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An Experimental Study of Within- and Cross-cultural Cooperation: Chinese and American Play in the Prisoner's Dilemma Game

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Abstract

We study whether cross- and within-culture groups have different cooperation rates in the Prisoner's Dilemma Game. In an experiment, university students in China and America engage in a single iteration of the game, complete belief elicitation tasks regarding their opponents' play and take a survey including attitudinal measurements regarding their in- and out-group attitudes. Cooperation rates are higher across the two countries are higher in both cross-culture and in within-culture interactions, although not significantly. We also find that Chinese participants cooperate less than American ones. Further, female Chinese participants are more cooperative than Chinese male ones. In the cross-culture treatment, Chinese participants underestimate the likelihood of cooperative behavior of their American counterparts, while Americans overestimate the same likelihood of their Chinese counterparts. Our results also show that Chinese participants cooperate more conditionally than American ones. Finally, while we find some attitudinal in- and out-biases both they do not generate meaningful impact on cooperative behavior.

Keywords: Cross-culture; Prisoner's Dilemma; Cooperation; Experiment

JEL codes: C72, C92, D91

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1. Introduction

The dramatic rise of global connectivity has spurred investigations of cross-cultural differences in behavioral norms. We believe this is a particularly important area of investigation in the case of the United States (US) and China. As the two largest economies in the world, the combined GDP of the United States and China exceeds 37% of the world's GDP according to the International Monetary Fund in 2020. Bilateral trade between the two countries accounts for more than 10% of total international trade. Moreover bilateral cooperation between the US and China, whether at the government or individual level, affects the development prospects of the world economy. However, the US and China have distinct cultures and may bring different norms and beliefs to bilateral cooperation. These differences could affect the success of cooperative efforts, at both the individual and more aggregated levels, between the two countries.

In an experimental study of the Prisoner's Dilemma Game. Hemesath and Pomponio (1998) found that (1) Chinese students cooperated significantly more often than American students participating in a study abroad program did and (2) both groups cooperated less often when paired with a foreign partner. We revisit the premise of their study for several reasons. First, the relationship between the US and China evolved over the past two decades, and has reached a more tumultuous point. Second, we adopt recruitment procedures that do not suffer from the selection bias of study abroad students. Third, we use an experimental design that increases the power of the study through larger sample size and the use of a single play of the game. Fourth, we also elicit subjects' beliefs about their opponents' behavior and subjects' attitudes toward in- and out-national groups. Finally, we provide an examination of the cooperative tendencies of genders in the respective cultures.

There is an extensive experimental literature investigating differences in cooperation for within-cultural strategic interactions. Henrich et al. (2005) conducts a broad study across fifteen different societies and finds the level of prosociality expressed in experimental games is positively correlated with the degree of market integration and the payoffs to cooperation in everyday life. Gächter et al. (2010)

research cooperation differences across fifteen countries with six different cultures and find that cultural differences in cooperation exist in the sense that within-cultural variation is smaller than the between-cultural variation. Goerg and Walkowitz (2010) run cooperation game experiments in four different countries. They find cooperation levels differ significantly across subject pools. In the negative externalities treatment, where a transfer creates a negative externality for the opposite player, Chengdu (China) subjects have a significantly lower cooperation rate than Helsinki (Finland) and Jerusalem. Frey (2019) investigates ten countries and shows that there are small differences in cooperation rates between countries, ranging from 8.5% (Argentina) to 14.1% (Greece). Cassar et al. (2014) study two nations, Italy and Kosovo, and conclude that moral norms of cooperative behavior can follow improvements in formal institutional quality. These studies for the most part investigate the impact of culture by directly comparing the experimental results in different cultures but not cross-cultural interactions.

