

Is the use of averaging in advice taking modulated by culture?

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Abstract.

Many recent experiments have explored the way people take advice into account. It has been observed that in so doing participants often rely on one of the two following strategies: averaging between the different opinions or choosing one of the opinions, as opposed to using more complex weighting strategies. While several factors that affect strategy choice have been investigated, no attention has been paid to potential cultural variations. Among the many relevant cross-cultural differences, results have shown that Easterners tend to favor compromise more than Westerners, a difference that could translate into a greater preference for averaging in Eastern population. In Experiment 1, we confronted Japanese and French participants to two pieces of advice and asked them to form an aggregate answer. In Experiments 2, participants had to aggregate their own opinion and a piece of advice. In neither of the experiments were the Japanese more likely to use averaging than the French. Explanations for this robust absence of difference are suggested. The only difference that emerged was that the Japanese were more likely to choose the advice and less likely to choose their own answer than the French. Different interpretations of this result are discussed, including the possibility that it is an artefact of a theoretically irrelevant difference between the populations under study.

Keywords

Advice taking; Averaging; Choosing; Cross-cultural

We seldom make a decision without knowing somebody else's point of view. Be it a member of our family, a colleague, a blogger or a journalist, there are many sources of information we may consider before making a choice. How do we deal with information received from others? The flourishing literature on advice taking (for review, see Bonaccio & Dalal, 2006) has uncovered many factors that influence the way people take advice into account. In this article, we will focus on a specific subset of task that has become the mainstay of the literature on advice: numerical estimations. When participants perform a task of numerical estimation—the date of an historical event, the average

income of a given MBA's graduates, etc.—they are provided with the opinion of one or more advisors. Then, depending on the task, they have to form their own numerical estimate based on these opinions or on an aggregation of these opinions with their own previous opinion. Participants can thus *choose* one of the opinions and provide it as their final answer. They can also *average* between different opinions and provide this average as their final answer. Or they can use a more complex strategy of granting the various opinions different weights. Based on item by item analyses of the data of several experiments, a recent article has suggested that the first two strategies dictate the majority of the answers: *choosing* and *averaging* (Soll & Larrick, 2009).

What determines which of these two strategies people rely on? Several factors have been found to influence what is the normatively most adequate strategy (Soll & Larrick, 2009). For instance, if the opinions tend to form a bracket around the correct answer, then averaging is more likely to lead to a good answer because errors on each side of the correct answer tend to neutralize each other. Conversely, if there are large differences between the accuracy of different opinions, and if there are reliable cues as to which opinion is more accurate, then choosing can become the superior strategy. People have been found to adequately respond to variations in these parameters, (Larrick & Soll, 2006; Soll & Larrick, 2009, experiment 4). Still, overall people seem to underestimate the efficiency and to underuse the averaging strategy (Soll, 1999; Soll & Larrick, 2009)

Beyond these rational factors, participants are also influenced in their choice of strategy by less cogent elements. Particularly relevant here is the influence of cultural factors, which can take the form, or be identified by, the preference for certain aphorisms. The acceptance of aphorisms valuing compromise (such as “the truth lies in the middle”) has been shown to correlate with the acceptance of averaging principles (Larrick & Soll, 2006, experiment 4). Which aphorisms a person will be exposed to and which aphorism she will come to embrace is strongly influenced by the surrounding culture. For instance, several studies have shown that Easterners and Westerners have different tastes in matters of proverbs (Peng & Nisbett, 1999, but see the conclusion for criticisms). Of

particular interest is the fact that, compared to Western proverbs (in this case, American), there are more Eastern proverbs (in this case, Chinese) emphasizing the value of compromise—which can be linked to averaging—and less Eastern proverbs supporting extreme decisions—which can be linked to choosing. Moreover, compared to Westerners, Easterners tended to like ‘compromise’ proverbs more and ‘extreme’ proverbs less (irrespective of the origin of the proverbs) (Briley, Morris, & Simonson, 2000; Peng & Nisbett, 1999).

