



香港城市大學
City University
of Hong Kong



**Social Capital in Modern Cities:
A Cross-generational and Cross-cultural Perspective**

November 19, 2007

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Trust in East Asia

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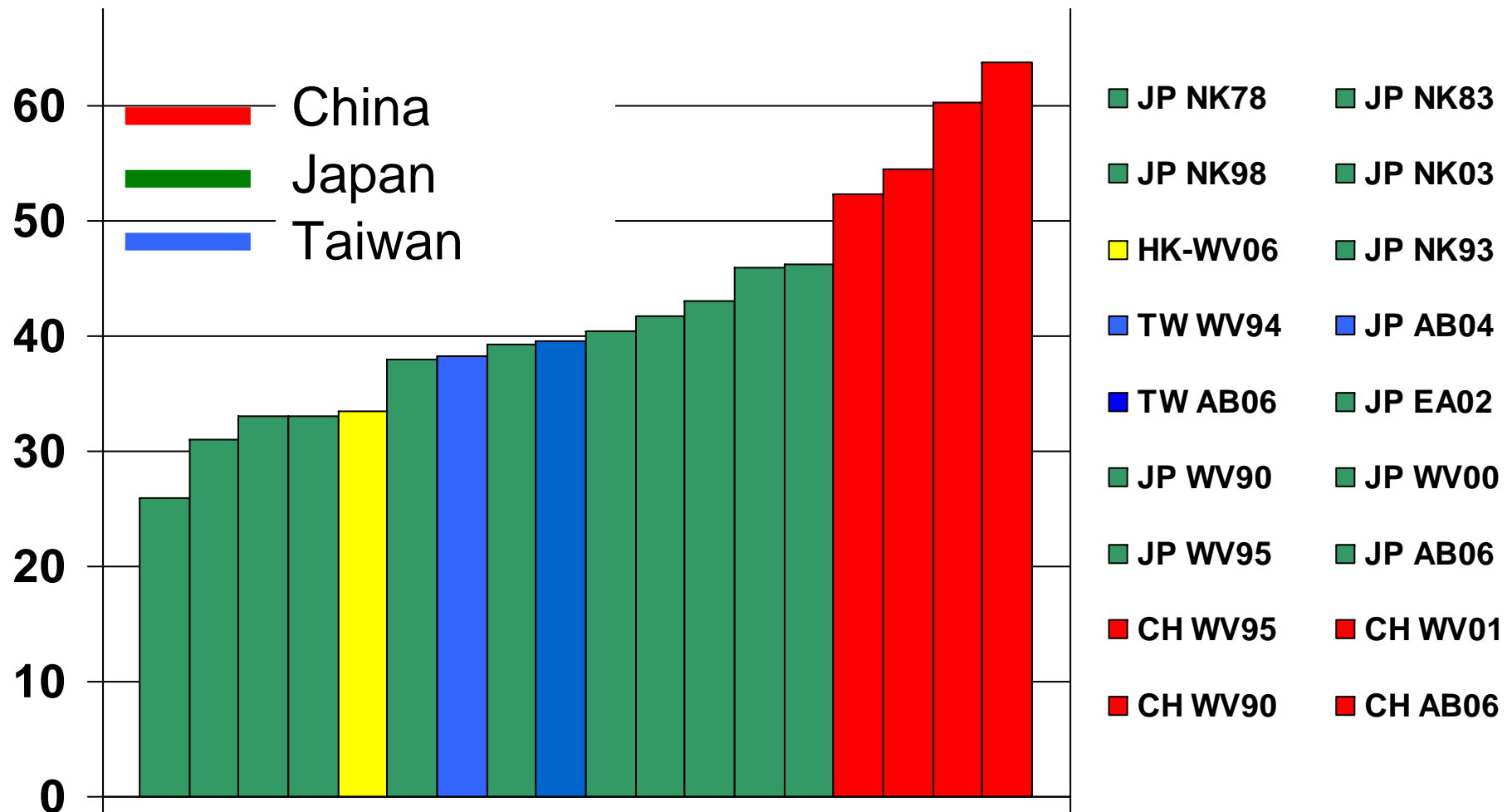
Center for Experimental Research in Social Sciences
Hokkaido University

Cross-societal trust game



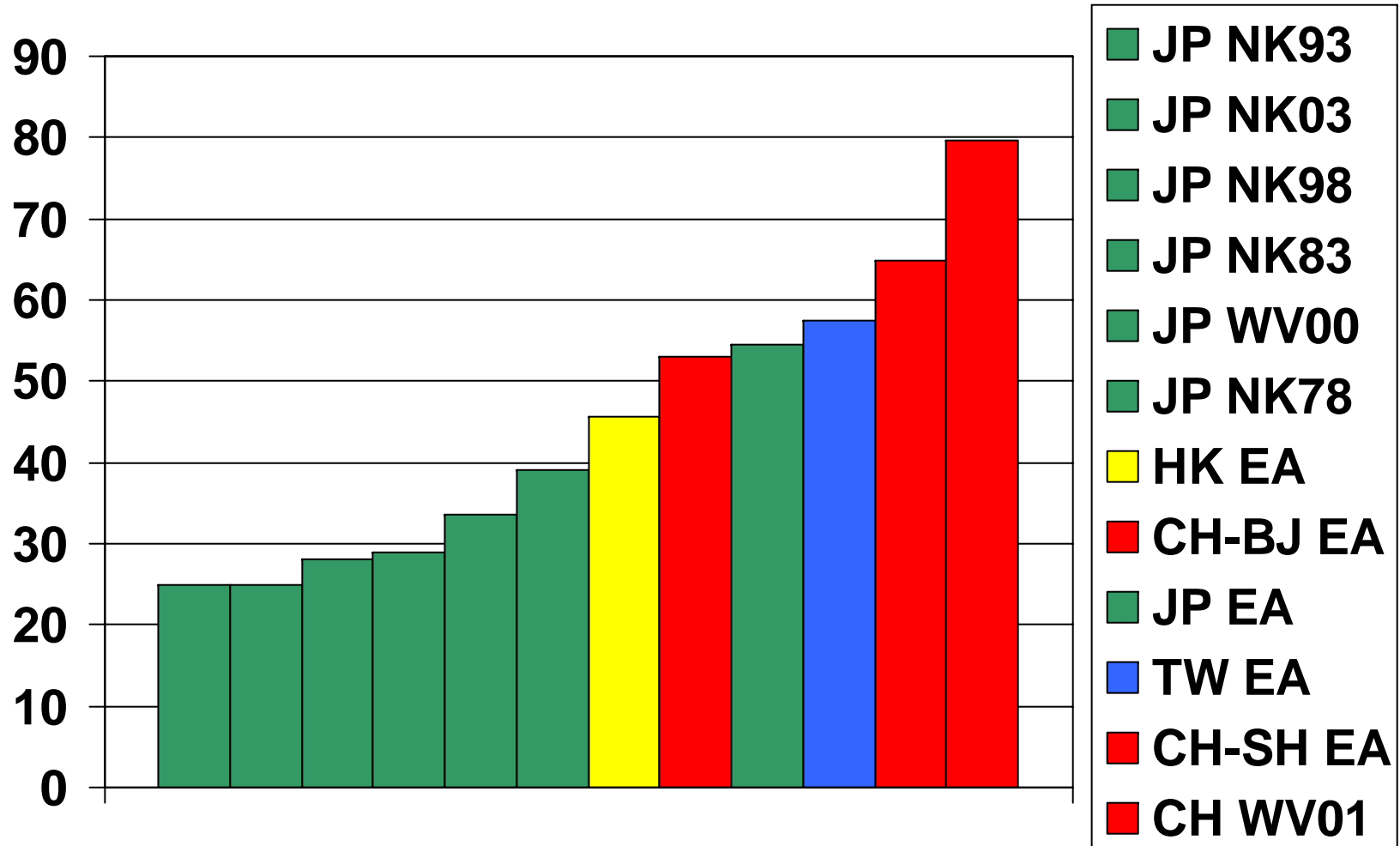
General trust in East Asia—China, Taiwan and Japan

This item is most frequently used to measure general trust, but it is well known that this item is double barreled—measuring both trust and vigilance.



