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Beliefs and Preferences
in Cultural Agents and Cultural Game Players

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Abstract

Two laboratory experiments demonstrated that Japanese participants did not conform to the majority unless negative social implications of not conforming were clear. When their behavior had no implications for others, they rather exhibited preference for uniqueness. Results of Study 2 further demonstrated that participants' conformity to the majority was particularly prevalent among those who were chronically concerned with how other people would perceive them. Participants in these studies were shown to be cultural game players who changed their behavior in response to anticipated responses of others based on culturally shared beliefs.

(91 words)

Introduction

Cultural beliefs – beliefs shared by most members of a culture – differ from culture to culture. A good example of this is found between Western and East Asian construal of the self. Markus and Kitayama (1991; Kitayama & Markus, 1994) argue that Westerners and East Asians have different beliefs about what human beings are like and how people perceive the nature of the self. Westerners construe the self as an independent entity. That is, they share the belief that human beings are internally driven agents operating independently from others, and see themselves as unique entities endowed with unique goals, desires, emotions, and feelings, which differ from the others. In contrast, East Asians share an interdependent construal of the self, a belief that human beings are elements of a larger system, and accommodate their internal states and behaviors to the needs of others. East Asians see the meanings and significance of themselves in their relations with others, and feel happy when they are in a harmonious relation with others. These cultural beliefs and values are considered to shape individuals' social motivations and preferences. Kim and Markus (1999), for example, argued that the general belief shared by Westerners – that humans are independent, internally driven agents – leads them to acquire a preference for uniqueness. In contrast, East Asians, who share the belief that humans are interwoven with others to constitute a whole, prefer conforming to others.

Let us call the view that culturally shared beliefs affect behavior through internalized values and preferences the “cultural agent” view of humans. According to the view of humans as cultural agents, people think and behave in a culturally relished way. Personal values and preferences of a cultural agent are in consonant with the culturally shared beliefs and values. The cultural agents who have internalized

culturally relished values and preferences encourage each other to see the world in accordance with their personal values and preferences. From this perspective in which the culturally shared beliefs and values are reflected in the individual's personal beliefs and values, no conflict should exist between the inter-subjectively constructed system of meanings and the intra-subjective values and preferences. However, the harmonious relationship between the two has been challenged by recent findings that individuals' personal values and preferences are not necessarily consistent with their perceptions about the values and preferences endorsed by other members of a culture (Fischer, 2006; Hashimoto & Yamagishi, 2009; Kurman & Ronen-Eilon, 2004; Shteynberg, Gelfand, & Kim, 2009; Wan, Chiu, Tam, et al., 2007; Wan, Torelli, & Chiu, in press; Yamagishi, Hashimoto, & Schug, 2008; Zou, Tam, Morris, et al., 2009). The series of studies conducted by Zou and her associates (Zou, et al., 2009), for example, demonstrated that at least some cross-cultural differences in cognition and behavior were more strongly affected by "perceptions of broader societal or cultural consensus" – what people think what others would think and do – than individuals' personal beliefs, values, and preferences.

The cultural agent perspective is not the only perspective for analyzing the relationship between culturally shared beliefs and culture-specific behavior. An alternative pathway that connects culturally shared beliefs with behaviors can be called the "cultural game player" view of humans. This alternative perspective assumes that humans are cultural game players who pursue their goals in anticipation of others' actions. Cultural game players differ from cultural agents, who simple-mindedly pursue the internalized cultural values and preferences, in that they adjust their behavior to the expected reactions of other people in order to achieve their goals (some

of which could be internalized cultural values and preferences). For the cultural game players, the expected responses of others are at least as important as their personal goals in deciding (either consciously or through heuristics) their behavior.

The essence of this cultural game player perspective can be seen in the work of Zou and her colleagues. Zou and her colleagues (2009) argue that the inter-subjective consensus often plays a more important role than the intra-subjective values in generating cross-cultural differences in cognition and behavior. The primacy of the inter-subjective consensus over personal values and preferences stems from the fact that people adjust their behavior to anticipated responses by others. The perception that others have a particular beliefs, values, and preferences enables us “to use them to comprehend others’ actions and expectations, to anticipate how they will evaluate and respond to our actions, and so on” (Zou et al., 2009, p. 582).

