

Aging and Wisdom: Culture Matters

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Abstract

People from different cultures vary in the ways they approach social conflicts, with Japanese being more motivated to maintain interpersonal harmony and avoid conflicts than Americans are. Such cultural differences have developmental consequences for reasoning about social conflict. In the study reported here, we interviewed random samples of Americans from the Midwest United States and Japanese from the larger Tokyo area about their reactions to stories of intergroup and interpersonal conflicts. Responses showed that wisdom (e.g., recognition of multiple perspectives, the limits of personal knowledge, and the importance of compromise) increased with increasing age among Americans, but older age was not associated with wiser responses among Japanese. Younger and middle-aged Japanese showed greater use of wise-reasoning strategies than younger and middle-aged Americans did. This cultural difference was weaker for older participants' reactions to interpersonal conflicts and was actually reversed for intergroup conflicts. This research has important implications for the study of aging, cultural psychology, and wisdom.

Keywords

cognitive ability, cross-cultural differences, cognitive development, aging, adult development, wisdom, culture, conflict resolution, reasoning

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Throughout history and across cultures, wisdom has been assumed to increase with age (Heckhausen, Dixon, & Baltes, 1989; Orwoll & Perlmutter, 1990). Recent research has provided some support to this folk belief by demonstrating that older Americans make greater use of wise-reasoning schemas in response to social conflicts than do young and middle-aged Americans (Grossmann et al., 2010, Studies 1 and 2). These schemas emphasize the need for multiple perspectives, compromise, and the recognition of the limits of one's own knowledge—strategies that researchers and counseling practitioners agree reflect wisdom (Grossmann et al., 2010, Study 3). However, it is not clear whether other cultures share this developmental trajectory. In the present study, we explored age-related differences in wise reasoning among Americans and Japanese.

There are many definitions of wisdom (Sternberg & Jordan, 2005). However, there is some consensus that wisdom involves the use of certain types of pragmatic reasoning to navigate important challenges in social life. For instance, some human-development researchers—representing the postformal view of thinking (e.g., Basseches, 1984; Kramer, 1990)—have

proposed a set of cognitive schemas involved in wise thinking, including acknowledgment of other people's points of view, appreciation of contexts broader than the issue at hand, sensitivity to the possibility of change in social relations, acknowledgment of the likelihood of multiple outcomes of a social conflict, concern with conflict resolution, and preference for compromise. Similarly, Baltes, who developed the Berlin Wisdom Paradigm, defined wisdom as knowledge useful for dealing with life problems; such wisdom includes an awareness of the varied contexts of life and how they change over time, recognition that values and life goals differ among individuals and among groups, and acknowledgment of the uncertainties of life together with ways to manage those uncertainties (Baltes & Smith, 2008). What can be inferred from this literature is that wisdom influences how people approach conflicts.

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Research in cultural psychology across the last two decades suggests that cultures differ greatly in the ways they approach conflicts. For instance, Japanese culture encourages interpersonal harmony and stability in the development of close relationships, and much of socialization is oriented toward this end. In contrast, American culture encourages the development of personal preferences and individuation in relationships, which may often prompt interpersonal conflicts (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). Consistent with these findings, results from previous studies have shown that Chinese and Japanese adults show greater preference for less direct forms of social-conflict management (e.g., avoidance strategies, third-party mediation) than do Americans. Americans on average tend to prefer more direct and confrontational conflict-resolution strategies (e.g., direct persuasion; Leung, 1988; Morris et al., 1998; Ohbuchi & Takahashi, 1994). In fact, decisions made by executives in Japan often consist of nothing more than the ratification of consensus among group members. Such decision processes are basically designed to avoid conflicts (Nisbett, Peng, Choi, & Norenzayan, 2001).

These cultural differences in ways people deal with social conflicts are well understood within the theoretical framework of independent versus interdependent social orientation. Some cultures, such as U.S. culture, have been characterized by a social orientation toward independence: emphasizing uniqueness, having relatively low sensitivity to social cues, and encouraging behaviors that affirm autonomy. In contrast, other cultures, including China, Korea, and Japan, tend to value interdependence: emphasizing harmonious relationships with other people (e.g., Markus & Kitayama, 1991; Triandis, 1989), promoting sensitivity to social cues (Nisbett et al., 2001), and encouraging behaviors that affirm relatedness to other people (e.g., Oishi & Diener, 2001). Cross-cultural research has shown that there are differences in socialization that promote these different social orientations, as shown, for example, in several content analyses of elementary-school textbooks (e.g., Imada, 2010; Lanham, 1979).