The literature on cross-cultural experimentation, in which subjects interact with people in a cross-culture/cross-national group, is limited. Chuah et al. (2007, 2009) conduct experiments with cross-national ultimatum bargaining between Malaysian and UK subjects, and find Malaysian proposers make higher offers to Malaysian than to UK responders. Matsumoto and Hwang (2011, 2015) run experiments between US-born-and-raised Americans and international students. They find larger culture differences and related higher contempt emotion are associated with less cooperative and more competitive behavior. Goerg et al. (2013) investigate cooperation in a continuous prisoner's dilemma game of Israelis and Palestinians within a controlled laboratory experiment. Cooperation decreases for pairs of cross-group subjects.

There is a vast experimental economics literature providing mixed evidence assessing the impact of gender on cooperation. Some find women cooperate significantly more than men (Gilligan, 1982), especially when they are observed by their peer group (Charness and Rustichini, 2011). Furthermore, Andreas et al. (1999) discover that women display cooperative behavior substantially more than men in the

first several rounds of the Prisoner's Dilemma Game, but this difference disappears by the last round. They also report that female and male cooperation rates become more similar in single-sex environments. However, Rapoport and Chammah (1965) find, also in Prisoner's Dilemma Games, that in single-sex environments, substantially more men than women choose to cooperate

Our experimental study complements and fills some of the gaps in these literatures. First, we conduct our study with both cross- or within-national interactions in the country where the subjects grew up. Second, instead of recruiting subjects from two cultures in the same area, we guarantee that our subjects participate in the experiment in their home country by performing the experiment online to avoid the possible effect of the living environment on their strategies.[1] Moreover, our subjects start to play the game simultaneously. Third, we extend the exploration of the difference in conditional cooperation in different cultures, through task eliciting beliefs of their counterpart's strategy and surveying attitudes of both within and outgroup nations. Finally, we conduct our experiments in one-shot with anonymity, they were only told about the nationality of their counterpart, avoiding reputational or strategic considerations coming from non-anonymous (Milinski et al., 2002; Rockenbach and Milinski, 2006) and repeated play.

Our four major results are as follows. First, American participants exhibit higher proportions of cooperative behavior than Chinese ones. Each nationality exhibits nominal, but not statistically, higher rates of cooperation for cross-cultural rather than within-cultural interactions. Second, females exhibit higher rates of cooperation. This is particularly significant in regression results in which we control for other potential factors. Third, conditional cooperation is a significant factor affecting cooperation. This impact of this affect is almost twice as strong for Chinese participants as it is for American ones. Fourth, despite revealing potential in- and out-group attitudinal

[1] We loosely use the terms Chinese and American for those studying fulltime at Wuhan and Chapman Universities respectively. Chinese participants are exclusively Chinese nationals, while we cannot identify the nationalities of the American participants. However, eleven of those participants self-identified as ethnically Chinese. In unreported results, we verify all of our results are robust to removing the data for these eleven participants.

differences in survey responses it generates little impact. We only find a marginally significant effect for Chinese participants in the out-group setting in which a more favorable view of China diminishes the tendency to cooperate.

The remainder of this paper is organized as follows. The design of our study is depicted in Section 2. We report the experimental results in Section 3. Finally, we present further discussions in Section 4.

2. Experimental Design

Our experiment consists of a single play of the Prisoner's Dilemma Game, with the payoffs for the two players described in Table 1, followed by an elicitation task for a subject's beliefs regarding their counterpart's likelihood of choosing to cooperate (Option A) and a short survey including questions regarding their attitude towards the two countries.

Table 1: Prisoner's Dilemma Game Payoff Matrix

		Other Player	
		A	B
You	A	8 E, 8 E	2 E, 12 E
	B	12 E, 2 E	4 E, 4 E

1 E-Dollar = USD $1.00, 1 E-Dollar = RMB ¥ 1.60

Each subject makes a single choice of either option A (cooperate) or B (defect) in the first stage of the experiment. We do not inform the subjects of the results of the game until all data from their session are collected, including the elicitation tasks and survey, and processed with a random match with a counterpart for payment.

