Two Methods to Measure the Level of Trust of Americans and Japanese: A Cross-Cultural Study

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Abstract
Interpersonal trust of Japanese and Americans was investigated using two methods: a General Trust Questionnaire and a scenario judgments task, in which participants were asked to rate how strongly they trust a target person in a series of vignettes. Participants were grouped into two conditions, with the target person being either an in-group member or an out-group member. The purposes of this study were to investigate whether Americans have a higher level of trust than Japanese do, to test the in-group hypothesis which predicts that the difference in trust between the two conditions is greater for Japanese than for Americans and the dialectical thought hypothesis which predicts that the correlation between the General Trust Questionnaire score and the scenario judgments task score would only occur in the Americans’ data. The study, which was conducted with American (n = 105) and Japanese (n = 102) participants, found no differences in the trust level between Americans and Japanese in both methods. The results did not support the in-group hypothesis, but did support the dialectical thought hypothesis, indicating that Japanese are more dialectical in judging how they trust others.

Keywords
trust, culture, dialecticism

Trust is essential for people’s daily lives as members of society. Nearly all forms of positive social interactions involve some degree of trust in others to cooperate or to at least not interfere in one’s actions unnecessarily. Social science research on the social functions of trust have been increasing rapidly (e.g., Cook, 2001; Hardin, 2002; Hayashi & Yosano, 2005; Mashima, Yamagishi, & Macy, 2004), and the role of trust as a key factor in reducing frictions in society has been increasingly recognized.

The focus of the current research is on cultural differences in the degree of trust, in particular between American and Japanese cultures. Yamagishi and Yamagishi (1994) found that Americans trusted others more than Japanese did, based on questionnaires to measure the tendency of trusting other people (the General Trust Questionnaire). They proposed that this result could be due to the role of trust in these societies; Japanese society is characterized as involving more mutual assurance and therefore interpersonal trust is less important, whereas American society utilizes mutual assurance less and hence a baseline assumption of trust is more important for effective social interactions. This idea is potentially related to the distinction between Western individualist culture and Eastern collectivist culture. According to Triandis (1995), individualism is defined as a social pattern in which people see themselves as independent of collectives and give priority to their personal goals over the goals of their group, whereas collectivism is defined as a social pattern in which people see themselves as parts of one or more collectives and give priority to the goals of these collectives over their own personal goals.

To explore whether levels of trust and the individualism/collectivism distinction are related, Yamagishi and Yamagishi (1994) focused on the in-group bias effect as an assay of cultural variation. In-group bias is the preferential treatment people give to those whom they perceive to be members of their own group (Tajfel, 1970), and such a bias helps to promote in-group harmony, which is an important goal in a collectivist culture. Yamagishi and Yamagishi found that Japanese had a stronger in-group bias than Americans and proposed that, because the target persons in the questionnaire of general trust were likely to be regarded as strangers (out-group members), this led to the degree of general trust being lower for Japanese than for Americans. We name this explanation the in-group bias hypothesis (e.g., Yamagishi, Jin, & Miller, 1998).

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However, the results that Americans trust others more than Japanese have not been consistently replicated. For example, the study by Yuki, Maddux, Brewer, and Takemura (2005), which argued for the importance of both self-construal and in-group bias, found opposite results in comparing Japanese with Americans. Their position was that Americans, who have independent self-construal, are more sensitive to the categorical distinction between in-group and out-group, and thus Americans trust in-group members more than out-group members. Japanese, in contrast, have a more interdependent self-construal and are more sensitive to relations between themselves and others and hence trust people who have stronger relations with themselves. Their results supported this hypothesis and did not find that Americans trusted others more than Japanese did.

One of the reasons for the nonrobustness of the cultural difference in trust may be the reference-group effect. As Heine, Lehman, Peng, and Greenholtz (2002) point out, it is very plausible that the method of using questionnaires is susceptible to the reference-group effect. When people are asked to rate how much they trust others, they assume the imagined standard of the group to which they belong. Hence, although they are encouraged to make an absolute judgment, they are very likely to estimate their attitude referring to their own group. In the case of a cross-cultural study, it is very plausible that people refer to the group of their own country. Therefore, even if there is an actual cultural difference in the degree of trusting others, this difference may not appear in questionnaire data.