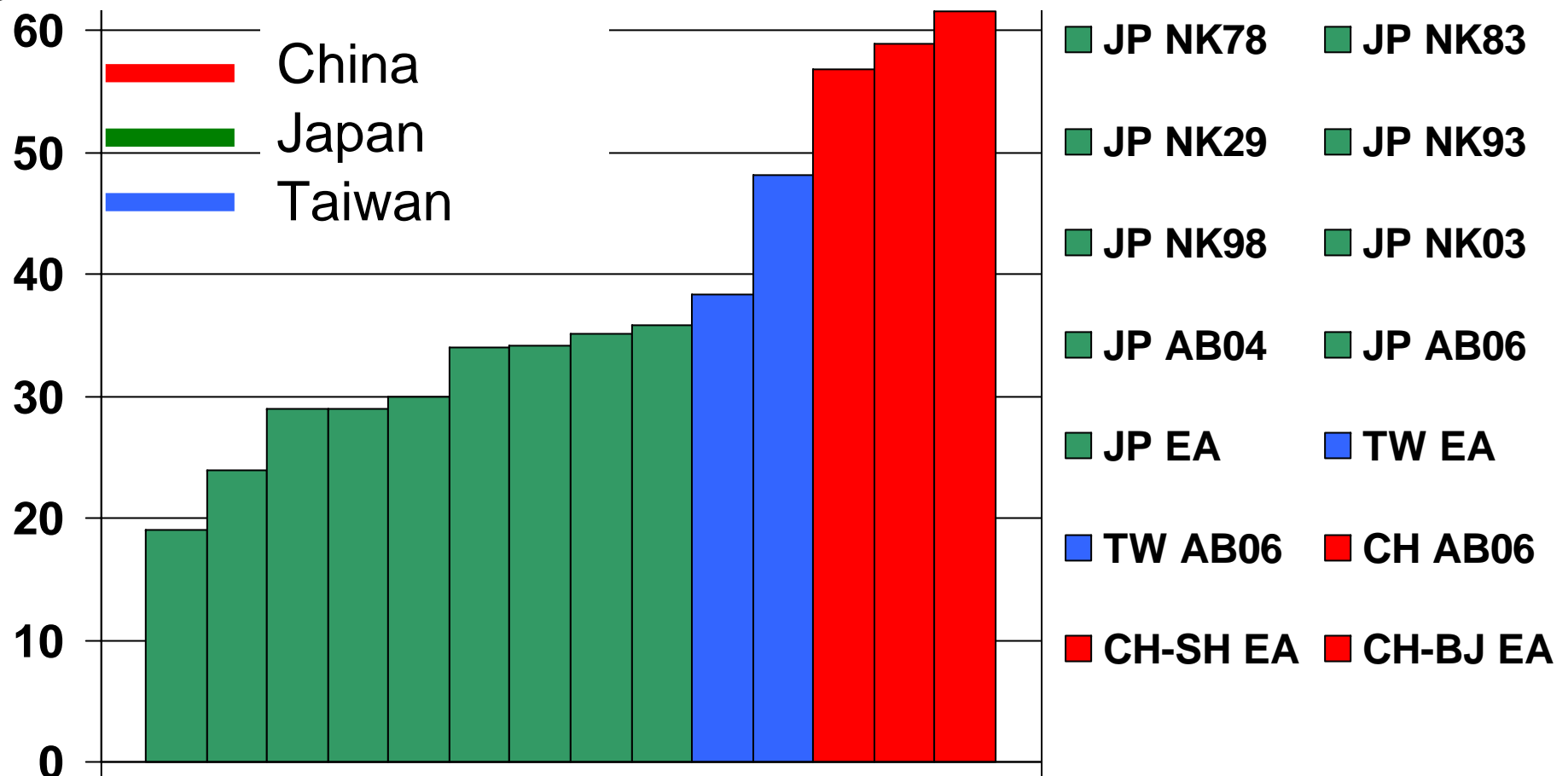
“Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?”

China
Japan
Taiwan

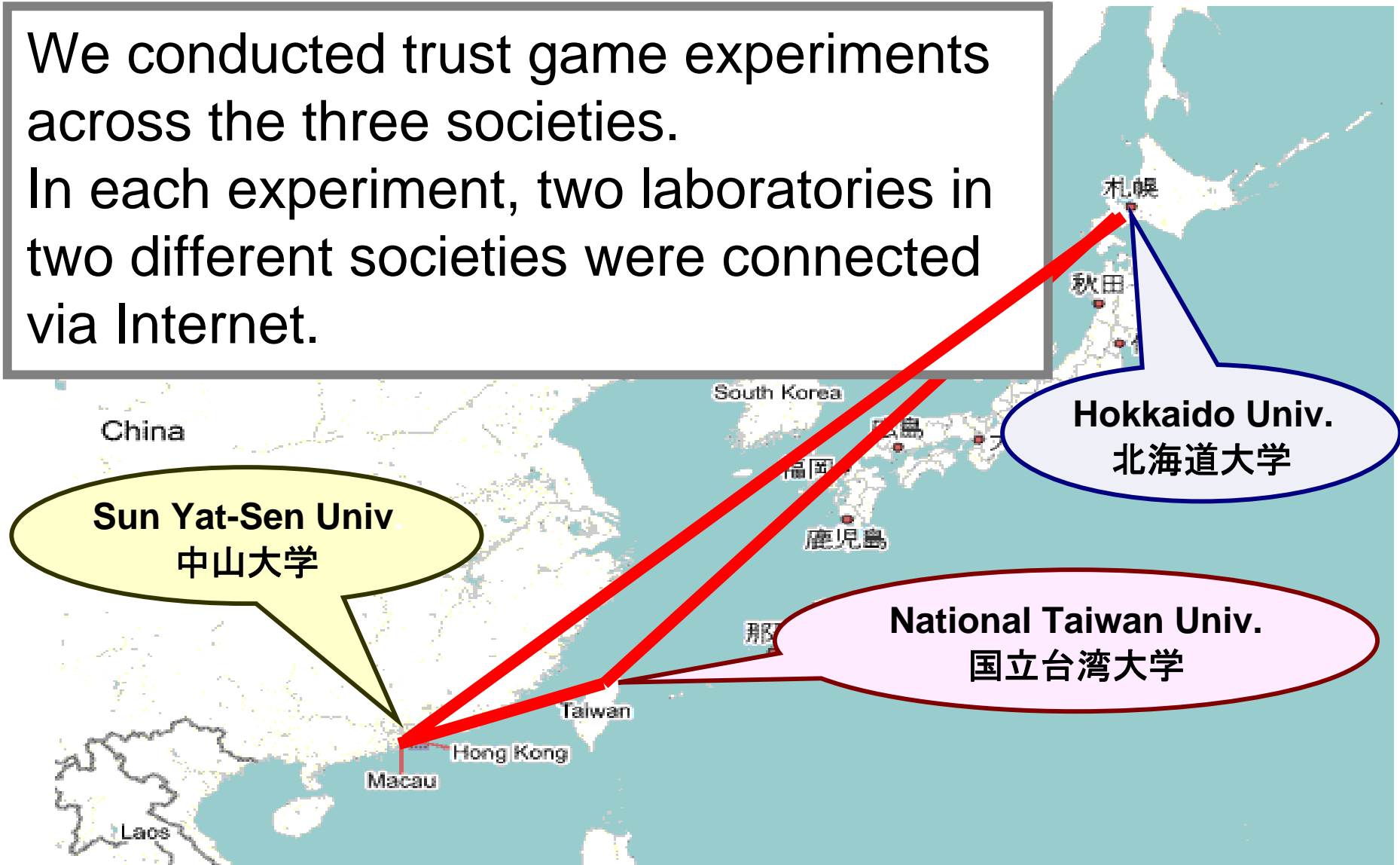


“Do you think that people generally try to be helpful or do you think that they mostly look out for themselves?”

Chinese seem to be higher on general trust than Taiwanese and Japanese. Japanese seem to have a cynical view of human nature.



We conducted trust game experiments across the three societies. In each experiment, two laboratories in two different societies were connected via Internet.