After the Prisoner's Dilemma Game, subjects complete a pair of belief elicitation tasks. First, we ask them to predict whether their counterpart selected option A, while informing them a correct prediction will receive a twenty experimental cents reward. Second, we ask them to guess what percentage of the players from their counterpart's country chose option A, while informing them a guess within ten percent of the true

proportion will receive a twenty experimental cents reward.[2]

In the post-experiment survey, we ask subjects about their general attitudes towards China and the United States, their impressions of Chinese and Americans, their attention to the nationality of their partners, and other personal characteristics. We collect the attitudinal measurements towards the two countries to assess whether there are in-group or outgroup biases and if these generate differences in cooperative behavior.

2.1 Treatments

Our first primary treatments are cross-cultural interaction, which generates two sub-treatments: where Chinese students play against American students (CA) and American students play against Chinese students (AC). The second primary treatment is within-culture interaction, which generates two more sub-treatments: Chinese students play against Chinese students (CC) and American students play against American students (AA).[3] In each treatment, we inform subjects at the beginning of the session whether their counterpart is from their own or the other country.

2.2 Subjects

We recruited 322 individuals: 162 subjects from the United States and 160 from China. American subjects were students from Chapman University recruited through ORSEE (Greiner, 2015), and Chinese subjects were recruited from Wuhan University through ancademy.org. To account for the odd subject number in the CC treatment and the different sum of participants for the CA and AC treatments, which prevents one-to-one matching, we randomly chose a matched subject for the unmatched subject to give the subject feedback and count their payment.

Table 2 reports by treatment some descriptive statistics of the subjects' demographics and survey responses. We note there are fewer male subjects than female

[2] We implement belief elicitation tasks with financial incentives to make their choice in the task payoff salient. However, due to concerns over potential attempts to use the task to hedge the risk in total payoffs for the experiment we make the task payoffs small relative to game payoffs and we do not inform subjects there is the elicitation task until after making their game choices.

[3] Abbreviation derived from country names' initial letters.

subjects, particularly so for the American sample. The average age is about 20 years, with a slightly higher average for the American sample. The subjects majoring in economics account for a certain proportion, but are not the majority.

Turning to attitudinal measurements, subjects prefer their own country to the other country (p-value < 0.001, all tests reported within text are Wilcoxon rank-sum test). Further, in the cross-culture treatment, the concern of the partner's nationality is higher than that in the within-culture treatment (p-value = 0.001). We ask the subjects "how much did you pay attention to your partner's nationality?" Participants can respond with a value of 1 to 3 corresponding respectively to "paid no attention", "paid little attention", and "paid much attention." In both the Chinese and American samples, subjects in cross-culture treatments are significantly more concerned about their partner's nationality than subjects are in the within-culture treatments (p-value = 0.008 and p-value = 0.001).

Table 2: Descriptions of subjects by treatments

	CC	CA	AA	AC
Male	42.4%	37.3%	28.6%	26.9%
Age	19.98	19.65	20.27	20.45
Attitude towards China (1-5)	4.87	4.87	2.82	2.94
Attitude towards the US (1-5)	2.89	3.20	3.42	3.36
Attention paid to the Partner's Nationality (1-3)	1.28	1.71	1.24	1.54
Economics major	27.1%	24.0%	10.7%	7.7%
Observations	85	75	84	78

Attitude towards China/the US is a rating question from Unfavorable to Favorable.

2.3 Procedures

We conducted three experimental sessions in December 2020. We constructed an online survey to elicit all responses using the website www.wjx.cn. We produced a version of the survey in English for the Chapman University participants and in Mandarin for the Wuhan University participants. We provide the English version of the

instructions in the appendix, and the Mandarin version is available upon request from the corresponding author. In each session, the experiment commenced simultaneously in China and the US via controlled release of the survey.