More generally, it seems that Easterners and Westerners differ with respect to the degree of compromise they follow when dealing with contradictory information (Peng & Nisbett, 1999). This is particularly relevant here since coping with advice often involves the experience of contradiction, as when a piece of advice contrasts with our own views or when two pieces of advice contradict each other. According to Peng and Nisbett, when Westerners come across two opposing views they tend to consider that one is right and the other is wrong, while Easterners are more likely to regard both views as carrying a part of the truth. Peng and Nisbett report a series of experiments showing cross-cultural differences between American and Chinese participants in tasks where they had to deal with different expressions of contradictions. All the experiments concur and result in data indicating that Chinese adopt a middle-way approach to a greater extent than Americans. If the tendency to adopt a compromise approach plays a role in the choice of a strategy—as shown for instance by the effect of beliefs in cultural aphorisms—when dealing with advice, it can be predicted that Easterners will use averaging more often than Westerners.

There are also other reasons to expect cross-cultural differences in the propensity to use the choosing and averaging strategies. In particular, Eastern cultures tend to be more collectivistic than Western cultures (Triandis & Suh, 2002), and Easterners value social harmony more than Westerners (Peng & Nisbett, 1999). As a consequence, when Easterners have to combine their own opinion with a piece of advice, they might be inclined to average between the two. Averaging represents the ‘middle way,’ a consensus that is more likely to sustain good interpersonal relationships. In a

Western context, averaging could be perceived as a 'wishy-washy' decision, the choice of someone who doesn't quite know what to do (Briley et al., 2000). Other differences in social interaction styles between these two cultures might influence the way advice is taken into account. Easterners are better at taking the perspective of their audience than Westerners, who turn out to be more egocentric and more distracted by their own perspective—they can exhibit superior theory of mind skills (Wu & Keysar, 2007). To the extent that people discount advice in part because they fail to represent the reasons the advisor might have had for offering it (Yaniv, 2004), variations in theory of mind abilities could impact advice discounting.

Even though the literature on advice taking is now relatively vast, it has been carried out nearly exclusively in the West (mostly USA and Israel), and it does not allow for a test of the cross-cultural hypothesis that Easterners are more prone to use averaging than Westerners. Accordingly, we have carried 2 experiments comparing an Eastern population (Japanese participants) and a Western population (French participants). In Experiment 1 participants were faced with a very simple choice that did not involve their prior opinion. This allowed for a simple test of the hypothesis that cultural elements such as the tendency to compromise influences strategy selection. In Experiment 2, participants had to weight a piece of advice against their own previous opinion. The second experiment can thus also test for the hypothesis that Easterners participants will be more prone to averaging and less likely to choose their own opinion in order to avoid social discord.

### **Experiment 1**

The goal of Experiment 1 was to provide a simple test of the hypothesis that Japanese participants are more prone to use averaging than French participants. The methodology used was a slightly modified version of the first study of Yaniv (1997). Participants were provided with two pieces of advice in order to express a judgment on an imaginary situation. The cross-cultural prediction is that

Japanese participants are more likely to give an answer that falls between these two pieces of advice than the French participants.

### *Method*

#### Participants

The participants were undergraduates business and economics students (Japan, N=126; France, N=127). French participants were recruited in the University of Lyon 3 and Japanese participants in the University of Kansai.

#### Material and Procedure

Participants were given booklets with instructions and questions. The instruction went as follows<sup>1,2</sup>:

*In this experiment, you will have to imagine that you are traveling in a foreign country. You have very limited knowledge of this country, and you would like to know more about its history. To do so, you ask French [Japanese] people who have lived in this country for quite a long time to answer your questions. Below you will find the answers of these different persons to your questions. These answers are two dates between which the person who answered thinks the event happened. Here is an example:*

*The question you have asked: In what year did event X happen?*

*The answers you obtained:*

*Person 1: 1896-1904*

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<sup>1</sup> All the excerpts from the material are translated from French.

<sup>2</sup> A note on the translations from French to Japanese: all the materials were first written in French, then translated into Japanese, and then back-translated into French. All discrepancies were resolved and the texts were checked again.