These two views of humans — as cultural agents and as cultural game players — are not mutually exclusive; each individual has both the aspects of a cultural agent and a cultural game player. Yet, the cultural game player view has been mostly overlooked in the past studies of cultural psychology. One exception is the equilibrium analysis of the culture of honor by Cohen and his colleagues (Cohen, 2001; Vandello, Cohen, & Ransom, 2008), which demonstrated that the Americans grown-up in the South did not personally prefer to be aggressive more than the Northerners, and yet they behaved more aggressively than the latter in order to avoid being regarded as a coward (an anticipated response of others in the Southern culture). In other words, the seemingly culture-specific behavior (aggression) shown by the Southerners is a behavior in response to anticipated responses of others in that culture, rather than expression of their personal values or preferences. Recently, Yamagishi, Hashimoto, and Schug

(2008) tried to restore the balance between the two approaches by applying the cultural game player view to provide an alternative interpretation of the finding by Kim and Markus (1999) which presumably supported the cultural agent view that cultural beliefs engender cultural preferences. In the following, we will first briefly summarize the original study by Kim and Markus (1999), and then elucidate how the work of Yamagishi et al., (2008) contributed to the restoration of the balance. At last, we will present the findings from two recent experiments to provide further support to and supplement Yamagishi et al's (2008) work.

The Pen-Choice Paradigm

In order to prove that Asians have preferences for conformity and Westerners for uniqueness, Kim and Markus (1999) conducted a series of four studies which consistently supported their claim. In one of these studies (Experiment 3), experimenters went to an airport and asked travelers in the waiting lounges to fill out a short questionnaire. As a token of appreciation, they offered the travelers a choice of one of five pens to take home with them. The pens came in two external colors. The color combination of the five pens was either 1-4 or 2-3 (the former number signified the number of pen with a minority color). Their results showed that Westerners chose more pens of a minority color, relative to East Asians, who chose more pens of a majority color. Kim and Markus interpreted their finding from the cultural agent point of view, and argued that Western participants' personal choice of a minority color pen indicated their internalized preference for uniqueness, while East Asians' personal choice of a majority color pen indicated their internalized preference for conformity.

However, an alternative interpretation of the above finding is also plausible. Yamagishi and colleagues (2008) provided an alternative interpretation from the

cultural game player perspective. They argued that the East Asians in Kim and Markus's (1999) study may, in fact, share the same preference for a unique color pen as that of the Westerners, yet, due to the East Asian cultural practice called *enryo*, they did not choose a unique color pen. According to Yamagishi and colleagues (2008), *enryo* is a form of "not-to-offend-other strategy." It is a means to give impression to others that one is a modest person who does not single-mindedly pursue one's own goals, and avoid risks of offending others and being negatively evaluated by others. To describe this instrumental aspect of *enryo*, Yamagishi and colleagues used the term "strategy" in their 2008's paper. In this respect, East Asian participants did not take the unique color pen, not because they did not personally prefer it, but because they knew that both they themselves and other participants were equally preferring it, and they understood that if they took what the others prefer, they might be defined as too assertive and aggressive and thus disliked by others. According to this view, the East Asian participants in Kim and Markus's (1999) study did not pick the unique color pen, because they were restricting themselves from taking something that they and others personally preferred. Such behavior is actually a socially wise strategy to survive in the East Asian society where the cost of being disliked by others and excluded from the current social relations is huge.

In order to test the plausibility of the two possible interpretations of the pen-choice study, Yamagishi and colleagues (2008) replicated the original study of Kim and Markus (1999) using scenarios. Participants in their study were asked to imagine that they had been asked to fill out a questionnaire and offered a pen as a token of appreciation. They were asked to imagine that they had to choose one pen out of given pens, of which four pens were of one identical color (majority pen), and the

remaining one pen was of a different color (minority pen). In the first scenario (control condition), other than the above-mentioned instruction, no additional information was provided to the participants. Results showed that, as expected, a larger proportion of American participants (70%) than their Japanese counterparts (53%) chose the minority-color pen. In the second scenario (first chooser condition), participants were told that they were the first person in a group of five to choose a pen. This manipulation was designed to exacerbate participants' concern that their choice of a minority-color pen would reduce the opportunity for other people to choose this pen, and thus enhanced the relevance of practicing *enryo* (i.e., not to offend others, and not being negatively evaluated by others). In this condition, even Americans practiced *enryo* by reducing their choice of the minority-color pen (47% chose a minority pen), acting similarly as that of the Japanese participants (45%). In the third scenario (last chooser condition), participants were told that they were the last person to choose a pen. This manipulation was designed to eliminate participants' concern for the social implications of their action, because choosing a unique pen would not have any implications for the others who had already chosen their pens. There was no need to use *enryo* in such a situation. As predicted, Japanese participants' choice of the minority pen (71%) increased as much as that of the Americans (72%).