Subjects are paid 24 hours after the experiment's conclusion to avoid unnecessary variation caused by non-identical instructions and given the time zone difference. Those who completed the experiment are paid in their respective currency based on their performance throughout the experiment. Due to the nature of purchasing power parity between China and the US, we weighted the conversion rate of the experimental dollars.

Chinese and American subjects earned ¥22.23 and $13.52 on average, respectively, including 7 experimental dollars as a show-up fee, namely, ¥11.2 for Chinese subjects and $7 for American subjects. Each session took approximately half an hour or less in total.

3. Experimental Results

3.1 Cross-cultural cooperation rates

Table 3 shows the descriptive statistics for the Prisoner's Dilemma Game, as well as Chi-squared hypothesis test resulting comparing cooperation averages. The cooperation rate for American subjects is 58.6 percent (162 subjects) versus is 43.75 percent (160 subjects) for Chinese subjects, which is significantly less than that for American subjects (p-value = 0.01). We also observe more cooperative behavior from American than Chinese participants in both the within- and cross-culture treatments (p-value = 0.05 and = 0.13, respectively). One of our main questions is whether people exhibit different rates of cooperative behavior in within- and cross-culture in the Prisoner's Dilemma Game. Although the cooperation rates are larger in cross-culture treatments than in within-culture treatments, we find no statistically significant difference for either the Chinese (p-value = 0.59) or American group (p-value = 0.81).

Result 1: (Group cooperation rates) *American participants exhibit greater proportions of cooperative behavior in both within- and cross-cultural interactions. Each nationality exhibits nominal, but not statistically, higher rates of cooperation in*

cross- versus within-cultural interactions.

Table 3: Cooperation in the Prisoner's Dilemma Game

	Chinese	American	CC	CA	AA	AC
Cooperation Rate (%)	43.8	58.6	41.2	46.7	57.1	60.3
Sample Size	160	162	85	75	84	78
Chinese versus American	p-value = 0.01					
CC versus CA	p-value = 0.59					
AA versus AC	p-value = 0.81					
CC versus AA	p-value = 0.05					
CA versus AC	p-value = 0.13					

CC means "Chinese students in the within-culture treatment", CA means "Chinese students in the cross-culture treatment", AA means "American students in the within-culture treatment", AC means "American students in the cross-culture treatment". All mean comparisons are performed via a Chi-squared test.

In Table 4, we disaggregate the data in Table 3 by gender. In all treatments, the cooperation rates of female subjects exceed those of male ones. Even with a reduced numbers of observations, resulting in lower power for the Chi-square tests, we still find a highly significant difference for the Chinese females versus Chinese males in the cross-culture treatments, and marginally significant differences for Chinese and American females in the within-cultural treatments. These marginal results become highly significant in the regression results of Table 7. The conclusion that female subjects are significantly more likely to cooperate than male subjects supports the findings of Andreas et al. (1999).

Result 2: (Gender cooperation rates) *Females exhibit greater cooperative behavior in both within and cross-cultural interactions.*

Table 4: Cooperation by Gender in the Prisoner's Dilemma Game

	CCF	CCM	CAF	CAM	AAF	AAM	ACF	ACM
Cooperation Rate (%)	49.0	30.6	57.5	28.6	63.3	41.7	64.9	47.6
Sample Size	49	36	47	28	60	24	57	21
CCF versus CCM	p-value = 0.14							
CAF versus CAM	p-value = 0.03							
AAF versus AAM	p-value = 0.12							
ACF versus ACM	p-value = 0.26							

CCF means "female in CC", CCM means "male in CC", CAF means "female in CA", CAM means "male in CA". AAF means "female in AA", AAM means "male in AA", ACF means "female in AC", ACM means "male in AC". All mean comparisons are performed using a Chi-squared test.

3.2 Some determinants of cooperation

In the following analysis, we examine the affect one's expectation of their counterpart's play and one's in- and out-group attitudes have on their cooperative behavior. We first report group differences on the expectation of their counterpart's cooperation conditional upon their counterpart's country. Then we report group differences with respect to in- and out-group attitudes. We then present regression analyses on how these factors effect individuals' cooperative behavior.