In the present study, we explored how culture influences wise reasoning about social conflicts over the life span. Specifically, we explored whether the socialization of Japanese toward an interdependent social orientation may result in wiser reasoning skills earlier in life. Because Japanese may learn to preempt potential conflicts, they may experience less conflict resolution than Americans early in life. In contrast, many Americans experience a great deal of conflict and may continue to learn about conflict resolution across different domains over the life span. If this is so, younger Japanese would think more wisely about social conflicts than younger Americans would, yet greater gains would be seen in wise reasoning later in life among Americans than among Japanese.

We tested this possibility by asking random samples of American and Japanese participants ($N = 411$) to reflect on a variety of social conflicts during structured interviews. We simultaneously examined culture and age effects for six previously established aspects of wise reasoning (see the Method section for details).

Method

Participants

We recruited age-stratified random samples of Japanese in Tokyo and American participants in Washtenaw County, Michigan, including a comparable number of participants of both sexes and of three age groups (younger adults: 25–40 years, middle-aged adults: 41–59 years, older adults: 60–75 years). In addition, we included an adequate number of working-class individuals, identified on the basis of level of education and occupational prestige (Ganzeboom & Treiman, 1996; see Table 1). Of the recruited people eligible to participate according to the random-sampling criteria, 54% in the United States and 53% in Japan agreed to participate in the laboratory sessions. Participants were compensated with \$70 or 7,000 yen, respectively, for each of two 2-hr sessions.

Cognitive-ability measures

We measured knowledge-based intelligence using the culture-normed Comprehension and Vocabulary subtests of the third edition of the Wechsler Adult Intelligence Scale (WAIS-III; Wechsler, 1997) for the American participants and its Japanese equivalent for the Japanese participants (Fujita, Maekawa, Dairoku, & Yamanaka, 2006). In both countries, we measured fluid intelligence using the WAIS-III Digit Span task (or its Japanese equivalent) and two tasks (dot matching and pattern matching) designed to test speed of processing in individuals from East Asian and Western cultures (Hedden et al., 2002). Scores on the Vocabulary and Comprehension tasks were highly correlated (United States: $r = .51, p < .001$; Japan: $r = .47, p < .001$) and thus were standardized and collapsed into a single index. Because we used culture-normed measures of knowledge-based intelligence, analysis for these abilities was performed separately for each culture.

Wise-reasoning measures

Wise-reasoning ability was measured in the same fashion for both samples, but materials were presented in the participants' native language. In two sessions, participants read a series of newspaper articles (Grossmann et al., 2010). In Session 1, they read three newspaper articles describing an intergroup conflict with two strong groups opposing each other (the topics of the articles were ethnic tensions, natural resources, and politics). For instance, one story described a conflict between residents of an impoverished Pacific island over whether to allow foreign oil companies to operate there following the discovery of crude oil. After each story, participants were asked the following questions: "What do you think will happen after that?" and "Why do you think it will happen this way?" Their responses were audio-recorded. Participants were not familiar with the countries or areas they read about. In Session 2, we investigated reasoning about interpersonal conflicts among siblings, friends, and spouses using actual letters to an advice columnist and following similar procedures as in Session 1.

Table 1. Descriptive Statistics for the Two Samples

Variable	Japan (<i>n</i> = 186)	United States (<i>n</i> = 225)
Gender	53.2% women, 46.8% men	51.6% women, 48.4% men
Age (years)	<i>M</i> = 46.98 (<i>SD</i> = 14.01)	<i>M</i> = 47.34 (<i>SD</i> = 14.70)
Age group (percentage of sample)		
25–40 years	39.8	40
41–59 years	34.4	32
60–75 years	25.8	28
Education (percentage of sample)		
High school	21.5	11.1
Some college	23.7	30.4
College	54.8	58.6
Occupational prestige	<i>M</i> = 56.43 (<i>SD</i> = 12.76)	<i>M</i> = 58.08 (<i>SD</i> = 16.34)
Speed of processing	<i>M</i> = 0.12 (<i>SD</i> = 0.89)	<i>M</i> = -0.10 (<i>SD</i> = 1.08)
Digit Span score	<i>M</i> = 18.72 (<i>SD</i> = 5.50)	<i>M</i> = 17.97 (<i>SD</i> = 4.15)

Note: Occupational prestige was scored according to the methods of Ganzeboom and Treiman (1996). Speed of processing is reported as *z* scores based on performance of the entire sample on two standardized matching tasks. Digit Span score was obtained using the third edition of the Wechsler Adult Intelligence Scale (Wechsler, 1997).