*Person 2: 1920-1960*

*Depending on the questions, the number of answers can be different. Your task will be to try to estimate the date in which you think the event happened by taking into account the different answers that were given. You will have to provide a precise answer and two dates between which you think the event happened.*

The booklets comprised 15 questions similar to this one. Twelve of these questions were not related to the present experiment and can be considered as fillers. The 3 relevant questions were structurally similar to this one. In each of these questions, there were two advisors and their advice was designed so that one of them would be expressed with greater confidence than the other: the interval width of the most confident advice was 8 years while that of the less confident advice was 40 years. The midpoints of the two intervals were 40 years apart, and they were scattered in the last two centuries among the three questions. In the present example, the precise advice is '1896-1904' (midpoint 1900) and the imprecise advice is '1920-1960' (midpoint 1940, 40 years apart from 1900). Participants had to give a precise answer and a range in which they thought the answer would fall. Participants were given the booklets while they were in a classroom before a class. They had as much time as was necessary to complete the questionnaires.

*Results*

Before proceeding to the analysis, answers that were not within the range of the external bounds of the advice (e.g. before 1896 or after 1960 in the example above) were discarded as they would not fit any interesting strategy (Japan 3.6% of the answers; France 2.2%). Answers were then categorized as being either within the range of the precise advice, within the range of the vague advice, and between the two ranges. A composite score representing the proportion (X out of 3) of choices falling in each category was computed for each participant. Figure 1 displays the average of these proportions by country. Pairwise comparisons were tested with *t* tests performed on arcsin-transformed proportions. There was no significant differences in the between country analysis

(precise advice:  $t(252) = .48, p > .6, 95\% CI = -.063 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .092$ ; between the two ranges:  $t(252) = .77, p > .4, 95\% CI = -.049 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .123$ ; vague advice:  $t(252) = 1.21, p > .2, 95\% CI = -.134 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .031$ ).

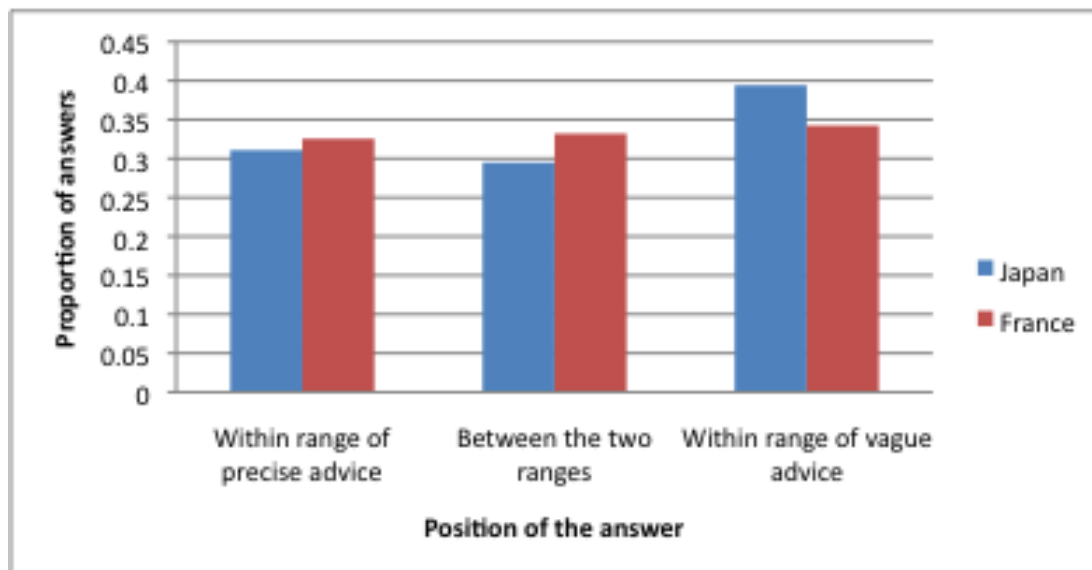


Figure 1. Proportions of answers in each category, Experiment 1.