Conditional cooperation has long been an identified decision rule in dilemmas such as Public Good games (Fischbacher et al., 2001) and later in the Prisoner's Dilemma Game (List, 2006). A player is a conditional cooperator in our single play setting is more likely to cooperate the stronger their belief that their counterpart is going to cooperate. We use the response to the question "guess what percentage of the players from China/US chose option A in today's experiment" as our measurement of that belief. As shown in Table 5, Chinese subjects have lower expectations of cooperation rate from their counterpart than American ones (p-value = 0.07), especially in the cross-culture treatment (p-value = 0.04).

We also find it interesting to note the accuracy and biases found in the beliefs by player and interaction type. In the cross-culture treatment, Chinese subjects

underestimate the cooperation rate of their American counterpart (expected 51.53%, actually 60.26%, p-value = 0.002), and Americans overestimate the cooperation rate of their Chinese counterpart (expected 59.78%, actually 46.67%, p-value = 0.006). The similar pattern of inaccuracy does not occur in the within-culture treatment. Chinese subjects overestimate their Chinese counterpart's cooperation rate (expected 55.18%, actually 41.18%, p-value = 0.015); American subjects correctly estimate their American counterpart's cooperation rate (expected 58.05%, actually 57.14%, p-value = 0.254).

Table 5: Cooperation Expectation in the Prisoner's Dilemma Game

	CC	CA	AA	AC
Expected Cooperation (%)	55.2	51.5	58.0	59.8
Standard Deviation	25.90	24.84	20.47	21.46
Sample Size	85	75	84	78
Chinese versus American	p-value = 0.07			
CC versus CA	p-value = 0.42			
AA versus AC	p-value = 0.43			
CC versus AA	p-value = 0.58			
CA versus AC	p-value = 0.04			

All mean comparisons are performed using a Wilcoxon rank-sum test.

In- and out-group biases reflect differential attitudes one has towards those who they consider as part of their identity group versus those who are not considered part of their identity group. Behavioral economists, for example (Chen and Li, 2009), argue group biases moderate the tendency to cooperate through individuals' social preferences – in affect transforming the payoffs of the Prisoner's Dilemma Game. We use the responses to the attitudinal questions, "What are your views on the China/United States? On a scale of 1 to 5. please indicate your level of feelings. 1 = Unfavorable, 2 = a little Unfavorable, 3 = Neutral, 4 = a little favorable, 5 = Favorable," as proxy measurements for in- and out-group bias.

With respect to the view on one's country of residence, in-group preference, Chinese have a higher view than Americans, but there is no difference between cross-

culture and within-culture treatments, as shown in Table 6. On the other hand, views of the other country differ. When subjects participate in a cross-culture interaction, their view to their counterpart's country becomes much higher. Particularly striking, Chinese subjects' view of the US (3.200) in the cross-culture setting is almost as high as their American partner's view of the US (3.359) in a cross-culture game. This suggests the frame of our experimental task is priming a more positive attitude towards the other country in the cross-cultural treatments. We will explore how these attitudes affects their propensity for cooperative behavior.

Table 6: Summary of responses to attitude towards countries

Cross-culture treatment	Mean	SD	Within-culture treatment	Mean	SD	p-value
Chinese						
CA, View of China (n=75)	4.87	0.41	CC, View of China (n=85)	4.87	0.43	0.816
CA, View of US (n=75)	3.20	0.79	CC, View of US (n=85)	2.89	0.91	**0.018**
American						
AC, View of China (n=78)	2.94	0.93	AA, View of China (n=84)	2.82	0.92	0.479
AC, View of US (n=78)	3.36	1.08	AA, View of US (n=84)	3.42	1.16	0.729

All mean comparisons are performed using a Wilcoxon rank-sum test.