Participants' transcripts were masked, and age-related information was removed. Trained coders scored transcripts of each response on the six aspects of wise reasoning: (a) considering the perspective of the parties involved (i.e., perspective taking), (b) recognizing the likelihood of change, (c) recognizing multiple possibilities regarding how a conflict might unfold (i.e., flexibility), (d) recognizing the limits of one's own knowledge and acknowledging uncertainty, (e) searching for compromise, and (f) predicting conflict resolution (e.g., Baltes & Smith, 2008; Basseches, 1984; Grossmann, Na, Varnum, Kitayama, & Nisbett, 2012; Grossmann et al., 2010). Raters coded the degree to which participants used each aspect of wise reasoning on a scale ranging from 1, *not at all*, to 3, *a great deal*. We ensured cross-cultural equivalence by having one coder from each culture code random samples of 50 translated responses from another culture, and we compared the agreement across coders. There was 80% agreement between coders. Within each session, scores across stories were correlated (Session 1—United States: mean $r = .15$, Japan: mean $r = .16$; Session 2—United States: mean $r = .18$, Japan: mean $r = .15$). Therefore, subsequent analyses were performed on composite scores across stories for intergroup and interpersonal conflicts, respectively. In the interest of parsimony and to enhance measurement reliability, we also created an overall mean score of wise reasoning for each session.

Results

In line with most life-span studies of intelligence (Schaie, 1994), our results showed an overall effect of age: Greater age was associated with lower fluid intelligence across all tasks in both countries, $F(1, 398) = 165, p < .001$, as evidenced by scores on the dot-matching task (United States: $r = -.45, p < .001$; Japan: $r = -.53, p < .001$), pattern-matching task (United States: $r = -.42, p < .001$; Japan: $r = -.61, p < .001$), and WAIS-III Digit Span subtest (United States: $r = -.18, p = .01$; Japan: $r = -.37, p < .001$). Also consistent with previous literature (e.g., Salthouse, 2004; Schaie, 1994), findings showed that older age was not associated with lower knowledge-based intelligence (United States: $r = -.05, n.s.$; Japan: $r = -.03, n.s.$). Neither younger age groups, $F(1, 163) = 1.14, n.s.$, nor older age groups, $F(1, 163) = 1.50, n.s.$, differed in fluid intelligence across cultures.

Older adults in both cultures talked significantly more than did younger adults (United States: $r = .27, p < .001$; Japan: $r = .21, p = .004$). Consistent with work on age-related inhibition deficits (Hasher, Stoltzfus, Zacks, & Rypma, 1991), our results showed that older adults were more distracted than younger adults were, as revealed by content analysis of interview responses (United States: $r = .18, p < .01$; Japan: $r = .22, p < .005$). Length of response, as quantified by the number of sentences each participant spoke, was positively correlated with wisdom score (e.g., flexibility—United States: $r = .40, p < .001$; Japan: $r = .24, p = .001$; perspective taking—United States: $r = .41, p < .001$; Japan: $r = .29, p < .001$), and therefore it was regressed out. We performed subsequent analyses on wisdom residuals.

As Figures 1 and 2 and Tables 2 and 3 show, there were age differences in reasoning about intergroup and interpersonal conflicts in the United States ($r = .53, p < .001$, and $r = .24, p < .001$, respectively), but not in Japan, ($r = -.01, n.s.$, and $r = -.06, n.s.$, respectively). The Culture \times Age interaction was significant for the composite score of wise reasoning about intergroup conflicts, $\beta = 0.30, p < .001$ (Table 4). Simple-slopes analyses indicated that younger and middle-aged Japanese scored significantly higher than did their American