To solve this problem, we utilized not only the General Trust Questionnaire but an additional method to measure levels of trust for Americans and Japanese. Hayashi and Yosano (2005) used both a questionnaire and an imaged scene method, but only for Japanese participants. In the imaged scene method of Hayashi and Yosano (2005), the participants were asked to judge the probability that a target person would not cheat in a social exchange context vignette. This “scenario judgments” task, initially developed by Kosugi and Yamagishi (1998), is assumed to measure how much people trust others. However, Hayashi and Yosano (2005) found that the scores of the questionnaire and the rating from the scenario judgments task were not significantly correlated with each other.

A possible reason for this nonsignificant correlation may be Easterners’ tendency toward dialectical thinking. For example, Peng and Nisbett (1999) found that Chinese were less sensitive than Americans to inconsistency in proverbs and proposed that Easterners’ thinking is more dialectical. Easterners’ tendency toward dialecticism has also been found in self-esteem (Spencer-Rodgers, Peng, Wang, & Hou, 2004) and in self-concept (Spencer-Rodgers, Boucher, Mor, Wang, & Peng, 2009). It is therefore plausible that Easterners have this tendency in the realm of trust. This would predict that they are more likely to have dialectical views on their tendency to trust others. For example, it is plausible that, even if Japanese believe that they trust others, they do not actually do so, and vice versa. We call this the dialectical thought hypothesis.

The second possible reason for the nonsignificant correlation is the difference in target person between the two measures. It is assumed that the targets are strangers in the General Trust Questionnaire (Yamagishi & Yamagishi, 1994). However, it is unclear whether the target person in the scenario judgments task is an out-group member or an in-group member (Hayashi & Yosano, 2005). Hence, it is plausible that some participants regarded the target person in the vignette as an in-group member and thus the correlation was low. Therefore, we set two conditions for the scenario judgments task. One version of the scenario judgments task clarifies that the target person is an in-group member (the in-group condition), whereas the other version indicates that the target person is an out-group member (the out-group condition). We do not intend to test the full self-construal hypothesis of Yuki et al. (2005), but we focus on the effect of asking participants to rate trust for relation-based in-group members (you and the target person are old and good friends) versus trust for relation-based out-group members. We predict that the correlations of the scores between the General Trust Questionnaire and the scenario judgments task will be higher in the out-group condition.

The key goals of the present study were to examine the cultural difference in trust between Americans and Japanese using two methods to measure the degree of trust and to test the in-group bias hypothesis and the dialectical thought hypothesis. If the reference-group effect on the General Trust Questionnaire hides a cultural difference in trust, we expect a cultural difference will appear when using the scenario judgments task. The two conditions in the scenario judgments task make it possible to test the in-group bias hypothesis. According to this, the difference in trust levels between Americans and Japanese should be greater in the out-group condition than in the in-group condition. Specifically, Japanese trust of an out-group target should be less than that of Americans. Furthermore, the correlation in score between the scenarios judgments task and the General Trust Questionnaire should be higher in the out-group condition. Finally, according to the dialectical thought hypothesis, the more dialectical thinking of Japanese participants will produce a lower correlation between the scenario judgments task and the General Trust Questionnaire, as compared with Americans.

**Method**

**Participants and Design**

A total of 105 American students at Kansas State University (29 male, 76 female, $M_{age} = 19.04$) and 102 Japanese students at Bukkyo University, Kobe College, and Kyoto University (41 male, 61 female, $M_{age} = 20.74$) participated in
this experiment. Participants within each culture were randomly assigned to one of the two experimental conditions, thus creating a 2 (Target: in group, out group) × 2 (Nationality: Japanese, American) design. The number of participants in each condition is shown in Table 1.

**Materials**

Materials were printed in booklets, which consisted of demographic information, the scenario trust judgments task, and a General Trust Scale (see Appendix B). The scenario judgments task consisted of six scenarios, which were originally used in Kosugi and Yamagishi (1998) and Hayashi and Yosano (2005). All these scenarios described a person who is faced with taking an action that corresponds to either demonstrating or violating trust and asks the participant to estimate the probability that he will do the action or not by marking a number along a horizontal line from 0% to 100% (see full text in Appendix A). Half of the scenarios ask participants to estimate the probability the person would violate the other person’s trust, and the remaining scenarios ask the probability the person would fulfill the other person’s trust. Scores were calculated by reverse scoring the violation-type scenarios and then averaging the responses. A sentence was added at the top of each scenario to indicate whether the target person was an in-group member (“Imagine that you and Mr. A are old and good friends”) or an out-group member (“Imagine an ordinary person named Mr. A, about whom you know nothing at all beyond the following information”).