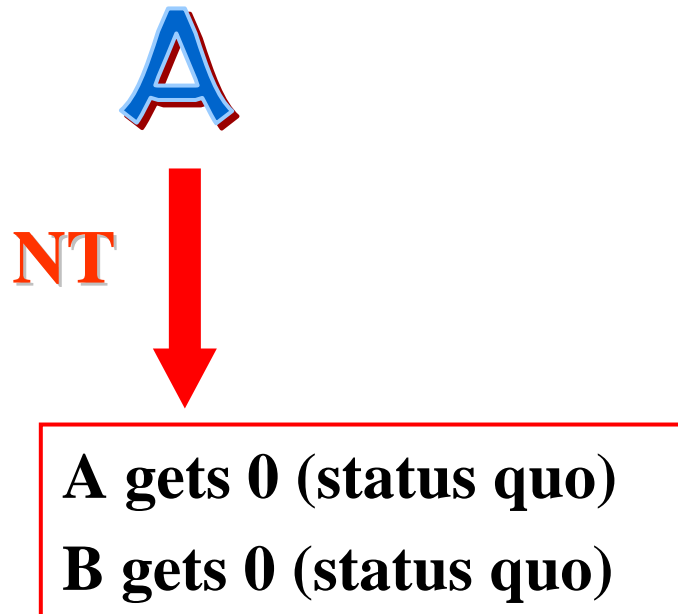
Do students' of these three universities behave consistently with the survey results in our cross-societal experiment consistent?

Trust Game

A trust game is played between two players, Player A (truster) and Player B (trustee).

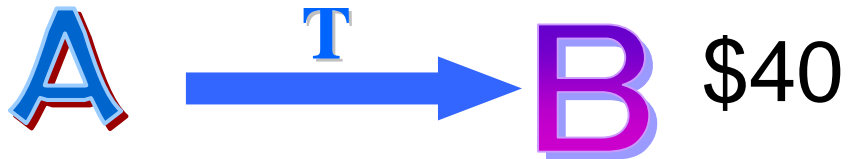
Player A decides whether or not entrust money, say, \$20, to B.

When A decides not to entrust (NT) the money, nothing happens.



Trust Game

When A decides to entrust (T) the money, it is invested by B and doubles in value.



Trust Game

Player A decides whether or not entrust 1 million won to B.

When A decides to entrust (T) the money, it is invested by B and doubles in value.

B can keep all the money to himself, or return \$30 to A (original \$20 plus an interest of \$10).

If B chooses not to honor A's trust and keep all the money (NH), B gets \$40 and A loses the \$20.



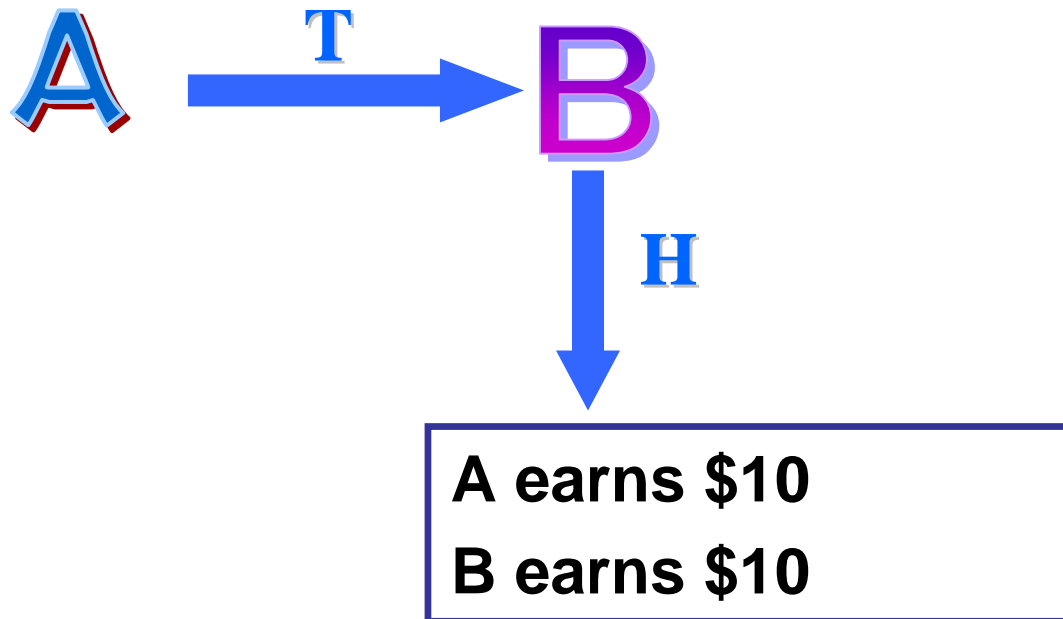
Trust Game

Player A decides whether or not entrust 1 million won to B.

When A decides to entrust (T) the money, it is invested by B and doubles in value.

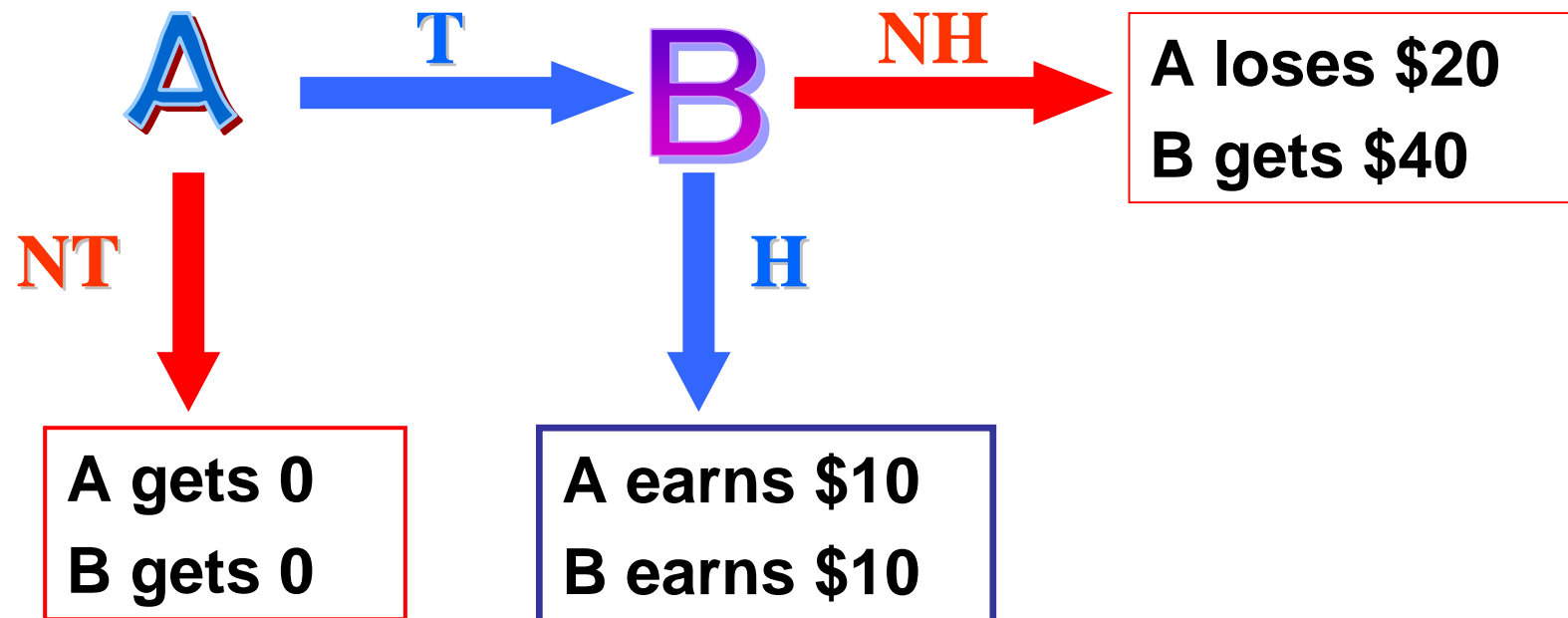
B can keep all the money to himself without any penalty imposed upon him. If B chooses not to honor A's trust and keep all the money (NH), B gets \$40 and A loses \$20.

If B honors A's trust (H) and returns \$30 to A (\$20 plus \$10 as an interest), both A and B earn \$10 each.