Given that the range of the precise advice was of necessity smaller than that of the vague advice, the absence of a difference between these two categories can actually reflect a bias towards the precise advice: answers within the range of the precise advice tended to be much closer to the mid-point of the advice than answers within the range of the vague advice. Comparing the mean of the participants' answers to the mean between the midpoints of the two pieces of advice, we observe a systematic bias towards the precise answer: 3.6 years for the Japanese group (comparison with mean:  $t(125) = 3.79, p < .0005$ ) and 4.4 years for the French ( $t(126) = 4.82, p < .0001$ ). The cross-cultural difference is not significant ( $t(252) = .68, p > .4, 95\% CI = -1.67 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq 3.44$ ).

### Discussion

In this experiment, no cross-cultural differences emerged: Japanese and French participants were as likely to rely on choosing or averaging. Experiment 1 had the advantage of providing for a very simple

and straightforward test of the cultural hypothesis. It shows that in a situation of having to balance two pieces of advice, the Japanese participants were not more likely to follow the 'middle way'. We also replicated the preference for the precise answer observed in Yaniv (1997) and observed no cross-cultural difference in that domain. However, other cultural factors could also create a preference for averaging among the Japanese. In particular it is possible that in a search for interpersonal harmony, Japanese participants would be more likely to average when they are weighting a piece of advice against their own opinion.

## **Experiment 2**

The goal of the Experiment 2 was to make participants weight a piece of advice against their own opinion. The methodology is similar to that followed by Yaniv and others (e.g., Yaniv, 2004; Yaniv & Kleinberger, 2000). Participants first had to answer questions about historical events. They were then given the responses of other participants (the advisors) to the same questions. They could then provide new answers. The cross-cultural prediction is that the Japanese participants are more likely to average between their prior opinion and the advice, and that they are less likely to choose their own opinion.

### *Method*

#### Data gathering phase

In order to ensure that the advice given to the participants would not appear overly artificial, we gathered data prior to the experiment itself in a pool of participants similar to the participants of the actual experience. During this gathering phase a first group of participants was asked to answer 15 questions related to the dates of the world and American history, such as:

*In what year was the UN (United Nations) created?*

*Precise answer: \_\_\_\_\_*

*Dates between which you are sure at 95% that the answer falls: \_\_\_\_\_ - \_\_\_\_\_*

The list of questions can be found in Appendix A. The participants were undergraduates in social sciences, majoring in psychology (Japan, N=43; France, N=37). The results of the gathering phase yielded a set of answers that could then be used as advice in the proper experiment. Before using these answers as advice, the answers that erred by more than 2 standard deviations below the mean in accuracy were eliminated. The purpose of this manipulation was to avoid advice that was too inaccurate (in the wrong millennia for instance) as this might have dramatically reduced the credibility of the advice as a whole. Twenty sets of 15 pieces of advice were created by sampling at random from the answers gathered in this phase.

### Participants

The participants were similar to the participants of the gathering phase: undergraduates in social sciences, majoring in psychology, from University of Lyon 3 and University of Kansai (Japan, N=51; France, N=64).

### Material and Procedure

The participants were given a first booklet of questions identical to the one that the participants of the gathering phase had received. After they had completed the booklets, they were distributed a second booklet which contained the same questions accompanied by one of the 20 sets of advice previously constructed. The participants now had three answers for each question: their initial

answer (that they were asked to report on this second sheet), the advice, and their final answer.

Here is an example:

*In what year was the UN (United Nations) created?*

*Your first answer:*

*Precise answer:* \_\_\_\_\_

*Dates between which you are sure at 95% that the answer falls:* \_\_\_\_\_ - \_\_\_\_\_

*The answer of another student:*

*Precise answer:*   1945  

*Dates between which you are sure at 95% that the answer falls:*   1944   -   1945  

*Your new answer:*

*Precise answer:* \_\_\_\_\_

*Dates between which you are sure at 95% that the answer falls:* \_\_\_\_\_ - \_\_\_\_\_

The participants were told that this booklet contained the answers previously given by a student with a background similar to theirs, each answer having been answered by a different student.