We used the questionnaire measuring personal trust which was modified from the original version of Yamagishi and Yamagishi (1994) by Horii and Tsuchiya (1995), as this later version was shown to be more reliable. Participants answered each question on a 10-point scale, ranging from not at all to very much, and these responses were averaged for an overall score.

For all the materials, the original stimuli were written in Japanese and then translated into English for American participants. A back-translation procedure was then used to confirm that both Japanese and English versions were equivalent.

**Procedure**

Participants in both cultures were run in classroom environments, with each person given a booklet to complete and ample time for completion. American participants were given credit toward completion of a course requirement. The sections of the booklet were in the order presented above, and participants were debriefed after they completed the study.

**Results**

Mean general trust scores for Japanese and Americans participants are shown in Table 1. There was no significant difference between the nationalities on general trust scores (t(205) = 1.43, ns). Mean ratings on the scenario judgments for each nationality (sorted by target condition) are also shown in Table 1 along with reliability coefficients (alpha values). A 2 (Target) × 2 (Nationality) ANOVA found a weak effect of nationality, F(1, 205) = 3.28, p = .07. Although this effect was not statistically significant, the direction of the result was that Japanese trusted people more than Americans. These were the opposite of the results that Yamagishi and Yamagishi (1994) reported. Neither the main effect of target—in-group versus out-group member: F(1, 205) = 1.47, ns—or the interaction—F(1, 205) = 0.67, ns—was significant.

Table 2 shows the correlations between the scenario judgments measures and general trust scores of Japanese and American participants. Consistent with the results of Hayashi and Yosano (2005), the Japanese data showed no significant correlations between the scenario judgments measures and the general trust score. The American data, however, show a totally different result from that of the Japanese results. The correlations between the general trust score and the scenario judgment measures were positive and significant.

**Table 1.** The Mean Scores on the Scenario Judgments Task and the General Trust Questionnaire for the Different Conditions of the Study (Nationality and Target Group in the Scenarios Task).

| Nationality | Scenario target person | Scenario judgments | General trust score |
|-------------|------------------------|--------------------|--------------------|
| Japanese    | In group (n = 51)      | 56.0 (15.6) (α = .66) | 2.70 (0.58) (α = .82) |
|             | Out group (n = 51)     | 54.5 (16.9) (α = .45) |                    |
| Americans   | In group (n = 53)      | 53.3 (15.7) (α = .50) | 2.60 (0.39) (α = .71) |
|             | Out group (n = 52)     | 49.6 (12.5) (α = .61) |                    |

**Table 2.** Correlations Among the Scores on the Scenario Judgments Task and the General Trust Score for Japanese and for Americans.

| Scenario judgments | In group | Out group | Total |
|--------------------|----------|-----------|-------|
| General trust score|          |           |       |
| Japanese (n = 102) |         |           |       |
|                    | −.005    | −.050     | 0.030 |
| Americans (n = 105)|         |           |       |
|                    | .378**   | .424**    | 0.400** |

- ***p < .01.
In addition, we analyze the data taking gender into consideration as a variable. Because gender differences are not very important in this field and the ratios of males and females were not 1:1, this analysis is supplementary. A 2 (Nationality) × 2 (Gender) ANOVA was conducted for general trust score, but neither the main effect of nationality, \(F(1, 203) = 1.05, \text{ns}\), and the main effect of gender, \(F(1, 203) = 0.11, \text{ns}\), nor the interaction, \(F(1, 203) = 1.32, \text{ns}\), was significant. A 2 (Target) × 2 (Nationality) × 2 (Gender) ANOVA was conducted for rating on the scenario judgment. The main effect of nationality was significant, \(F(1, 199) = 5.52, p < .05\). The mean rating of Japanese was higher than that of Americans. The main effect of gender was significant, \(F(1, 199) = 7.16, p < .01\). The mean rating of female was higher than that of male. Neither the main effect of target, \(F(1, 199) = 0.92, \text{ns}\); the interaction between target and nationality, \(F(1, 199) = 0.14, \text{ns}\); the interaction between target and gender, \(F(1, 199) = 0.82, \text{ns}\); and the interaction between nationality and gender, \(F(1, 199) = 0.86, \text{ns}\); nor the interaction between target, nationality, and gender, \(F(1, 199) = 0.05, \text{ns}\), was significant. The correlations as shown on Table 2 were also figured out in each of male and female data set, but each pattern of correlations was almost the same as that on Table 2.