From the above, the cultural difference in selection of the minority-color pen emerged only in the scenario where the nature of the social implications of their choice was unclear (i.e., in the control condition). The interesting point is that in the first chooser condition, where the social implications of their choice were made obvious, Japanese participants' propensity to choose the majority pen was similar to that in the control condition. This implies that Japanese participants might have perceived the

control condition as equivalent to the first chooser condition, thus agitating themselves to practice *enryo*. In contrast, American participants seemed to have treated the control condition as if it was the last chooser condition, in which they did not have to care about any social implications of their choices. This showed that even though Americans were also able to practice *enryo* when its relevance was clear (the first chooser condition), they generally would not restrain themselves from taking what they personally preferred in situation where the nature of social implications of their behavior was not obvious (i.e., in the control condition).

Default Strategy

In the experiment by Yamagishi and colleagues (2008) summarized above, a cultural difference emerged only in the situation where the relevance of the not-to-offend-other strategy (*enryo*) was unclear. Japanese participants used the not-to-offend-other strategy when the nature of the situation was unclear. That is, “assume the relevance of the not-to-offend-other strategy until its irrelevance is proved” is the principle Japanese participants had adopted. Yamagishi and colleagues (2008) called such a principle as a “default strategy” in the sense that it is adopted by default when no other information exists that suggests the nature of social implications of an action. In contrast, American participants seem to have regarded the ambiguous situation as if it was the last chooser condition in which they did not need to concern about being evaluated by others. The principle they had adopted was: “Assume the irrelevance of the not-to-offend-other strategy until its relevance is proved.” The default strategy for the Americans is to take what they want unless it is obvious that such behavior jeopardizes their reputation.

Yamagishi and colleagues (2008) further argue that what constitute the default

strategy depends on the consequences of adopting a particular strategy, in this case, the not-to-offend-other strategy, in a particular society. The not-to-offend-other strategy is a means to reduce the risk of being negatively evaluated and eventually excluded from social relationships with others. The cost of being excluded from the current relationship is much higher in collectivistic societies, in which relationships are typically closed to outsiders, than in individualistic societies, in which individuals can more easily replace lost opportunities (Greif, 1989, 1994; Yamagishi, 1998). In collectivist societies, the cost of ostracism is much higher than the cost of forgoing one's personal wish, and thus people are willing to pay the cost of *enryo* (not getting what one wants) to avoid accruing bad reputations.

Purpose of the Study

While the results of Yamagishi and colleagues' (2008) study demonstrated that the cultural difference in pen choice can be interpreted as a difference in the use of cultural default strategies, there remained some problems. The first problem concerns the use of scenarios. Participants' strategic concerns may not have emerged voluntarily without being prodded by the contrast of the scenarios. The second problem is the possibility that participants might have thought that the minority pen in the last choice scenario was a pen of popular color that had been chosen by other people before them. If this was the case, one may argue that the choice of the minority pen in the last choice scenario may be a choice guided by conformity to the majority. The last problem is that Yamagishi et al. (2008) did not explicitly demonstrate evidence that participants' choice of the majority pen in the default condition represented their concerns of being evaluated by others.

The purpose of this study is to, first, eliminate the possible alternative

explanation of the previous findings, and second, demonstrate that the choice of the majority pen among Japanese participants in the default choice situation is affected by their social concerns for potentially being evaluated by others. We conducted two laboratory experiments.

Study 1

A total of 61 (34 male and 27 female) Japanese students participated in the study. Each experimental session consisted of two actual participants and three confederates. Participants were individually greeted by a receptionist and were escorted to a “waiting room.” When the first of the two actual participants was escorted to the waiting room, the three confederates were already present. The first participant was asked to sit in seat B in Figure 1. The second participant was then seated in seat A, which was closest to the entrance door. The two actual participants were thus separated by three confederates in the middle

[Insert Figure 1 about here]

After the participants were seated, the experimenter asked all participants (including confederates) to sign the consent form. The experimenter took a transparent cup containing five pens from a large carton box behind him (see Figure 1). He held the cup and the pens in hand so that all participants and confederates could see them clearly. The experimenter told the participants to take a pen as they were passed on to use to sign the consent form. The experimenter also announced that the participants could take the pen home. The colors of the majority and the minority pens were counter-balanced across sessions.