We now assess the impact conditional cooperation and group biases have on cooperative behavior through multivariate logistic regressions. Table 7 reports estimated coefficients and the marginal effects for the Chinese, American and pooled samples. First, we strong evidence of conditional cooperation in both nation groups. The first set of evidence are the highly significant estimated coefficients and marginal effects for the Expect cooperation (elicited belief) for the two groups. Further, this effect size is almost twice as large for the Chinese subjects. Namely, a one-percent increase in one's expected cooperation results in an estimated 1.3% and 0.7% increase in cooperation for Chinese and American subjects respectively. This is confirmed by the marginally significant estimated coefficient and marginal effect size for the interaction variable Expect cooperation*Chinese in the pooled sample.

Result 3: (Conditional cooperation) *Conditional cooperation is a strong factor in*

determining the choice to cooperate. This influence is almost twice as strong for the Chinese compared to the Americans.

Next, we consider the impact of group attitude on the tendency to cooperate. First, we find no evidence of such influence in the within-group treatments as indicated by the insignificant coefficient estimates for the variables View of China and View of US. (The baseline setting for these estimates is the within-culture treatment). For the cross-cultural treatment impacts of group bias, captured by the interaction terms of cross-culture and view, we find no significant estimates with one exception. In the cross-culture setting, the Chinese have a marginally significant coefficient on their View of China variable. This indicates some potential in-group bias, but we do not want to overemphasize this as the Chinese almost exclusively give a rating of four or five in this treatment.

Result 4: (In- and out-group preferences) *There is no impact of either in- or out-group biases (as measured by our attitudinal survey question) on the propensity to cooperate with one exception. There is weak evidence in-group bias diminishes cooperation for Chinese subjects in cross-cultural interaction.*

Table 7: Logit regressions for the determinants of cooperation

	Dependent variable: Choice to cooperate (option A)					
	Chinese		Americans		Pooled	
	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Chinese					-1.123	-0.274
					(0.869)	(0.202)
Cross-culture	7.252**	0.947****	0.330	0.079	0.933	0.229
	(3.588)	(0.135)	(1.526)	(0.361)	(1.260)	(0.294)
Expect ratio	0.053***	0.013***	0.029***	0.007***	0.030***	0.007***
	(0.010)	(0.002)	(0.009)	(0.002)	(0.010)	(0.002)
Male	-1.071**	-0.244***	-1.024***	-0.249***	-0.994***	-0.242***
	(0.417)	(0.089)	(0.343)	(0.095)	(0.274)	(0.065)
View of China	0.343	0.082	-0.346	-0.083	-0.275	-0.069
	(0.436)	(0.190)	(0.255)	(0.065)	(0.180)	(0.050)
View of US	0.321	0.077	-0.023	-0.005	0.095	0.024
	(0.375)	(0.080)	(0.205)	(0.051)	(0.176)	(0.044)
Cross-culture* View of China	-1.138*	-0.272	0.266	0.064	0.101	0.025
	(0.651)	(0.244)	(0.364)	(0.093)	(0.187)	(0.053)
Cross-culture* View of US	-0.427	-0.102	-0.294	-0.071	-0.323	-0.081
	(0.556)	(0.120)	(0.350)	(0.079)	(0.297)	(0.066)
Expect ratio*Chinese					0.023*	0.006*
					(0.013)	(0.003)
Control variables	Economic major, Age					
Constant	-4.215		-0.609		-0.354	
	(3.045)		(1.795)		(1.264)	
Observations	160		162		322	

*p<0.1; **p<0.05; ***p<0.01.

4. Discussion

Technological advances, globalization and increasing worldwide prosperity all contribute to growing incidences of cross-cultural interactions and further joint participation in projects. Success of multi-person efforts often relies upon the ability of individuals to engaging cooperatively without formal institutional enforcements. With China's unique culture and recent ascension to one of the largest economies and the United States long-standing hegemony, there will be an ever-growing incidence of such multi-person efforts between individuals from these two cultures.