**Discussion**

This study deals with one inconsistency in prior studies and two hypotheses about human trust. First, do Americans have higher levels of trust than Japanese? Although Yamagishi and Yamagishi (1994) found this pattern, Yuki (2003) did not. The present research found few significant differences in either general trust or scenario judgments of trust across these cultures, except for within the exploratory analysis including gender. If anything, the present data suggest that Japanese may trust people slightly more than Americans. Because the reference-group effect is expected to be smaller for the scenario judgment task measure, these results indicate that the lack of cultural difference in general trust is not because of a reference-group effect (Heine et al., 2002) but rather because the difference does not exist (or is very small at best). We are uncertain as to why we found these conflicting results. One possible answer is that cultural differences in trust may not be strongly related to any stable differences between Easterners and Westerners and that how strongly people trust strangers is susceptible to incentive structures that are easily changeable (e.g., Yamagishi, Terai, Kiyonari, Mifune, & Kanazawa, 2007). In other words, trust of strangers may be more a function of opportunity costs (such as lost profits) that may occur due to unnecessary distrust. In the two decades since some of the previous studies were conducted, it is plausible that opportunity costs have increased due to changes in the economic system of Japan.

The in-group hypothesis was not supported by the scenario judgments task results. Because we did not find an overall cultural difference in trust between Americans and Japanese, we may not need any hypothesis to explain this result. The results on the scenario judgments task, nevertheless, clearly show that the difference in rating between the in-group condition and the out-group condition is not greater for Japanese.

However, the dialectical thought hypothesis was strongly supported. The correlations between the general trust score and the scenario judgments task measures were very low for the Japanese data, but they were quite high (and statistically significant) for the American data. One explanation for this result, which was predicted a priori, is that Japanese participants were more likely to engage in dialectical thinking while answering these questions and this tendency led to the lack of correlation. This result and explanation should be tempered with some caution, though, because the reliability of the scenario judgment task measure is questionable. Whereas the General Trust Questionnaire had a solid reliability coefficient (.82 for the Japanese sample, which incidentally indicates that their thinking was not entirely dialectical across the items in this questionnaire), the scenario judgments task had low reliability (.45 to .66). This could be due to a few different causes. For instance, one possibility is that the scenarios in this scale are not perceived as being uniformly about the same type of trust situation. This is an issue for further research.

Another consideration is that the dialectical thought hypothesis is not essential to explain how people trust others. It was proposed to explain the nonsignificant correlation between the General Trust Questionnaire score and the scenario judgments task rating found by Hayashi and Yosano (2005). However, it also suggests further implications for conducting questionnaire research on psychological characteristics of Japanese. For example, Miyamoto and Ryff (2011) found that Japanese have more dialectical emotions such as experiencing both positive and negative emotions than Americans. Their results suggest that the tendency of dialecticism among Easterners is not limited to situational inferences and may extend to topics such as experienced emotions. Eastern dialecticism may also manifest with the context of in-group favoritism, which is more dominant in Easterners than in Westerners. Ma-Kellams, Spencer-Rodgers, and Peng (2011) reported that Chinese showed both in-group favoritism and in-group derogation and concluded that it was because of the dialecticism of Easterners. These results are somewhat at odds with the common claim that Easterners, who are in a more collectivist culture, have (only) a stronger in-group bias.

There is another possible reason for the significant correlations between general trust and the scenario judgments only in the Americans’ data. There may be differences in the naïve concept of trust between Americans and Japanese. The scenarios used in this experiment were constructed based on social exchanges, and it is plausible that Americans view their general trust as being based on the social exchange. It may be the case that Japanese have a concept of trust that is not solely based on the social exchange, although it remains
unclear what the additional considerations would be. This issue should be addressed in future studies. Finally, a remark to be mentioned is that the ratios of males to females were not 1:1 in our samples. Therefore, there is a risk that our results cannot strongly be generalized. Gender differences in trust have not been dealt with intensively, but for by some authors. For example, Buchan, Croson, and Solnick (2008) reported that women trusted more in economic games than men. Our data of rating on the scenario judgment were compatible with their results. The gender differences should be addressed in other future studies.