The experimenter handed the cup to Participant A, who was asked to take one

pen and pass the cup with the remaining pens to the next person (Confederate 1). Confederate 1 took a pen and passed the cup to Confederate 2. Confederate 2 then pretended to take one pen, but secretly took one extra pen and passed the cup with only one pen remaining to Confederate 3. Confederate 3 took the last pen from the cup, and informed the experimenter that the cup was empty. The experimenter received the empty cup from Confederate 3, put it back to the carton box, took another cup with five pens from the box, and handed this second cup to Participant B. The second cup contained one minority pen and four majority pens in the same configuration as the first cup. It was thus clear that the minority pen was not a popular pen already picked up by the majority of participants. Participant B was asked to pick a pen from this second cup. The advantage of this experimental setting is that we can empirically capture the responses of participant A (the first-chooser) and Participant B (last-chooser), and at the same time eliminate an alternative explanation that the last chooser chooses the minority pen because he thinks that the minority pen is the popular color pen that has been chosen by the majority. Thirty participants were assigned to the first chooser condition (seat A), and 31 were assigned to the last chooser condition (seat B). In the case that one participant did not show up, an additional confederate would fill in his/her position.

After the two participants signed the consent form which stated that they would be asked to answer a questionnaire, they were individually escorted to a private booth in the laboratory and answered a questionnaire. The questionnaire participants filled out included the interdependent and independent self-construal scale developed by Uchida (2008) to examine if the choice of the majority pen was affected by the participants' responses to the interdependent and independent self-construal scales.

Results

Twenty-eight of the 30 first choosers (93%) – greater than the randomly expected proportion of 80% [Binomial test, $z = 1.83$, $p = .033$, one-tailed] – picked a majority pen. In contrast, only 16 of the 31 (52%) of the second choosers – significantly fewer than random [Binomial test, $z = 3.95$, $p < .0001$] – picked a majority pen. The difference between the two conditions was highly significant [$\chi^2(1) = 13.20$, $p < .001$]. While women tended to choose the minority pen (64%) more often than men (40%) in the last choice condition, the difference was not significant [$\chi^2(1) = 1.59$, $p = .21$].

[Insert Table 1 about here]

Since only two participants chose a minority pen in the first chooser condition, we examined how the self-construal scales were related to pen choice in the last chooser condition, in which participants chose a minority pen. In this last choice condition, participants were free to choose a pen without worrying much about how others would evaluate them, and thus their choice should reflect their personal preferences.

Our data showed that there was no significant difference between the majority pen choosers ($M = 3.41$, $SD = .64$) and the minority pen chooser ($M = 3.19$, $SD = .69$) on the mean independent self-construal score (Cronback's alpha = .72), $t(29) = 0.95$, ns. While the interdependent self-construal scores differed between the majority pen choosers and the minority pen choosers (Cronback's alpha = .65; $t(29) = 2.47$, $p = .02$), the direction of the difference was opposite from that predicted by the cultural agent model. That is, the majority pen choosers had a lower interdependent self-construal scores ($M = 3.48$, $SD = 0.52$) than the minority pen choosers ($M = 3.91$, $SD = 0.44$).

Discussion

The Japanese participants did not choose a majority pen more frequently than by chance unless the social implications of choosing a minority pen were obvious – that is, in the first choice condition. When it was made salient to the participants that their behavior would have no implications for others and were thus free to follow their own preferences – that is, in the last choice condition – participants exhibited a tendency to choose a minority pen. In this study, we set up experiment and observed participants actual choice behaviors empirically. This allowed us to eliminate an alternative interpretation that the finding in Yamagishi et al’s (2008) study was purely an artifact of the use of scenarios. Similarly, we provided the last choosers with a new cup of 5 pens in exactly the same configuration of the cup given to the first choosers. This experimental design allowed us to keep everything constant except that participants were either the first vs. the last choosers, and enabled us to eliminate another alternative interpretation that the last choosers took a minority pen because they perceived the minority pen as a popular color pen that others had already chosen.¹ Finally, the analysis of self-construal scores revealed that the choice of a unique versus a majority pen was not associated with an independent or an interdependent self-construal.