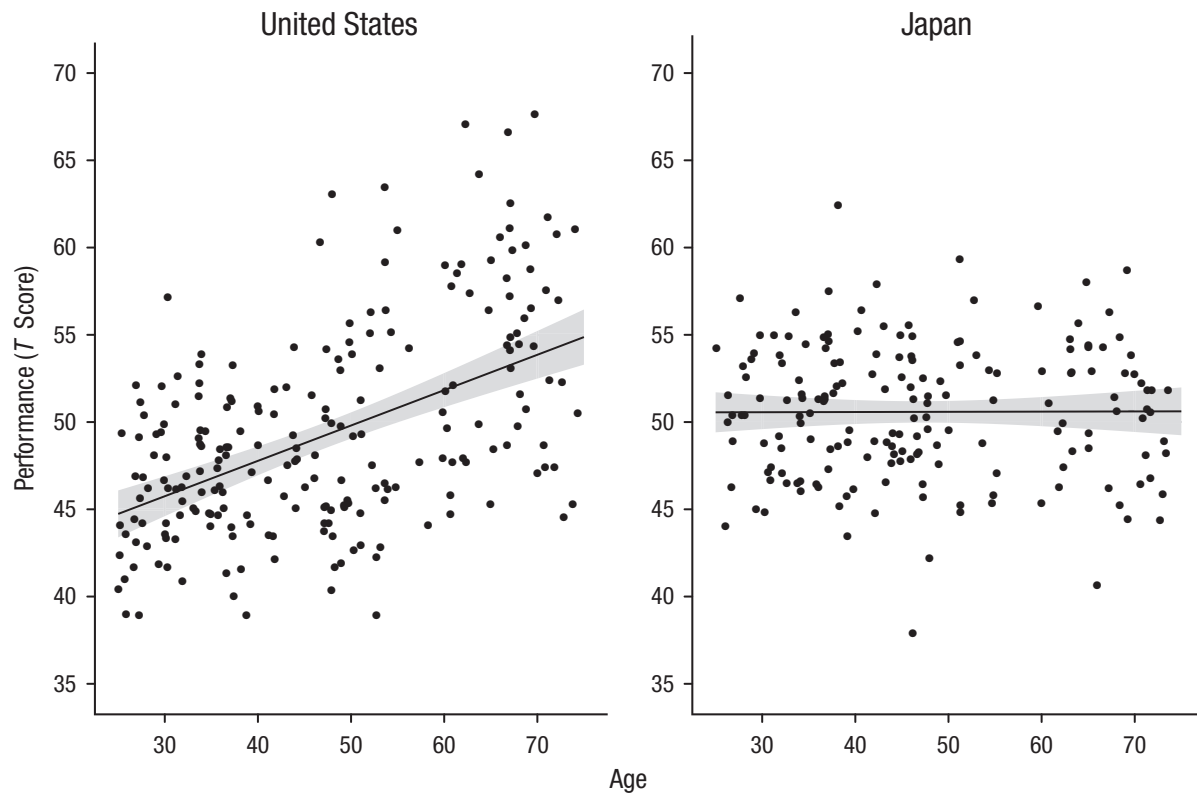


Fig. 1. Scatter plots (with best-fitting robust regression smoother with a 95% confidence band) showing wise-reasoning T scores ($M = 50$, $SD = 10$) for intergroup conflicts as a function of age in the Japanese and American participants. Wise-reasoning scores were calculated by collapsing across mean scores (standardized across nations) for six categories of reasoning.