Appendix A

Scenarios Used in This Study

Scenario 1

He runs a restaurant and he owes Mr. B $100,000, with interest, as funds for opening the restaurant. Mr. B lent this money as a personal loan, without drawing up a signed acknowledgment of a debt officially. Mr. A intends to pay it back to Mr. B on a 10-year installment plan, and he has already paid back $90,000. He still has $10,000 to pay back. Then, Mr. B passed away. So, Mr. A should pay back the remaining $10,000 to Mr. B’s son now. However, Mr. B’s son is working in a company overseas, and he doesn’t know anything about his father’s loan to Mr. A. Please estimate the probability that Mr. A does not pay back the remaining $10,000 to Mr. B’s son and just keeps the money for himself.

Scenario 2

Mr. C went to a hamburger shop to have a meal, and he ordered several hamburgers which cost about $25. As he was paying the bill, he noticed that the waiter (a trainee without much experience) miscalculated the bill as only $15. Please estimate the probability that Mr. C will point out the waiter’s mistake.

Scenario 3

While Mr. D was in his car and waiting for a traffic light to change, a car behind him bumped into his car. Both Mr. D and the other driver were unhurt, but a back-up light on Mr. D’s car was damaged. The other driver, who caused the car accident, told Mr. D that he will pay to repair the damage without involving his insurance. It just so happens that the rear bumper on Mr. D’s car had a certain flaw before the accident, and the whole bumper could be fixed for an additional $500. Mr. D could include the payment to fix the bumper flaw (the problem for which the other driver is not responsible) in the total amount of damage compensation and the other driver would not know about it. Please estimate the probability that Mr. D does not ask the other driver for the entire payment for the broken bumper.

Scenario 4

While traveling, Mr. E stayed in a hotel for a week. When he checked out of the hotel a front desk clerk misunderstood the days of his stay and asked for a payment of $360, which was much cheaper than the full charge for a week’s stay. If Mr. E pays that price, he will not be asked to pay the rest of the money. Please estimate the probability that Mr. E only pays $360 and pretends that he did not recognize the clerk’s mistake.

Scenario 5

Mr. F just bought a set of tableware for about $30 from a mail-order company, but he carelessly dropped and broke it. According to the mail-order regulations, customers can return and exchange goods if they happen to get broken goods or receive goods that are different from the ordered ones. Of course, customers cannot do so if they break them by themselves after receiving the shipment. However, Mr. E kept the delivery box, and it is possible for him to pretend that the tableware was broken during the mailing. So if Mr. E sends the tableware back to the mail-order firm, he may be able to get a new set of tableware. Please estimate the probability that Mr. F tries to exchange the tableware that he broke himself by pretending that it broke during delivery.

Scenario 6

Mr. G runs a coffee shop, and he once borrowed a painting from Mr. H to decorate the shop with. They didn’t draw any signed acknowledgment of a debt, but the painting was quite valuable, worth about $7,000. After 5 years of having the borrowed painting, Mr. G decided to close down the coffee shop. By that time, Mr. H had passed away and his wife became the painting’s legal owner. However, Mr. H’s wife is a perfect stranger to Mr. G. She is not familiar with the value of paintings, and she didn’t even know that her late husband lent it to Mr. G. So if Mr. G doesn’t return the painting to her, he can just keep it and pretend that it is his. Please estimate the probability that Mr. G returns the painting unwillingly.

Appendix B

General Trust Scale

1. People are basically honest.
2. People try to make their own profits even if they do something a bit bad.
3. People only have a few others that they can rely on.
4. People are dubious about other’s kindness because there may be some strings attached.
5. People usually live a clean and right life.
6. People tell lies to succeed.
7. People commit many sins in a place no one know them.
8. People associate with others honestly.
9. People are cautious not to be taken advantage of.
10. People think that not trusting others is safer than trusting.
11. People are cautious till they find it clearly that they can trust others.
12. People are most interested in their own happiness even if they don’t talk about it.
13. People are actually unwilling to help others in their heart.
14. People put what they say they will do into practice.
15. People misrepresent their tax if they have a chance to do so.
16. People claim their own rights more than accepting other’s rights.
17. People tell lies to avoid having troubles.

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Note
1. In each booklet, Kakimoto’s (1996) Contextualism Questionnaire (20 items for Japanese and 11 items for Americans) was included, which was expected to measure participants’ tendency of in-group bias. However, it turned out that it was difficult to measure it equally in each culture, and hence we excluded the data from analysis.

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