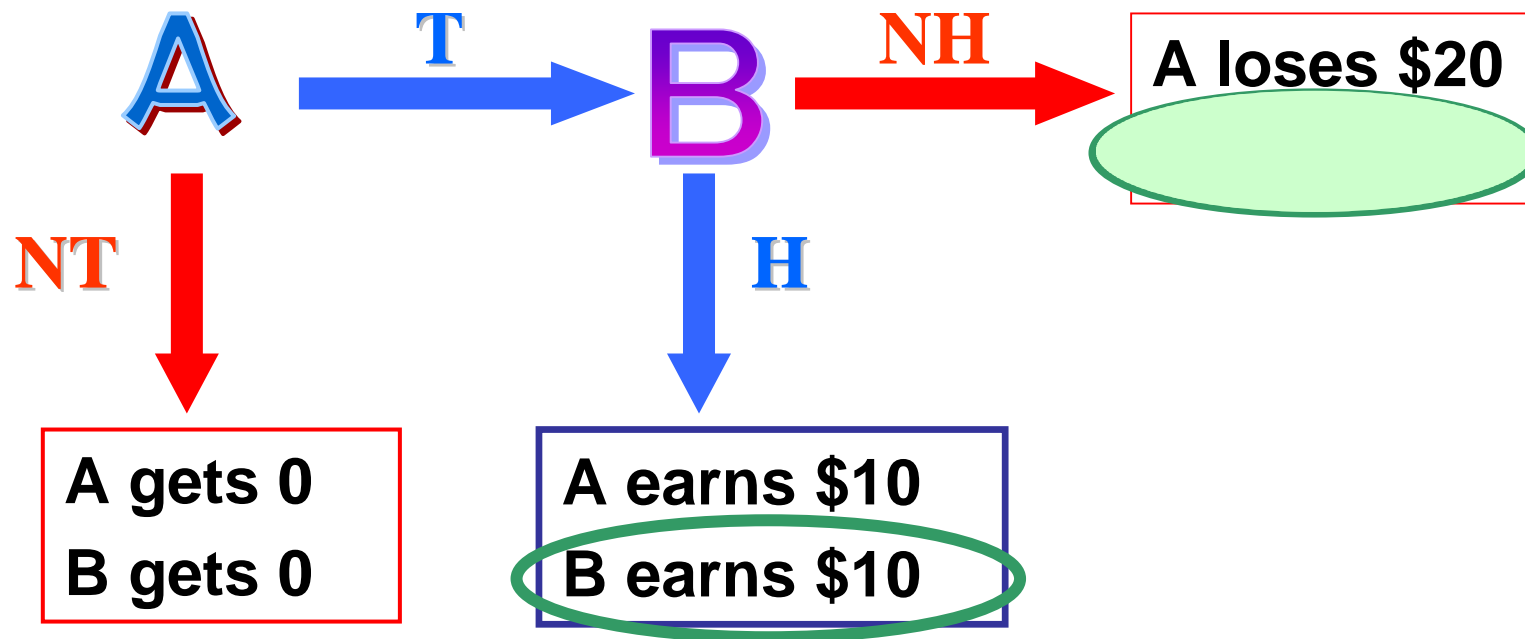
Trust Game

Suppose that this game is played between complete strangers. A has no means, legally or otherwise, to force B to return his money. Both A and B can decide freely without any further implications of their choices such as their reputation. Then, it is easy to predict what A and B will do, if they are rational and care only for own benefit.



Trust Game

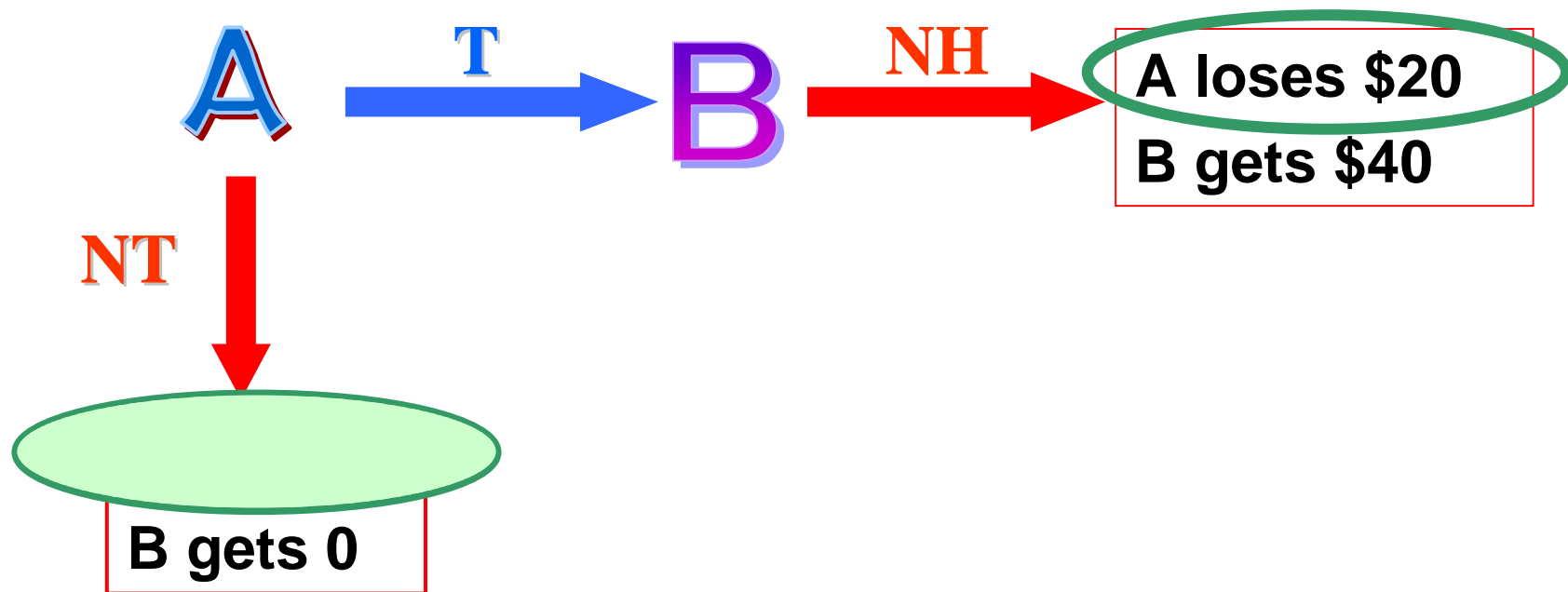
B will choose NH, that gives him \$40 rather than \$10.



Trust Game

The majority of B's would choose NH, that gives \$40 rather than \$10.

A, who expects this to happen, will choose NT.