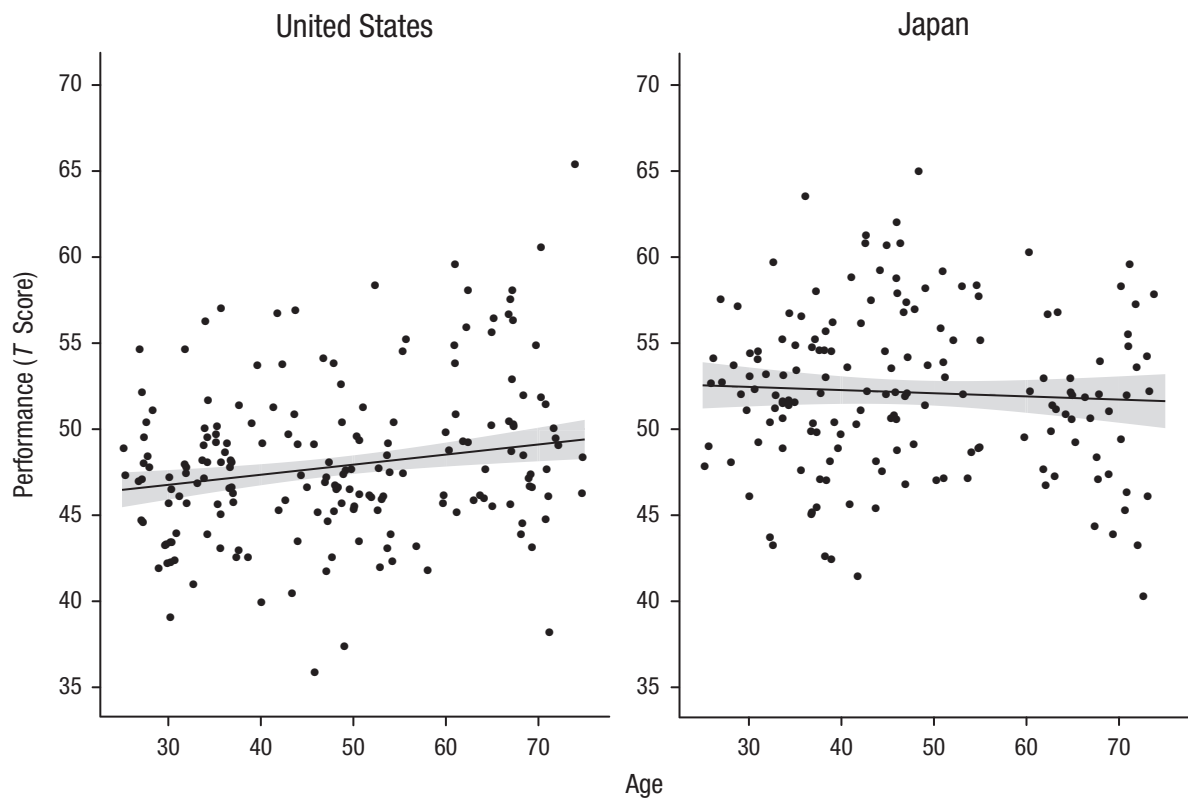


Fig. 2. Scatter plots (with best-fitting robust regression smoother with a 95% confidence band) showing wise-reasoning T scores ($M = 50$, $SD = 10$) for interpersonal conflicts as a function of age in the Japanese and American participants. Wise-reasoning scores were calculated by collapsing across mean scores (standardized across nations) for six categories of reasoning.

Table 2. Zero-Order Correlations With Responses to Intergroup Conflicts (Session 1)

Country and variable	Change	Compromise	Flexibility	Perspective taking	Recognition of limits of knowledge	Conflict resolution	Composite wisdom score
United States							
Age	.27***	.34***	.30***	.37***	.12 [†]	.39***	.53***
Gender	-.03	-.08	-.09	.02	-.04	.00	-.05
Education	.03	.07	.19*	.09	.10	.01	.14*
Occupational prestige	.10	.05	.10	.05	.07	.07	.13*
Speed of processing	-.10	-.23***	-.12 [†]	-.08	-.04	-.16*	-.21**
Digit Span score	-.04	-.04	.16*	-.11	.07	.02	.02
Knowledge-based IQ	.06	.11 [†]	.21***	.00	.14*	.02	.16*
Japan							
Age	-.18*	.08	-.08	-.02	.06	.03	-.01
Gender	.01	-.08	-.18*	-.18*	-.17*	.02	-.13 [†]
Education	.14 [†]	-.02	.09	-.03	-.12	.17*	.05
Occupational prestige	-.02	.10	.14 [†]	.12	.06	.07	.15*
Speed of processing	.17*	.01	.20*	.03	-.15*	.01	.04
Digit Span score	.12	.06	.14 [†]	-.01	-.06	-.03	.06
Knowledge-based IQ	.16	.05	.11	-.02	.03	.16*	.13 [†]

Note: Japan was coded as -0.5, and United States was coded as 0.5. Age was mean-centered. Female gender was coded as -1; male gender was coded as +1. Occupational prestige was calculated following the methods of Ganzeboom and Treiman (1996). Speed of processing is reported as z scores based on performance of the entire sample on two standardized matching tasks. Digit Span score was obtained using the third edition of the Wechsler Adult Intelligence Scale (WAIS-III; Wechsler, 1997). Knowledge-based IQ was measured by calculating z scores within country on the Comprehension and Vocabulary subtests of the WAIS-III. [†]*p* ≤ .1. **p* ≤ .05. ***p* ≤ .01. ****p* ≤ .001.