## *Results*

### Preliminary analysis

Before proceeding to the analysis, data points that would not be interpretable were discarded. When the first answer of the participant was the same as the advice there was no interesting strategy choice, so these answers were discarded (Japan 3.9% of the cases; France 4.7%). Any second answer of the participants going beyond the advice was also discarded as there was no clear fit with any

relevant strategy (Japan 5.8%; France 3.9%)<sup>3</sup>. Finally, and for the same reason, we discarded the data points for which the advice and the second answer were on opposite sides of the first answer—for instance, first answer: 1950, advice: 1960, second answer: 1940 (Japan 1.7%; France 1.1%).

The accuracy of the advice was then compared to the accuracy of the first answers of the participants. The measure of accuracy used throughout the analysis will be the absolute deviation, from the correct answer, in number of years. In both countries, the advisors' answers were significantly more accurate than the first answers of the participants (both countries,  $p < .001$ ). This is a consequence of the selection of advice: given that the less accurate pieces of advice had been eliminated before being presented to the participants, such a difference was to be expected. However, as this difference was similar in both groups (Japanese and French participants), it needs not be a major concern here.

#### Accuracy and weight of advice

The average accuracy before and after advice was as follows, with significance calculated using paired t tests and participants as the level of analysis to avoid interdependent data points: Japan, before: 36.7, after: 24.8 ( $t(63) = 4.62, p < .0001$ ); France, before: 17.6, after: 13.4 ( $t(50) = 7.20, p < .0001$ ). Cross-country comparisons show that French participants were significantly more accurate than Japanese participants, both before ( $t(113) = 5.44, p < .0001$ ) and after receiving the advice ( $t(113) = 12.08, p < .0001$ ).

For each answer, the weight granted to the advice ( $wa$ ) was computed. If participants chose their first answer  $wa = 0$ , if they chose the advice  $wa = 1$ , and if they averaged  $wa = .5$ . This measure was then averaged for each participant.  $Wa$  was significantly less than .5 in both countries: Japan,  $wa$

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<sup>3</sup> We chose to discard these results rather than transform them into the strict adoption of the advice (as Soll & Larrick, 2009 did) because this would have artificially inflated the number of 'choosing' strategy attributed to the participants.

= .43 ( $t(50) = 2.01, p < .05$ ); France,  $wa = .28$  ( $t(63) = 18.05, p < .0001$ ). There was also a strong cross cultural difference, with the French participants discounting the advice much more than their Japanese counterpart ( $t(113) = 4.72, p < .0001$ ). In both countries, there was a significant correlation between accuracy and  $wa$ : less accurate participants tended to grant more weight to the advice: Japan  $r(50) = .31, p < .05$ ; France  $r(63) = .28, p < .05$ . The cross-cultural difference in  $wa$  could therefore partially be accounted for by the difference in accuracy, a point to which we return in the discussion.

### Strategy use

A superficial inspection of the  $wa$  for Japanese and French participants might seem to indicate that the Japanese participants were much more prone to averaging than the French. There is however another possibility: that the Japanese participants instead choose more often to completely follow the advice. In order to tease out these possibilities, the results will now be described in terms of the strategies used. Each answer was first classified in 7 categories according to the value of  $wa$  (see Figure 2). Descriptively, the shape of the Japanese distribution is very similar to the W shaped distribution observed by Soll and Larrick (2009). The French distribution is slightly different in that very few people chose to adopt the advice completely.