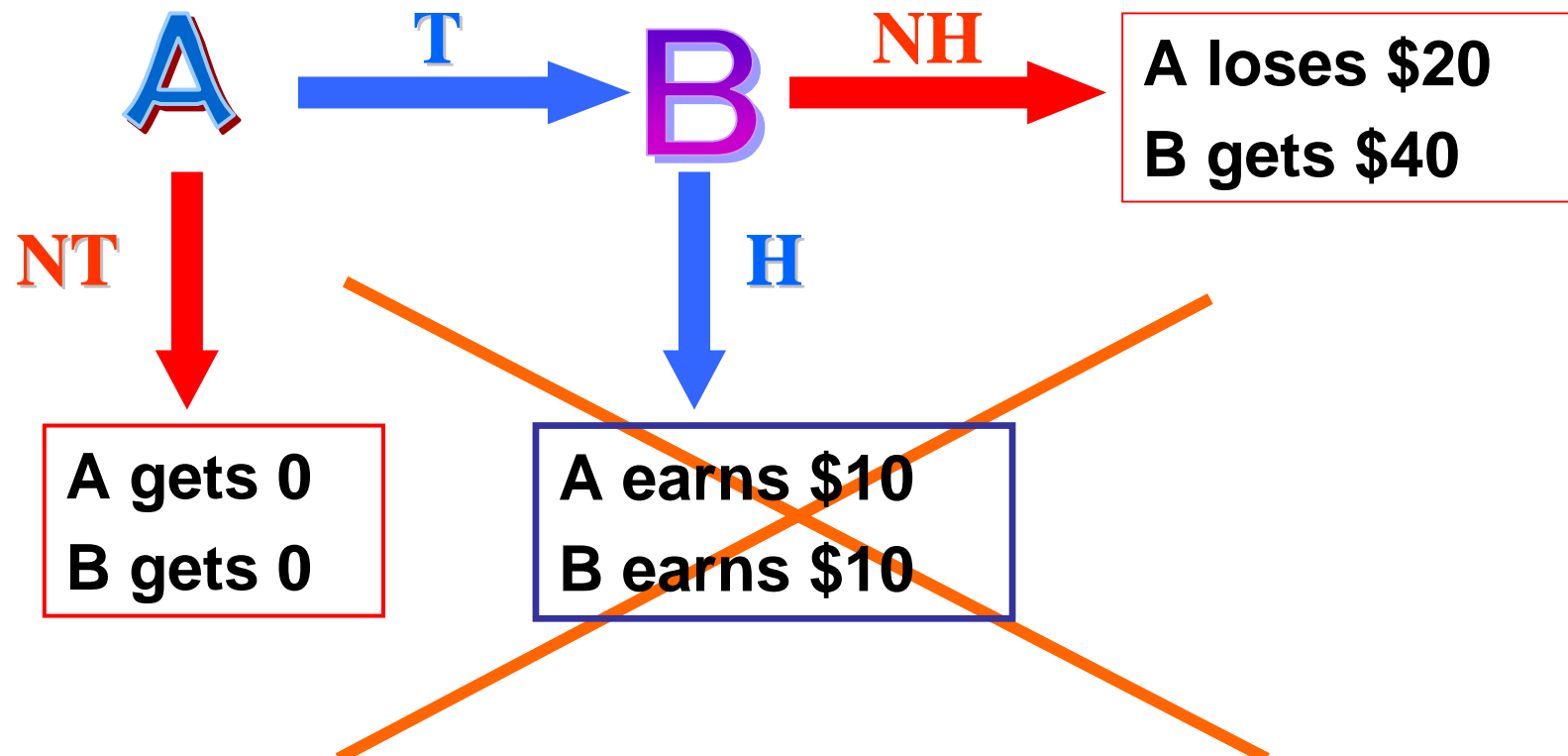


Trust Game

A's inability to trust B causes them a loss of an opportunity for each to earn a half million won.

This is why trust is so important. It gives us an opportunity to improve the joint gain.

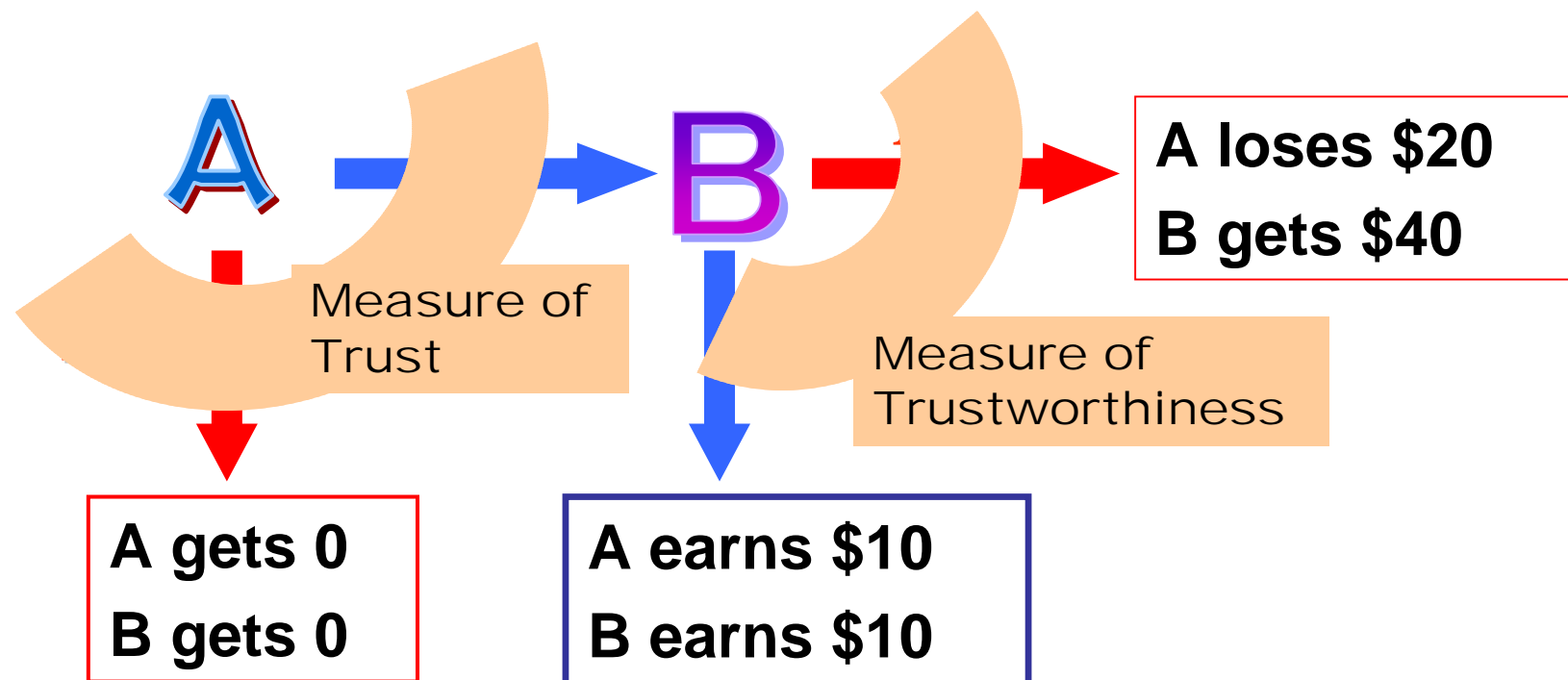
A forgoes the opportunity to earn \$10 because of his distrust of B.



Trust Game

In the standard Trust Game experiment, we use A's choice (T or NT) as a measure of his/her trust, and B's choice (H or NH) as a measure of his/her trustworthiness.

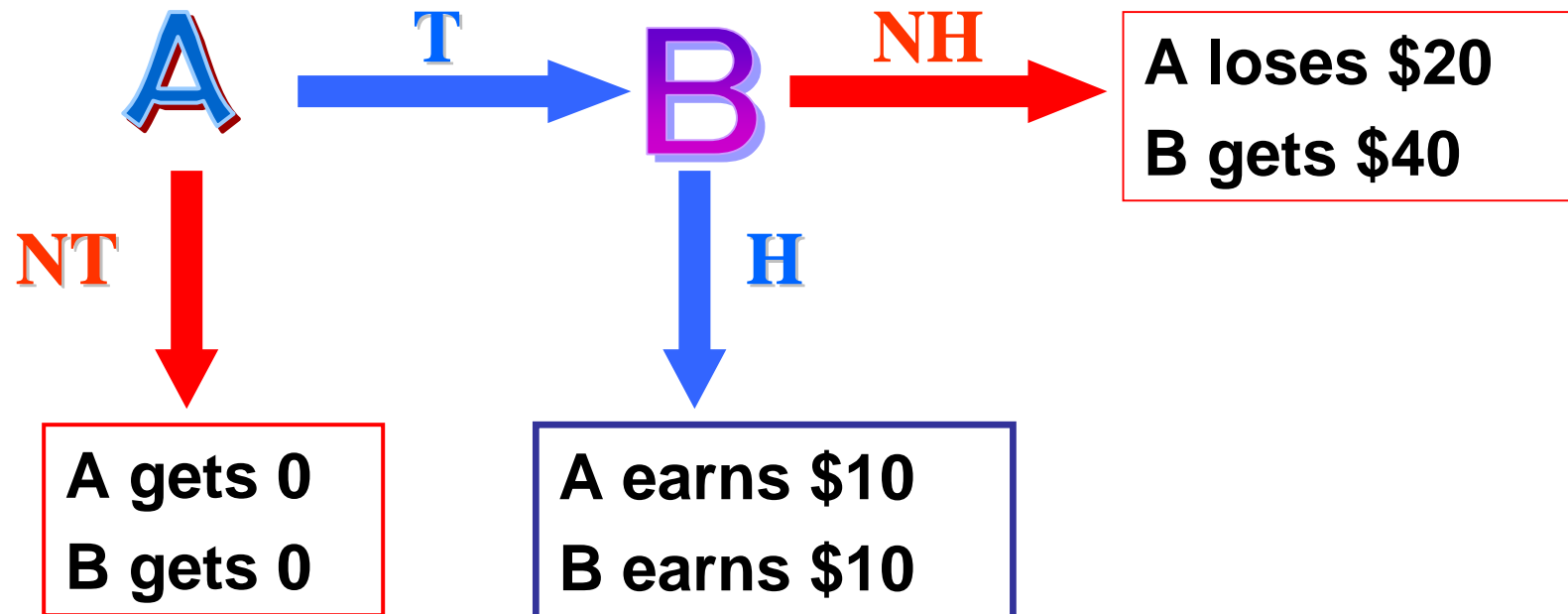
One limitation of this game is that we cannot measure B's behavior unless A trusts B.