Table 3. Zero-Order Correlations With Responses to Interpersonal Conflicts (Session 2)

Country and variable	Change	Compromise	Flexibility	Perspective taking	Recognition of limits of knowledge	Conflict resolution	Composite wisdom score
United States							
Age	.26***	.16*	.25***	.23**	.04	-.09	.24***
Gender	-.08	-.04	.01	-.03	.01	-.07	-.06
Education	-.02	.06	.13 [†]	.05	.19**	.05	.16*
Occupational prestige	.04	.16*	.05	.01	.08	.07	.13 [†]
Speed of processing	-.06	-.06	-.07	-.15*	.07	.15*	.00
Digit Span score	-.10	-.01	.05	.00	.24***	.08	.11
Knowledge-based IQ	.08	.08	.20**	.08	.20**	.24***	.30***
Japan							
Age	-.16*	.01	-.06	.06	-.01	-.01	-.06
Gender	.11	-.05	-.13 [†]	.02	-.13 [†]	-.04	-.06
Education	.11	.08	.07	.16*	-.03	.06	.15*
Occupational prestige	.10	-.06	.09	.23**	-.10	.03	.09
Speed of processing	.12	-.01	.16*	.08	.03	.10	.16*
Digit Span score	.17*	-.05	.08	-.01	.00	.06	.09
Knowledge-based IQ	.06	.01	.07	.18*	.03	.03	.13 [†]

Note: Japan was coded as -0.5, and United States was coded as 0.5. Age was mean-centered. Female gender was coded as -1; male gender was coded as +1. Occupational prestige was calculated following the methods of Ganzeboom and Treiman (1996). Speed of processing is reported as z scores based on performance of the entire sample on two standardized matching tasks. Digit Span score was obtained using the third edition of the Wechsler Adult Intelligence Scale (WAIS-III; Wechsler, 1997). Knowledge-based IQ was measured by calculating z scores within country on the Comprehension and Vocabulary subtests of the WAIS-III. [†]*p* ≤ .1. **p* ≤ .05. ***p* ≤ .01. ****p* ≤ .001.

Table 4. Results for the Linear Regression Models for Intergroup Conflict (Session 1) and Interpersonal Conflict (Session 2) for the Culture \times Age Interaction

Variable	Intergroup conflict	Interpersonal conflict
Change	0.19***	0.72***
Compromise	0.14**	0.16*
Flexibility	0.18***	0.54**
Perspective taking	0.20***	0.02
Recognition of limits of knowledge	0.04	0.09
Conflict resolution	0.19***	-0.14
Composite wisdom score	0.30***	0.46**

Note: Standardized regression coefficients are shown. Japan was coded as -0.5 , and United States was coded as 0.5 . Female gender was coded as -1 ; male gender was coded as $+1$.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

counterparts for intergroup conflicts—1 *SD* below the mean age: $t(395) = 6.46, p < .001$; mean age: $t(395) = 2.58, p = .01$ (see Fig. 1); however, older Americans scored significantly higher than did their Japanese counterparts—1 *SD* above the mean age: $t(395) = 2.81, p = .005$. Subsequent follow-up analyses indicated that the Culture \times Age interaction was significant for all aspects of wise reasoning about intergroup conflicts ($0.15 < \beta_s \leq 0.20, ps < .01$), except for recognition of the limits of one's knowledge, $\beta = 0.04, n.s.$

Tables 3 and 4 show the results for the interpersonal-conflict scenarios. The Culture \times Age interaction was significant for the composite score of wise reasoning about interpersonal conflicts, $\beta = 0.46, p < .01$. Corresponding simple-slopes analyses indicated that Japanese of all ages scored significantly higher than did their American counterparts for interpersonal conflicts; however, this effect was weaker in older age (1 *SD* below the mean age: $t(347) = 7.80, p < .001$, and the mean age: $t(347) = 8.27, p < .001$, vs. 1 *SD* above the mean age: $t(347) = 3.87, p = .001$; see Fig. 2). Subsequent follow-up analyses indicated that the Culture \times Age interaction was significant for recognition of change, compromise, and recognition of multiple possibilities about how a conflict might unfold ($0.16 < \beta_s \leq 0.72, ps < .05$). Curiously, at all ages, Americans ($M = 52.67, SE = 0.49$) mentioned conflict resolution more often than did Japanese ($M = 46.73, SE = 0.53$), $F(1, 336) = 65.56, p < .001$. We return to this finding in the Discussion.

