisiveness, with indecisiveness being much stronger in the Japanese culture as compared to Chinese and American cultures.
- *Values:* Individuals and their cultures can differ considerably in whether and how much they seem to admire or abhor indecisive behaviors, and these values are associated with the incidence of indecisiveness, for example, the high rate in Japanese culture.
- *Thoroughness:* It appears plausible that one mechanism by which indecisiveness might emerge is the thoroughness with which people go about the deliberations that support their decisions, for example, the extensive analysis undertaken by Japanese respondents.

Possible theoretical interpretations and practical implications of these indications are considered in turn.

The present findings are revealing about the extent and character of an important aspect of culture and decision making that has been largely neglected in the past. They also bring to the fore an important theoretical insight about the nature of indecision (and indecisiveness) that has

not been fully appreciated either, concerning the multifaceted character of the phenomenon. As implied in our discussion of how to reconcile the inconsistencies in previous work on culture and indecisiveness, it is now clear that researchers need to distinguish more sharply between two quite different potential loci of indecision. Decision episodes include several phases (cf. Yates, 2003). One of those phases entails making the metadecision of whether to initiate decision-making deliberations, for example, the analysis of specific alternatives. Another phase (which encompasses several more focused subphases) involves the deliberations themselves, if the episode progresses that far. Some varieties of indecisiveness (e.g., procrastination and buck-passing) are localized in the first phase, and they amount to a reluctance to engage in deliberations. Other varieties, which in principle could be entirely independent, are associated with the second phase and bear on particulars of those deliberations, once initiated (e.g., their thoroughness). Additional significant elements of indecisiveness, such as those reflecting emotions (e.g., Anderson, 2003), could be localized in either or both phases.

This localization insight is related to disagreements about the origins of cultural variations in indecisiveness, too. Previous arguments have tended to emphasize Asian collectivism versus Western individualism. Those arguments have seemed to implicate the engagement aspect of indecision, for example, that a collectivist tradition would discourage one from seeking to carry out decision-making deliberations alone rather than collaboratively. The present results indicate that we must understand differences with respect to the deliberation process itself, too. Although this is by no means assured, and is thus an important topic for future work, it is not out of the question that particular kinds of collectivism (e.g., horizontal, peer-oriented vs. hierarchical, authority-oriented) induce pressures to reflect on problems in different ways. And those ways of thinking might manifest themselves in behaviors that amount to either more indecisiveness or less.

It is not implausible that, as suggested previously, such differences in cognitive customs are the product of the kinds of value differences that were observed here, too. In some cultures, the data suggest, indecision is denigrated. Indeed, in those cultures, the word *indecisive* has negative connotations. In U.S. political and business discourse, for instance, being perceived as indecisive is a liability; a person so regarded is subject to being labeled a "wishy-washy flip-flopper" or a "plodder." In other societies, say, in Japan, the very same behaviors might be evaluated positively. This is perhaps because successful functioning in these other places demands the extensive analysis that is afforded by careful, thorough deliberation rather than casual, cursory consideration. Indeed, behavior derided as "indecisive" in the United States might well be admired there, for example, as evidencing "sophisticated, prudent reflectiveness." And so-called "decisive" behaviors might be appraised as singularly repugnant, for example, as "immature, irresponsible impulsiveness." These opposing interpretations of identical actions are reminiscent of findings by Briley, Morris, and Simonson (2000). These investigators observed that, under particular conditions, Chinese and Japanese were much more likely to endorse choosing compromise decision alternatives than were Americans, many of whom have been socialized to regard compromises as weak, unprincipled failures to stand up for personal beliefs in the interests of simply getting along with others.

The potential practical implications of the present findings are numerous, assuming that they are corroborated by further studies. But perhaps the most compelling possibilities concern cross-cultural collaborations, which are increasingly common in multinational organizations. Our results suggest that there is a good chance that individuals from the collaborating cultures will prefer deliberation styles that are quite different in their thoroughness and, therefore, their speed. Those on one side of the cultural divide will feel that things are moving "too fast," whereas those on the other side will complain that decision making takes "forever" (cf. Liker, 2004). And because these feelings are perhaps rooted in deeply held personal values, tensions within the collaborations are likely to be high and hard to negotiate and manage.