Trust Game

This game captures the essence of a trust relationship.

Benefit of Trust > No Trust > Loss from Misplaced Trust

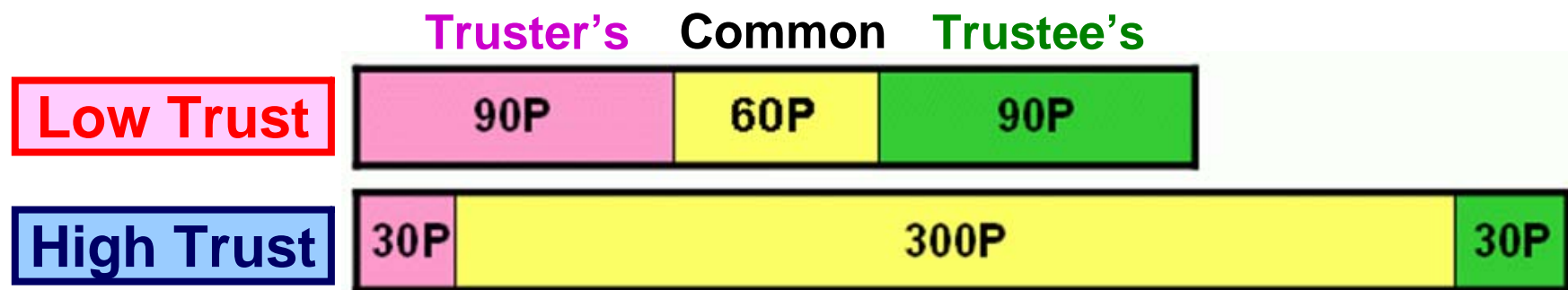


Trust Game (modified)

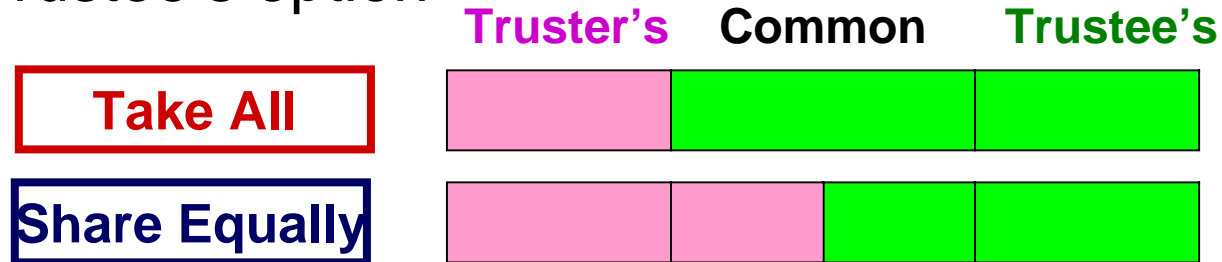
1. Truster makes a binary choice between **High Trust** and **Low Trust** options.

Low Trust: Truser and Trustee each gets 90 Points (Ps) for sure, and Trustee is given an opportunity to divide a “common share” of 60Ps between the two.

High Trust: Truser and Trustee each receives secure 30 Ps, and Allocator is given an opportunity to divide a common share of 300P between the two.



Trustee's option

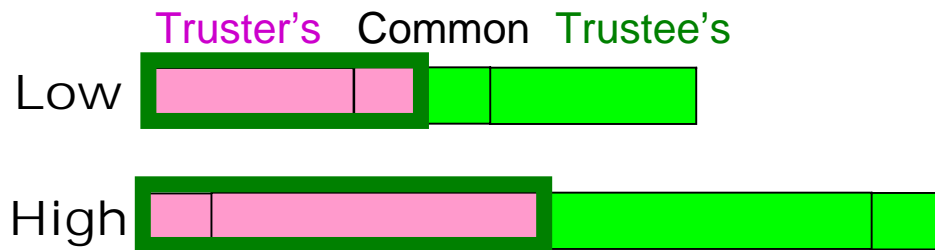


2. Allocator makes a binary choice between **Take All** and **Share Equally** options, after Truster has chosen either Low or High Trust option.

Take All: Trustee gets all the common points and Truster does not get any of the common points.

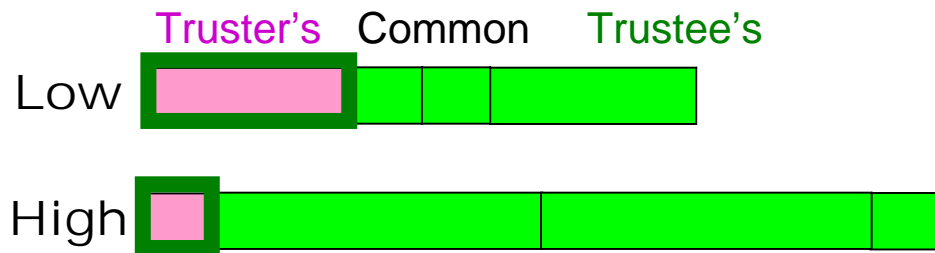
Share Equally: Trustee and Truster each gets a half of the common points.

Truster beliefs Trustee to Share Equally



- ◆ **If Truster believes that Trustee is trustworthy and Shares the common points Equally, Truster will think that he/she is better off by choosing the High Trust option. ➔ Truster trusts Trustee**
- ◆ **If Truster does not trust Trustee, and believes Trustee to Take All of the common points, he/she will be better off by choosing Low Trust. ➔ Truster does not trust Trustee**

Truster beliefs Allocator to Take All



- ◆ If Truster believes that Trustee is trustworthy and Share the common points Equally, Truster will think that he/she is better off by choosing the High Trust option. ➔ Truster trusts Trustee
- ◆ If Truster does not trust Trustee, and believes Trustee to Take All of the common points, he/she will be better off by choosing Low Trust. ➔ Truster does not trust Trustee

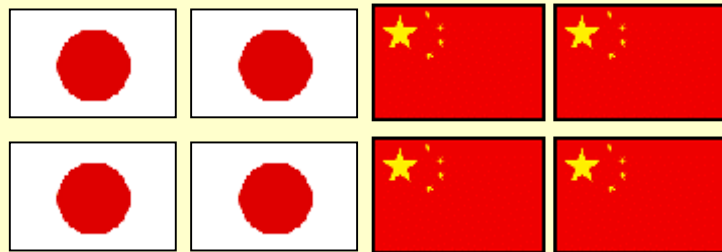
Truster's choice is a measure of his/her trust, and Trustee's choice is a measure of his/her trustworthiness.

Experiment

Each experimental session consisted of 4 Ss from each society.

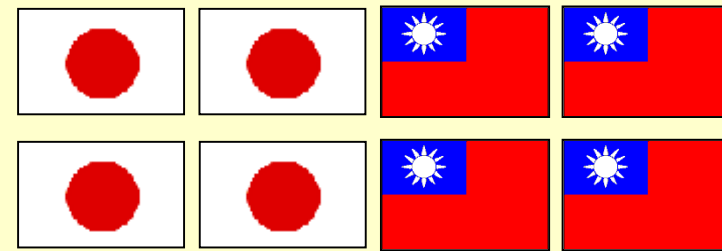
Japan-China Exp

May-Jun 2006, 132 Ss from each society



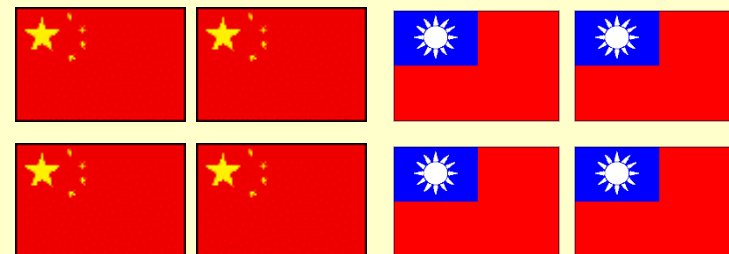
Japan-Taiwan Exp

Dec 2005 – Jan 2006, 104 Ss from each society



China-Taiwan Exp

Jun 2006, 108 Ss from each society



Experiment

- Two of the participants from each society were randomly assigned the role of Truster and the other Two the role of Trustee.
- Ps repeated the modified trust game 6 times with a different partner each time. Each P was paired with an in-group member 3 times, and with an out-group member 3 times in a random order.
- After the 6 rounds of the trust game, Ps voted for either a punisher from in-group or from out-group. Using strategy method, Ps were provided with an opportunity to punish others. Ps did not know about this **punishment phase** until they finished the 6 rounds of the trust game.