Overall, men did not score differently from women (United States: $F_s < 1, n.s.$; Japan: $F_s < 2.29, n.s.$). Finally, wise reasoning was positively associated with education, occupational prestige, and knowledge-based intelligence in both cultures (see Tables 2 and 3), but controlling for these variables did not change the age-wisdom results (intergroup conflicts—United States: partial $r = .50, p < .001$, Japan: partial $r = .05, n.s.$; interpersonal conflicts—United States: partial $r = .25, p < .001$, Japan: partial $r = -.09, n.s.$).

Discussion

The findings reported here indicate that Japanese, whose culture encourages interpersonal harmony, gain wisdom about

social conflict and its avoidance earlier than Americans do. When thinking about intergroup or interpersonal conflicts, younger and middle-aged Japanese on average gave wiser responses than did Americans. However, in part because of the tendency of Japanese to preempt potential conflicts, Americans experience more conflicts than Japanese do (Ohbuchi & Takahashi, 1994), and these conflicts are likely to be more heterogeneous in nature. Thus, Americans may continue to learn about conflict resolution across different domains over the life span. Consistent with these suppositions, our results showed that older Americans reason more wisely about intergroup and interpersonal conflicts than their younger counterparts.

The present work showcases the importance of exploring aging-related and cultural processes simultaneously in the same research design. Yet the present research is only the first step in exploring wise reasoning across cultures. Future work will benefit from performing more fine-grained cultural analyses, for instance by examining aging-related patterns in cultures other than Japan and the United States or by looking at regional variations (e.g., pacifist groups in the United States; for a review, see Kitayama & Uskul, 2011). Experimental research exploring underlying causal mechanisms, for instance by manipulating the hypothesized mediating variables (e.g., independent vs. interdependent orientation), would also complement this line of inquiry. Future research may also test Age \times Culture interactions longitudinally and explore whether these patterns generalize to socioemotional aspects of wisdom (Meeks & Jeste, 2009).

In interpreting the results of our research, one important consideration is generalizability of the present findings across various reasoning strategies. Consistent with previous work showing that people from interdependent cultures more often keep conflicts covert (rather than overt) compared with individuals from independent cultures (Ohbuchi & Takahashi, 1994), the results of the present study showed that Americans mentioned conflict resolution more often than Japanese did. Yet even though Japanese did not focus on conflict resolution in the social scenarios they were presented with, they mentioned other wisdom-related reasoning strategies more often than did Americans. It seems plausible that explicit focus on

conflict resolution may not be a universal attribute of wise reasoning about social dilemmas.

Another possible extension of the present work concerns the consistency of Culture \times Age interactions across various forms of conflicts. In the present research, we observed some consistency of Culture \times Age interactions across intergroup and interpersonal domains. However, we also observed domain-specific cultural differences between older adults. Specifically, older Japanese showed a greater ability to reason wisely about interpersonal conflicts than older Americans did, whereas older Americans were wiser than older Japanese when reasoning about intergroup conflicts. Factors beyond interdependent social orientation may be informative in helping to understand this pattern of results. It is possible that Japanese, whose society is more homogeneous than American society (Sugimoto, 2010), have a more hierarchically structured approach to resolving intergroup conflicts (e.g., by a superordinate institution).

We also note that the boundaries between in-group and out-group are less flexible in Japan than in the United States, perhaps leading Japanese to view intergroup conflicts as less tractable (Schug, Yuki, Horikawa, & Takemura, 2009). Thus, Japanese may learn less about intergroup conflicts than Americans do. Although reasoning strategies that promote conflict resolution may seem adaptive, it should also be kept in mind that conflicts sometimes result in constructive and positive outcomes. For example, deviants in a group can sometimes improve the quality of decision making by encouraging divergent and creative thinking (Crisp & Turner, 2011). Similarly, interpersonal conflicts can sometimes produce more stable relationships in the long run (for a review, see Rothbaum et al., 2000). It is important to note that it is not conflict resolution per se, but the reasoning behind it that defines wisdom. Under certain circumstances, wise reasoning might lead people to endorse conflict as a means by which to address a particular issue. For example, wisdom may at times require group leaders to endorse unpopular societal reforms to secure outcomes that are beneficial to society over the long term. Future work should explore whether similar Culture \times Age interaction might occur in circumstances in which conflict might prove productive.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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