Financially incentivized Prisoner's Dilemma Game experiments are simple and effective instruments to measure this cooperation and to study what factors influence cooperation. Our results suggest some important policy initiatives and nudges that could increase cooperation rates. One, our results surprisingly suggest increasing female participation can lead to increased joint cooperation, although Chinese female and American female joint play remains an evaluation to be made. Two, one can address the Chinese underestimation of the propensity of Americans to cooperate through presentation of accurate rates of cooperation. Three, the high incidence of conditional cooperation suggests cooperation begets cooperation. This suggests actions like pre-play interactions or scaling up the decision sizes could be effective and only moderately bureaucratic interventions. Finally, the large attention paid to attitudinal impact of group identity is perhaps overemphasized; it surprisingly has questionable impact on behavioral outcomes.

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Appendix A: Experimental Instructions

Example for AC treatment.

Welcome to today's experiment. You are about to participate in an experiment on decision-making. During this experiment, we ask you and the other participants to make decisions and to fill out a questionnaire. Your decisions in the experiment and the data from the questionnaire will be used for scientific purposes only.

Participants in this experiment are from 2 universities in different countries: Students of the University of Chapman in the United States and Wuhan University in China will play the experiment on the same day over the internet. Those who are in China will see these instructions in Mandarin. Those who are in America will see these instructions in English. And no participants at any university will see any decisions by the other participants. As an American participant, you will be paired up with an anonymous and random participant from the Chinese university.

The experiment consists of one task and a questionnaire. You will receive the earnings from the task of the experiment. You are required to finish the experiment in one hour. **If it is not completed in one hour then no money is paid.**

During the experiment, we will speak in terms of experimental tokens (€) instead of dollars. Your payoffs will be calculated in terms of tokens and then translated into dollars at the end of the experiment at the following rate:

1 experiment token (€) = 1.0 US Dollar

For your participation, we will pay you with **7 experimental tokens as a show-up fee**. You will be awarded *additional* experimental tokens based on your performance in this experiment. As you and your partner are in different time zones, we will give you the results of both of your choices following your partner's completion of this experiment tomorrow morning.

Task

In this task, you will be anonymously paired with a player from Wuhan University (China). During and after the game you will not be told with the player you have been paired and the other player will not be told that he or she has been matched with you.

In this task, both you and your partner have two choices in this game: A or B. For this game, your payoff will depend on your choice as well as your partner's choice. Both you and your partner will make your choice on the same day, meaning neither of you will find out what the choice of the other has made, and the game will not be repeated.

The payoff matrix corresponding to your decision and that of the other participant is as follows. In each cell, the first number (**in bold**) is your payoff, and the second number is the payoff of the other participant. That is,

If you both choose to A, you will earn €8, and your partner will earn €8.
If you choose to A, and your partner chooses to B, you will earn €2, and your partner will earn €12.
If you choose B, and your partner chooses A, you will earn €12, and your partner will earn €2.
If you both choose B, you will earn €4, and your partner will earn €4.

		The other player from Wuhan University (China)	
		A	B
You	A	8 E, 8 E	2 E, 12 E
	B	12 E, 2 E	4 E, 4 E

In this task, according to the payoff matrix, what's your choice?

(a) A

(b) B

Appendix B: Post-experiment Questionnaire

Example for AC.

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Recall that, the payoff matrix in the task is:

		The other player from Wuhan University (China)	
		A	B
You	A	8 E, 8 E	2 E, 12 E
	B	12 E, 2 E	4 E, 4 E

Please answer the following questions.

1. In the last task, what do you expect your partner has chosen? You will receive €0.20 for a correct result.

   (a) A

   (b) B

2. In the last task, guess what percentage of the players from China chose option A in today's experiment. If your guess comes as close as 10% to the actual ratio, you receive an additional €0.20.

   The unites are %. Please enter an integer number (from 0 to 100). If you guess the percentage is XX%, just enter XX.