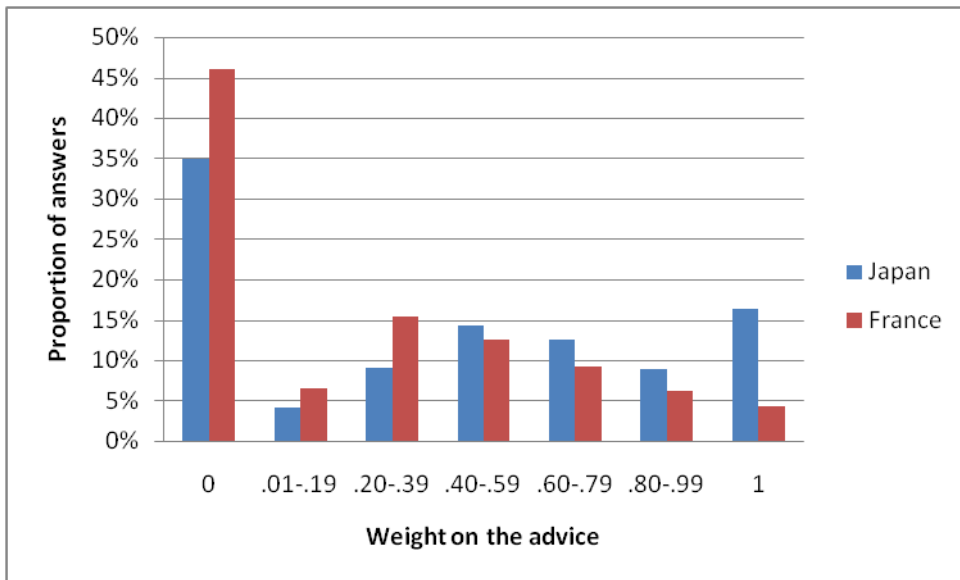


Figure 2: Distribution of the answers in experiment 2 (Japan, N = 678; France, N = 876).

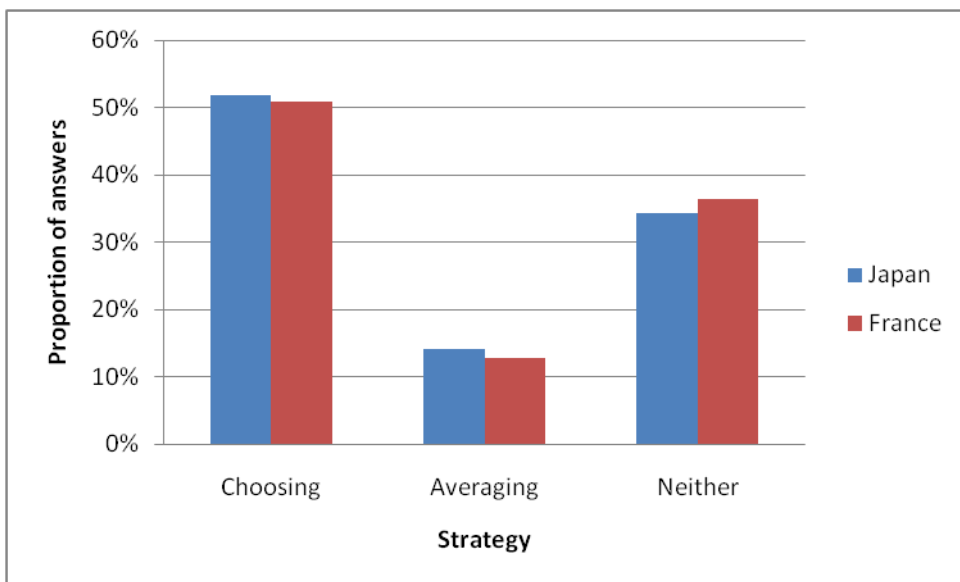


Figure 3: Proportions of strategy use averaged by participant (Japan, N = 51; France, N = 64).

The categories above were then fused into three categories: choosing ( $w_a = 0$  or  $1$ ), averaging ( $.40 < w_a < .59$ ), and following neither strategy (all the other values of  $w_a$ ). A score was computed for each participant representing the proportion of choice falling in the different categories. These proportions, on which the arcsin transformation was applied, were then compared using  $t$  tests (paired for within country analysis). We observed the same difference in both countries:

people chose more often than they followed neither strategy (Japan:  $t(50) = 3.61, p < .001$ ; France:  $t(63) = 4.54, p < .0005$ ) and they followed neither strategy more often than they averaged (Japan:  $t(50) = 5.43, p < .0001$ ; France:  $t(63) = 12.03, p < .0001$ ) (see Figure 3). At that level of analysis, there is no cross cultural differences (choosing:  $t(113) = .59, p > .5, 95\% CI = -.009 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .083$ ; averaging:  $t(113) = .55, p > .5, 95\% CI = -.053 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .028$ ; neither:  $t(113) = 1.34, p > .25, 95\% CI = -.052 \leq \text{Mean}_{\text{French}} - \text{Mean}_{\text{Japanese}} \leq .085$ ). However, going back to the finer grained analysis in 7 categories, we observe that the choosing strategy differs in Japan and in France: Japanese participants are less likely than French participants to choose their own answer ( $t(113) = 2.63, p < .001$ ) and more likely to choose the advice ( $t(113) = 4.78, p < .0001$ ). This difference partly accounts for the observed difference in *wa*. It could be imagined that those participants who chose the advice had been particularly inaccurate in their first answers, answering nearly at random for instance. This is not the case however. When participants chose the advice, they had been approximately as accurate, in their first answer, as when they relied on other strategies (comparison of the accuracy of those answers for which participants chose the advice v. all the other strategies: Japan, 37.0 v. 36.1; France, 17.6 v. 15.4).

### *Discussion*

Experiment 2 successfully replicated previous results in that Western participants only granted a weight of less than .3 to the advice, a figure close to that obtained in other experiments with Western populations (Yaniv, 1997). While Japanese participants also significantly discounted the advice, they did so significantly less than the French, being much closer to granting the advice and their own opinion the same weight. Although this result is consistent with cross-cultural predictions, its interpretation is made difficult by the overall difference in accuracy between the two countries. Even though participants from both countries were receiving advice from advisors who had the same relative ability, a limited confidence in their answer for the Japanese participants might have led

them to grant the advice more weight. This artefactual interpretation of the cross-cultural difference is rendered less likely by a finer grained analysis of the results.

The average  $w_a$  is not a very good reflection of the behavior of most participants. Only a very small minority of the answers are close to the average  $w_a$ . Instead, the majority of the answers reflects a choosing strategy: simply opting for one's own initial answer or for the advice. The averaging strategy, by contrast, was relatively rarely followed, with most of the non-choosing answers reflecting a more complex weighting of the advice and the participants' first answer. In line with the result obtained in Experiment 1, there was no cross-cultural difference in the adoption of the averaging strategy. Within the choosing strategy however an interesting cross-cultural difference appeared: the Japanese participants were less likely to choose their own answer and more likely to choose the advice than the French participants. Rather than a potential difference in averaging, it is this effect that explains in large part the observed difference in  $w_a$ . Interestingly, when participants chose to follow the advice, they did not do so because their first answer was particularly inaccurate. This seems to indicate that the observed cross-cultural difference is not driven by the overall difference in accuracy between the Japanese and the French participants.

There are several potential explanations for this cultural variation in the application of the choosing strategy. First, it should be noted that in four previous experiments among American participants, about 10% of the answers reflected a pure choice of the advice (Soll & Larrick, 2009). In the present experiment, 16.3% of the answers from the Japanese participants reflected this strategy, while this was the case for only 4.3% of the answers from the French participants. The cross-cultural difference might thus be as much within Western participants (French and American) than between Eastern (Japanese) and Western (French) participants. If the Japanese participants do tend to select the opinion of the advisor more often than most Western populations (and not only the French), it might be because following someone else's opinion is less stigmatized in at least some Eastern cultures. Indeed, an experiment has shown that American participants were keen to avoid copying

someone else's decision, while Hong Kong participants tried on the contrary to emulate their peer's decision (Ariely, 2008; Ariely & Levav, 2000). It is then possible that the French participants are even more eager to avoid being perceived as a follower than their American counterparts. Given the relative scarcity of work comparing different Westerns populations, it is difficult to garner further support for this hypothesis.

### **General discussion**

When faced with different numerical estimates people often use one of the two following strategies: *averaging* between the estimates, or *choosing* one. The goal of the present experiments was to investigate potential cross-cultural differences in the choice of these strategies. In particular, previous cross-cultural data led to the hypothesis that Easterners might be more prone to use averaging than Westerners. This hypothesis was not confirmed. In Experiment 1, participants were faced with a very simple task of having to form an opinion purely on the basis of two pieces of advice, as they had no prior knowledge of the topic. In this context, the Japanese participants were as likely as the French participants to form an opinion close to one of the two pieces of advice rather than between the two.