Appendix

Illustrative and Representative Protocols, Study 3

Chinese. Participant 5:

> Question: For which of the following is the gestation period longer? It's (a) humans. That's what I learned from my biology class. The probability is about 90%.

Participant 8:

> For which is the average gestation period longer, (a) humans or (b) chimpanzees? I choose (b) chimpanzees, and the probability is 50%. I am guessing.

Japanese. Participant 1:

> For which is the average gestation period longer? (a) humans, (b) chimpanzees. In the case of humans, I have heard that it takes 10 months and 10 days. It is about 300 days. I don't know what to say about chimpanzees. I feel that the gestation period of the two alternatives will be roughly the same because humans and chimpanzees are similar. The mammals stand on the last stage of evolution from reptiles or amphibians, and I think it is because they chose a safer way of rearing their babies in their bodies, not in eggs. Humans seem to be higher animals than chimpanzees, so I feel the gestation period of humans is longer than chimpanzees. As humans and chimpanzees are similar species, there may be a slight possibility that "chimpanzees" is the correct answer. So the probability is 50%.

Participant 25:

> Question: For which is the average gestation period longer? (a) humans or (b) chimpanzees. I think that the gestation period of both species is roughly the same, because humans and chimpanzees are closely related. Humans have evolved more than chimpanzees, so their gestation period may be longer than chimpanzees'. But it is humans that are born in the more immature condition. Does this mean that the gestation period of humans is shorter? The gestation period of humans is about 10 months. Is it the longest or the shortest? Thinking about animals other than chimpanzees, horses can stand up a few hours after birth. Does this mean that the gestation period of horses is longer because they are born in a more mature condition? I have never heard of an animal whose gestation period is longer than 10 months and whose pregnancy period is 1 year. It is unthinkable that the birth of a panda, for example, is predicted 1 or 2 years before the birth. So I am sure that the gestation period of humans is longer than that of chimpanzees. I don't think it so logical, but the gestation period of humans is 10 months and animals whose gestation periods are longer than that of humans seem to be very rare. The probability is 80%.

American. Participant 1:

> For which is the average gestation period longer, humans or chimpanzees? Well, relatively, I know humans have a long (pause) gestation period compared to most animals, but I don't

(continued)

Appendix (continued)

know what, what it is for chimpanzees, but for some reason I think it's longer than humans, but wait, now I don't know. I know I've read it somewhere, but I can't remember where. Um, I guess I'll go with (pause) chimpanzees, I guess. Just because I have a feeling that I read it or something, so I'll put 60%.

Participant 31:

Question: For which is the average gestation period longer: humans or chimps? I'm gonna go with humans because we're a little bit bigger and generally that's how it works. Probability, I'm almost positive, 95% percent because I know that elephants have, like, a year and a half of gestation.

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Notes

1. In the literature, indecisiveness is seldom explicitly and unambiguously defined, although a host of definitions are implied. The present definition synthesizes most of the conceptions that have appeared in indecisiveness scholarship. It also emphasizes observable manifestations rather than claims about explanations for indecisiveness.
2. We performed principal axis factor analyses of scale responses for each of the three cultures, both with and without the domain-specific items. For each cultural group, a three-factor solution emerged for the full scale, with the factors explaining 49.3%, 33.3%, and 45.4% of the variance for the Japanese, Chinese, and American responses, respectively. When the domain-specific items were removed, each solution reduced to two factors. Substantively, the factors for the Japanese and American responses were essentially the same (decision worries and difficulty deciding). The Chinese factors were partly somewhat different (decision worries and attitude toward decision making).
3. We are indebted to a referee for suggesting this insightful analysis.
4. Previous work (e.g., Lee et al., 1995; Yates et al., 1989) has shown that Chinese respondents in mainland China and Taiwan behave similarly on tasks such as the present ones. We are unaware of reasons

to anticipate differences between the responses of Japanese university students in Tokyo and Hokkaido on the pertinent measures either, although such reasons might perhaps exist.

5. Kim (2002) has some evidence that think-aloud procedures might impair the cognitive performance of Asian Americans on tasks such as Raven's Progressive Matrices Test. But she has neither proposed nor reported different effects among distinct Asian groups, for example, Japanese versus Chinese. Moreover, the present tasks are not performance tasks. Thus, the Kim thesis does not seem pertinent here.

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