At the end of the experiment, Ss were paid according to how many points they had earned during the game (1P=1.5 Yen in Japan, 0.02 RMB in China, and 0.3 NTD in Taiwan; worth two bowls of noodles when no one trusted).

One round of Trust Game

Both Truster and Trustee were informed of **their partner's society**

Feedback of Truster's decision to Trustee

No feedback of Trustee's choice to the truster!!

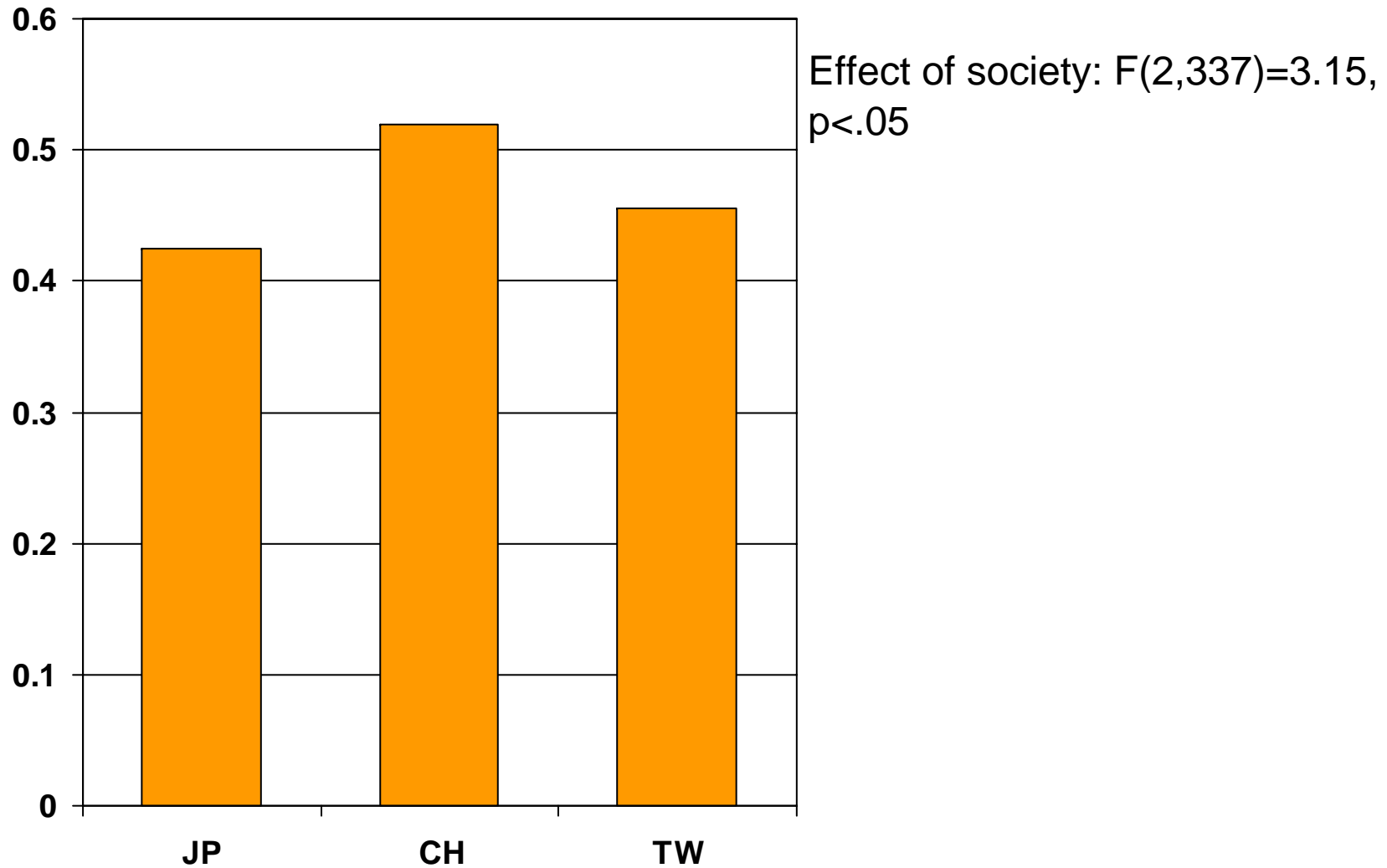
Truster's choice
High or Low Trust

Trustee's choice
Take All or Share Equally

- Independent variables
 - P's society: Japan, China, Taiwan
 - Partner's group: in-group vs. out-group (within-subject factor)
- Dependent variables
 - Truster: **proportion of High Trust choice**
 - Trustee: **proportion of Equal Share choice**

High Trust Choice

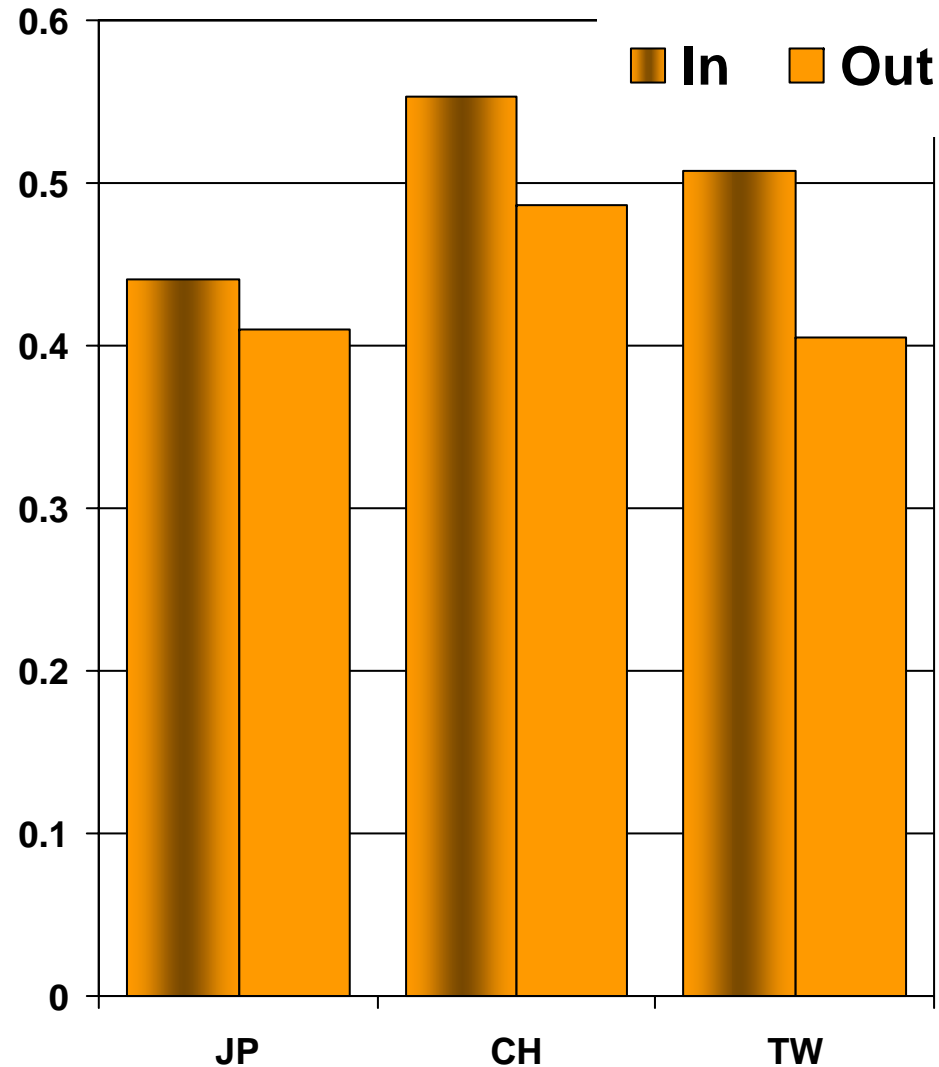
Overall level of High Trust



Chinese are more trusting than Japanese. Consistent with the survey results.