A similar pattern emerged in Experiment 2. In this experiment, participants first had to answer general knowledge questions. They were then provided with the answers of a previous participant, before giving a final answer that allowed them to take this advice into account. The Japanese participants were not more likely to rely on averaging than the French participants. On the contrary, both groups overwhelmingly used the choosing strategy. An interesting difference emerged however: within the choosing strategy, the Japanese participants were more likely to opt for the advice and less likely to stick to their first answer than the French participants. Cross-cultural differences in the way 'followers' are perceived could account for this result: while following someone else's heed can be perceived positively in the East, it is less likely to be the case in the West

(see Ariely, 2008). However, the most common answer, both in Japan and in France, was still that of keeping one's opinion and discounting the advice entirely.

The cross-cultural hypothesis that Easterners would be more prone to averaging was thus supported by neither of our experiments. This conclusion is in line with previous results questioning the validity or the robustness of the differences that founded the present cross-cultural hypothesis. Huss (2004) found that the taste of Easterners and Westerners in matters of proverbs was more strongly influenced by esthetic considerations than by their support for compromise, offering an alternative interpretation to Peng and Nisbett's results. Van der Henst et al. showed that when given a simple choice between sticking with a position they had been arbitrarily provided with and following an advice, both French and Japanese participants preferred to stick to their position (Van der Henst, Mercier, Yama, Kawasaki, & Adachi, 2007). Based on an analysis of historical evidence, Mercier (2011) questioned the conclusion drawn by Peng and Nisbett (1999) that Easterners were particularly prone to choose the 'middle way'. It may therefore not be very surprising that the Japanese participants in the present experiments did not veer towards averaging and behaved in a manner that was, overall, similar to that of the Western sample.

It would be wrong however to conclude from the present results that there is no need for further cross-cultural testing in the field of advice taking. Other cultures or other contexts might be more likely to generate differences in the way people take advice into account. For instance, in our experiments participants were providing answers privately. Differences between Japanese and French participants might have been more likely to emerge had the participants had to publicly establish a joint opinion with another participant (see Minson, Liberman, & Ross, in press). Preliminary results seem to indicate that this may not be the case. When Japanese participants had to discuss a judgment with a partner, they seem to have been less inclined than American participants to rely on averaging (Minson, Mercier, Deguchi, & Yama, in prep). Another potentially moderating variable is the in-group or out-group status of the advisor (on the importance of in-group

out-group status, see Yamagishi & Kiyonari, 2000). The need to avoid conflict may weigh more strongly on Japanese participants when they are dealing with an in-group member. Accordingly, they may then be more likely to rely on averaging.

In the current experiments, our main results were null results. This should not be taken as a sign that cross-cultural research on advice taking is not a valuable pursuit. First, when null results are the outcome of a sound experiment and contradict theoretical predictions, they are intrinsically interesting. Before the current experiments, it would have been a fair assumption to think that Japanese participants would rely on average more often than French participants. Second, it is still likely that other cultural variables influence the way advice is taken into account. We hope that cross-cultural research will become a more important part of the research on advice taking.

## Appendix A

### Questions used in Experiment 2.

- 1) In what year did the first sound film appear?
- 2) In what year did Marilyn Monroe die?
- 3) In what year was the UN created?
- 4) In what year did Saddam Hussein take over the power in Iraq?
- 5) In what year was Sputnik, the first artificial satellite, launched?
- 6) In what year did Lenin die?
- 7) In what year did the Titanic sink?
- 8) In what year did the Viet-Nam war end?
- 9) In what year was the building of the Empire State Building finished?
- 10) In what year did man first land on the moon?
- 11) In what year was John F. Kennedy shot?
- 12) In what year was the structure of DNA described?
- 13) In what year was the speed of sound first broken?
- 14) In what year did the former president of the Soviet Union Mikhail Gorbachev take position?
- 15) In what year was the South Pole first reached?

The reader should bear in mind that the Westerner participants were not American but French.

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