Study 2

The purpose of the second study is to demonstrate that the choice of the majority

¹ While it was clear that the minority color pen in the new cup was not a pen of popular choice in that particular experimental session, there is a slight chance that participants may have perceive that the minority color pen had been chosen by most other participants in the previous experimental session. This possibility would have been completely eliminated if we were to shift the color of the unique pen between the first and the second cup.

pen by Japanese participants *in the control condition* in Yamagishi et al.'s (2008) study was facilitated by their concern about being evaluated by other people. If the choice of the majority pen in the control condition was a reflection of Japanese participants' not-offend-others strategy, their tendency to choose a majority pen should be correlated with the degree that they are concerned with being monitored and evaluated by others. Thus, we conducted the second study to examine if participants' concerns for negative evaluation by others would be related to their choice of a majority pen.

In order to examine if participant's choice was related to their concern for negative evaluation by others, we administered Kramer's (1994, 1998) social paranoia scale and Yamagishi and Yamagishi's (1994) caution scale after participants chose a pen. The social paranoia scale measures respondents' tendency to construe other people's actions in over-personalized terms, and their tendency to attribute greater negative intentionality to others' benign behavior even in the absence of clear evidence to endorse such attribution. It includes such items as "My parents and family find more fault with me than they should," "I have often felt that strangers were looking at me critically," and "I am sure I have been talked about behind my back." Those who score high on this scale are considered to be chronically concerned about how they are perceived and evaluated by others. The caution scale (Yamagishi & Yamagishi, 1994) measures responders' belief about the need for prudence in dealing with others and sensitivity to the negative implications of their actions, including such items as: "One should better pay attention to the vicious side of other people to be successful in life," and "If we assume everyone has the capacity to be malicious, we will not be in trouble." Those who score high on this scale are socially prudent people who are sensitive to the negative implications of their actions. We expected participants who

scored high on the social paranoia and caution scales were the ones who had strong belief that they would suffer negative consequences unless they pay sufficient attention to how they are assessed by others. They would use the not-offend-other strategy to avoid putting themselves in a socially vulnerable position.

Furthermore, instead of administering Uchida's (2008) self-construal scales, we administered Takata's (2000) self-construal scales to further ensure that participants' choice of the majority pen was not related to their responses to the self-construal scales. Takata's (2000) self-construal scale has been extensively used in Japan to measure Japanese self-construal (Nakashima, Isobe, & Ura, 2008; Takata, 2002). It contains 10 independence items and 10 interdependence items.

Procedures

The procedure was designed to make the choice situation as close to the control condition used in Study 1 in which no explicit cues about the nature of the situation was provided. To achieve this goal, explicit cues of monitoring by other participants were minimized.

A total of 106 residents of Sapporo (55 females and 51 males, age: $M = 46.9$, $SD = 12.9$) recruited through newspaper advertisements, participated in the study. We used participants from the general population rather than from the student population to make the conclusions generalizable beyond the student population. Participants arrived at the laboratory individually, and were greeted by a receptionist who gave each of them an ID number and assured anonymity of their responses in the study. The receptionist desk was beside the entrance door of the laboratory where participants answered a questionnaire in semi-private, partially circumscribed desk. The receptionist also gave each participant an envelope containing a consent form, and a

pen to use in the study. Participants were asked to pick a pen from a transparent cup containing five pens of two different colors. No one except the receptionist was watching which pen the participant picked up. The receptionist also stated that the participants may keep the pen after the study was over. The combination of colors in the cup was either 1-4 or 2-3 to demonstrate that our findings are not limited to the special case of 1-4. The colors were counter-balanced. Assuming that Japanese personally prefer the unique color pen as much as Americans do, the strategy of avoiding taking what others prefer should hold for both combinations.