   _____

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Now, please answer the following questions.

1. What are your views on the People's Republic of China? On a scale of 1 to 5, please indicate your level of feelings.
   1 = Unfavorable, 2 = a little Unfavorable, 3 = Neutral, 4 = a little favorable, 5 = Favorable:

   (a) Unfavorable

   (b) A little unfavorable

   (c) Neutral

   (d) A little favorable

   (e) Favorable

2. What are your views on the United States of America? On a scale of 1 to 5, please indicate your level of feelings.
   1 = Unfavorable, 2 = a little Unfavorable, 3 = Neutral, 4 = a little favorable, 5 = Favorable:

   (a) Unfavorable

   (b) A little unfavorable

   (c) Neutral

   (d) A little favorable

   (e) Favorable

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Please answer the following questions about yourself.

1. What is your age?

_____

2. What is your gender?

   (a) Male

   (b) Female

3. Which category of the following includes your major, please?

   (a) Philosophy

   (b) Economics

   (c) Law

   (d) Pedagogy

   (e) Literature

   (f) History

   (g) Natural Science

   (h) Engineering

   (i) Agronomy

   (j) Medicine

   (k) Management

   (l) Art

   (m) Other (please specify) _____

4. Please tell us your ethnicity?

   (a) African

(b) Asian

(c) European

(d) Hispanic

(e) Native

(f) Other (please specify) _____

5. Have you ever been to China? *

(a) Yes

(a) No

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The following questions concern your family.

1. How many generations has your family lived here?

(a) First Generation

(b) Second Generation

(c) More than two Generations

2. From which countries did your family originate?

(a) United States

(b) China

(c) African

(d) Asian

(e) European

(f) Americas

(g) Other (please specify) _____

3. Thinking about your family income, compared with other American families in general, would you say your family income was roughly:

(a) Below average

(b) Average

(c) Above average

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There are 12 items below. Please read each item and determine the extent to which you agree or disagree. Please select the option that fits your true opinion.

1 = Strongly disagree, 2 = disagree, 3 = In general, 4 = agree, 5 = Strongly agree

For each item, please select the opinion fits your true opinion by choosing the appropriate number form number 1-5.

1. I think that Chinese people are strategic is a common stereotype in my society.

2. I think that Chinese people are trustworthy is a common stereotype in my society.

3. I think that Chinese people are naive is a common stereotype in my society.

4. I think that Chinese people are sneaky is a common stereotype in my society.

5. I think that Chinese people are cooperative is a common stereotype in my society.

6. I think that Chinese people are competitive is a common stereotype in my society.

7. I think that American people are strategic is a common stereotype in my society.

8. I think that American people are trustworthy is a common stereotype in my society.

9. I think that American people are naive is a common stereotype in my society.

10. I think that American people are sneaky is a common stereotype in my society.

11. I think that American people are cooperative is a common stereotype in my society.

12. I think that American people are competitive is a common stereotype in my society.

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Please answer the following questions.

1. Generally speaking, would you say that people can be trusted or that you can't be too careful in dealing with people?

   (a) Always trusted

   (b) Usually trusted

   (c) Neutral

   (d) Usually not trusted

   (e) Always not trusted

2. How trusting are you?

   (a) Always trusting

   (b) Usually trusting

   (c) Neutral

   (d) Usually not trusting

(e) Always not trusting

3. During the Experiment you tried to:

   (a) Maximize my own payoffs

   (b) Maximize joint payoffs

   (c) Maximize player B's payoffs

4. During the experiment, how much did you pay attention to your partner's nationality?

   (a) Paid a lot of attention

   (b) Paid little attention

   (c) Paid no attention

Thank you!

You have finished today's experiment! As you and your partner are in different time zones, you will receive your payment 24 hours after the experiment, the amount of your payment is derived from both you and your partner's choice.

Please enter your school email, so that we can pay you the payment!

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