Results

Table 2 shows the percentage of participants who chose the majority/minority pen in Study 2. There was no significant difference in the proportion of majority pen chosen between the 1-4 and 2-3 conditions, replicating the original finding by Kim and Markus (1999). Thus, we combined data from the two conditions for analysis. As in the first study, the proportion of minority pen choosers was higher among female (42%) than male (24%) participants [$\chi^2(1) = 4.00, p = .045$]. While the overall proportion of the majority pen choosers (67%) was not much different from the expected random proportion of 71% (the 1-4 and 2-3 conditions combined), it was much lower than the proportion of 93% in the first choice condition and higher than the proportion of 52% in the last choice condition in the first study. It should be noted that this figure (the majority pen choice by 67% of the participants) was comparable to the proportion of Japanese majority choosers (75%) in the pre-experiment/experimenter present condition of study 2 in Yamagishi et al. (2008), which was equivalent to the situation in the current study.

[Insert Table 2 about here]

Table 3 indicates the means and standard deviations of the caution and social paranoia scales for the majority pen choosers and the minority pen choosers. Participants' responses to the caution scale and the social paranoia scale were clearly related to their pen choice. As shown in Table 3, those who chose a majority pen scored significantly higher on the social paranoia and caution scores than those who chose a minority pen. In contrast, neither the independent nor the interdependent self-construal scale was related to participants' pen choice. The finding that the majority pen choosers were lower on the interdependent self-construal than minority pen choosers observed in Study 1 — which was opposite to the prediction by the cultural agent hypothesis that independent self-construal engenders preferences for uniqueness — was replicated in Study 2, but the difference in the mean interdependent self-construal score between the minority and the majority pen choosers was not statistically significant.

Since gender of the participants was related to the majority pen choice, we further examined the effects of the caution and social paranoia scales and the self-construal scales with logistic regression analyses including participants' gender of as a control variable. Neither of the self-construal scales had a significant effect on pen choice in these analyses, and both the caution scale [Wald $\chi^2(1) = 8.15, p = .004$] and the social paranoia scale [Wald $\chi^2(1) = 5.02, p = .025$] had significant effects even after controlling for gender.

[Insert Table 3 about here]

General Discussion

The message from the two studies presented above is clear. In Study 1, Japanese participants overwhelmingly chose a majority pen in the first chooser condition, and yet they preferred a minority pen more than by chance in the last chooser situation where they were free from social constraints. Anticipating negative responses from those who can be affected by their action was demonstrated to be a critical factor affecting their pen-choosing behavior. Results of Study 2 further demonstrated that participants' choice of the majority pen was particularly prevalent among those who were chronically concerned about how other people would evaluate them. These findings support the view that the participants in our studies acted as cultural game players rather than cultural agents. In other words, those findings indicate that the participants' pen choice reflected the not-to-offend-other strategy, or *enryo*. When one practices *enryo*, one gives up getting what one wants. Refraining from taking what one wants and saving it for others who similarly want to obtain it is a more adaptive strategy in collectivist societies where the social consequences of single-mindedly pursuing one's own interests and becoming a target of resentment by members of one's community have more serious consequences.

The approach to culture advocated by Yamagishi and others (Chiu, Gelfand, Yamagishi, Shteinberg, & Wan, in press; Cohen, 2001; Vandellos, Cohen, & Ransom, 2008; Yamagishi, 1988, 1998, in press; Yamagishi et al., 2008; Yamagishi & Suzuki, 2009; Zou et al., 2009) represents the cultural game-player view of humans for whom culturally shared beliefs function as a guide to anticipate others' responses to one's own actions. According to this approach, the choice of a majority pen represents an adaptive strategy used as default — that is, when no specific information about the appropriate strategy is provided.

Such default adaptive strategy was also found to be used by Japanese in another domain – self-effacing assessment of their ability (Suzuki & Yamagishi, 2004). In this study, more than two-thirds of the Japanese participants who took a bogus intelligence test stated that their performance was below the school mean when they were simply asked to judge whether their performance on the test was below or above the school mean. This was a default situation in the sense that they were not provided with any information about why they were asked to respond to this question. However, when they were provided with a reason to answer the question — in this case, they were offered a bonus for making a correct judgment — their answer was completely reversed; more than two-thirds of the participants answered that their performance on the test was above average. Self-effacement in this study was thus shown to reflect Japanese default, not-to-offend-other strategy rather than their self-perception.

As stated in the introduction, the cultural game-player view fully accepts the possibility that some of the preferences are culturally shared and engender culturally specific behaviors through internalized values and preferences. We are cultural agents in the sense that many of our goals are culturally installed, and yet, we are also game players, in which we pursue our goals by adjusting our actions in accordance with our anticipated responses from others. Thus, cultural beliefs play dual roles in affecting people's behavior – through culturally installed goals and through expectations of others' responses in specific situations. Theoretically combining these two paths connecting cultural beliefs with culture-specific behavior into a logically consistent body which allows us to identify when cultural agents behave as game players presents a big challenge not only to cultural psychologists, but also to a larger community of game-theoretically oriented social scientists (e.g., Gintis, 2007)

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Table 1 Percentage of participants who chose the majority and minority pen in Study

1

Condition choice	Initial Choice		Last Choice	
	Majority	Minority	Majority	Minority
Female	100% (16/16)	0% (0/16)	36.4% (4/11)	63.6% (7/11)
Male	85.7% (12/14)	14.3% (2/14)	60% (12/20)	40% (8/20)
All participants	93.3% (28/30)	6.7% (2/ 0)	51.6% (16/31)	48.4% (15/31)

Table 2 Percentage of participants choosing the majority and minority pen in Study 2

	COMBINED		One-Four		Two-Three	
	Majority	Minority	Majority	Minority	Majority	Minority
Female	58.2% (32/55)	41.8% (23/55)	64.3% (18/28)	35.7% (10/28)	51.9% (14/27)	48.1% (13/27)
Male	76.5% (39/51)	23.5% (12/51)	75.0% (21/28)	25.0% (7/28)	78.3% (18/23)	21.7% (5/23)
All participants	67.0% (71/106)	33.0% (35/106)	69.6% (39/56)	30.4% (17/56)	64.0% (32/50)	36.0% (18/50)

Table 3 Means of the self-construal scales and the social prudence and social paranoia scales for the minority pen choosers and the majority pen choosers

	Scale reliability	Majority Chooser N = 71	Minority Chooser N = 35	
Takata's Interdependent self-construal scale	$\alpha = .72$	4.56 (0.79)	4.62 (0.69)	$t(104) = 0.40, p = .692$
Takata's Independent self-construal scale	$\alpha = .88$	4.84 (1.01)	4.56 (0.90)	$t(104) = 1.39, p = .169$
Caution scale	$\alpha = .76$	4.69 (0.94)	4.09 (0.78)	$t(104) = 3.29, p = .001$
Social Paranoia scale	$\alpha = .83$	2.42 (0.89)	1.97 (0.75)	$t(104) = 2.61, p = .010$

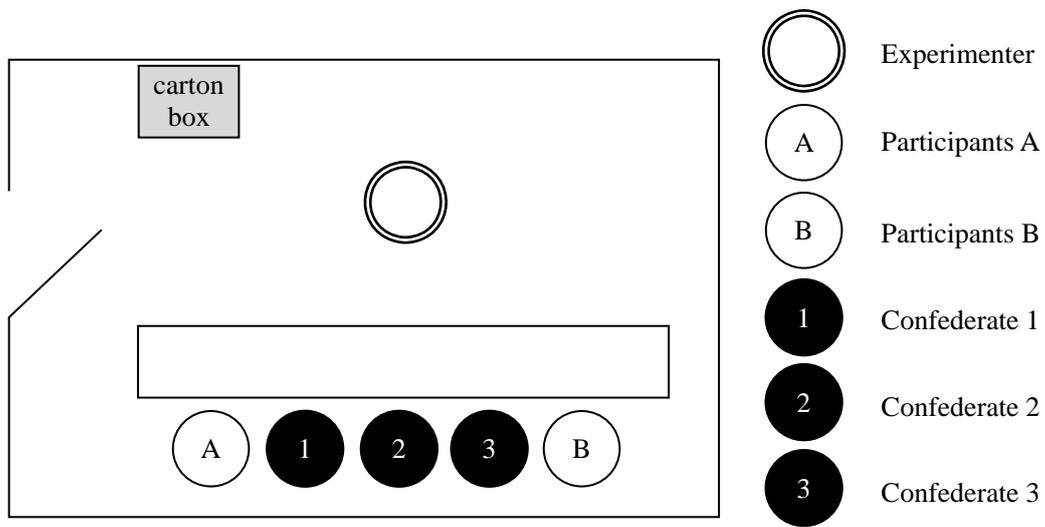


Figure 1 Seating arrangement in the waiting room (Study 1)