High Trust Choice

High Trust by in/out group



Main effect of society: $F(2,337)=3.14$, $p<.05$

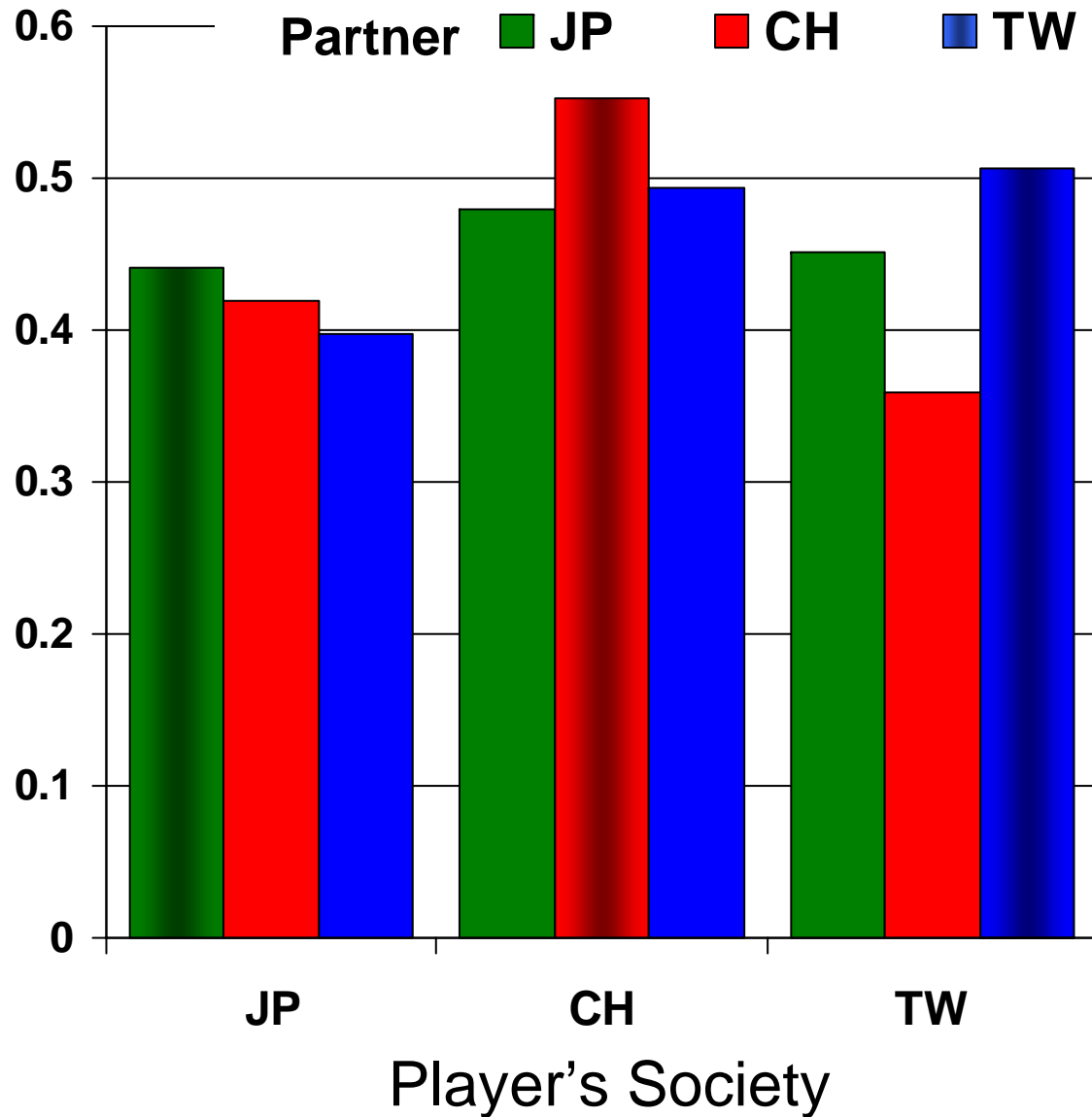
Main effect of in-out: $F(1, 337) = 11.86$, $p < .001$

No significant interaction

Both Chinese and Taiwanese showed strong ethnocentric bias in trust, whereas it was weak among Japanese participants.

High Trust Choice

High Trust by the nationality of the partner

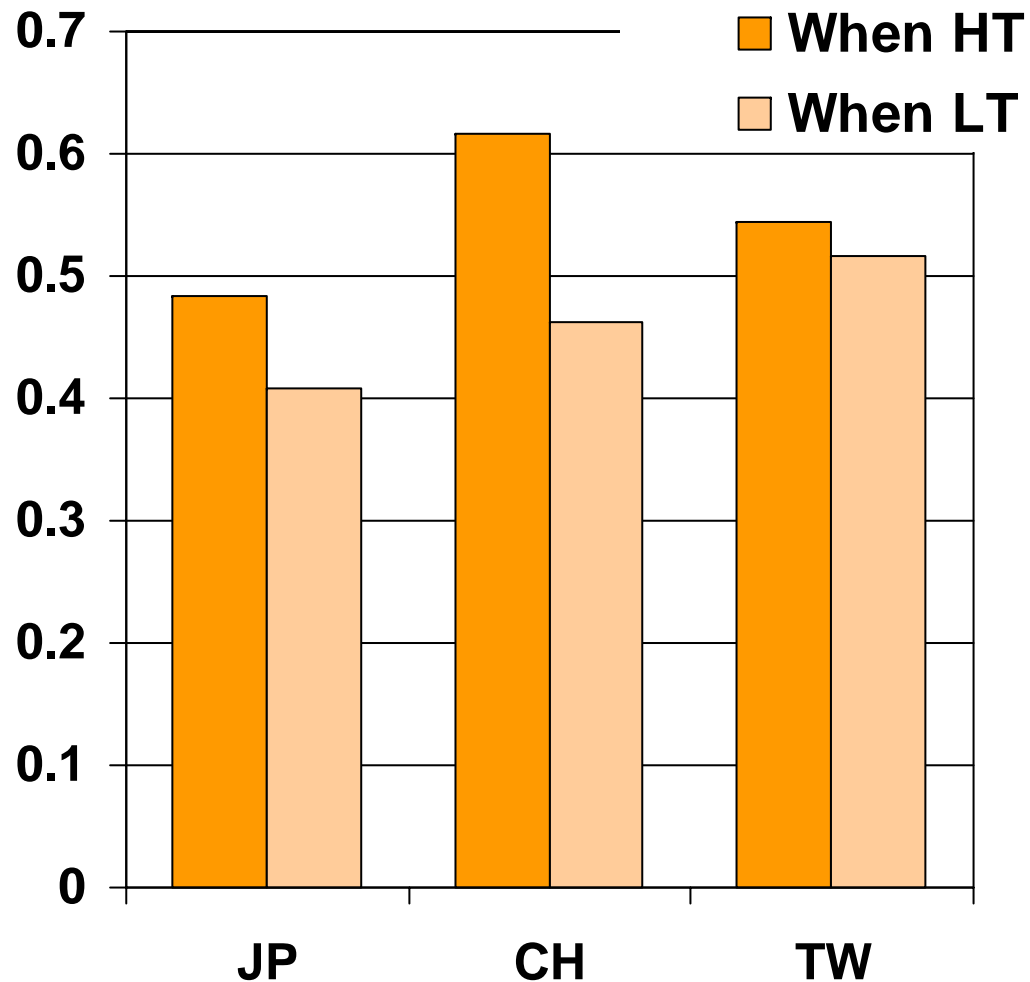


Taiwanese' ethnocentric bias in trust was strong when the partner was a Chinese.

Chinese are consistently ethnocentric.

Trustworthiness/Reciprocity

Overall level of Trustworthiness (proportion of the Equal Share choice).

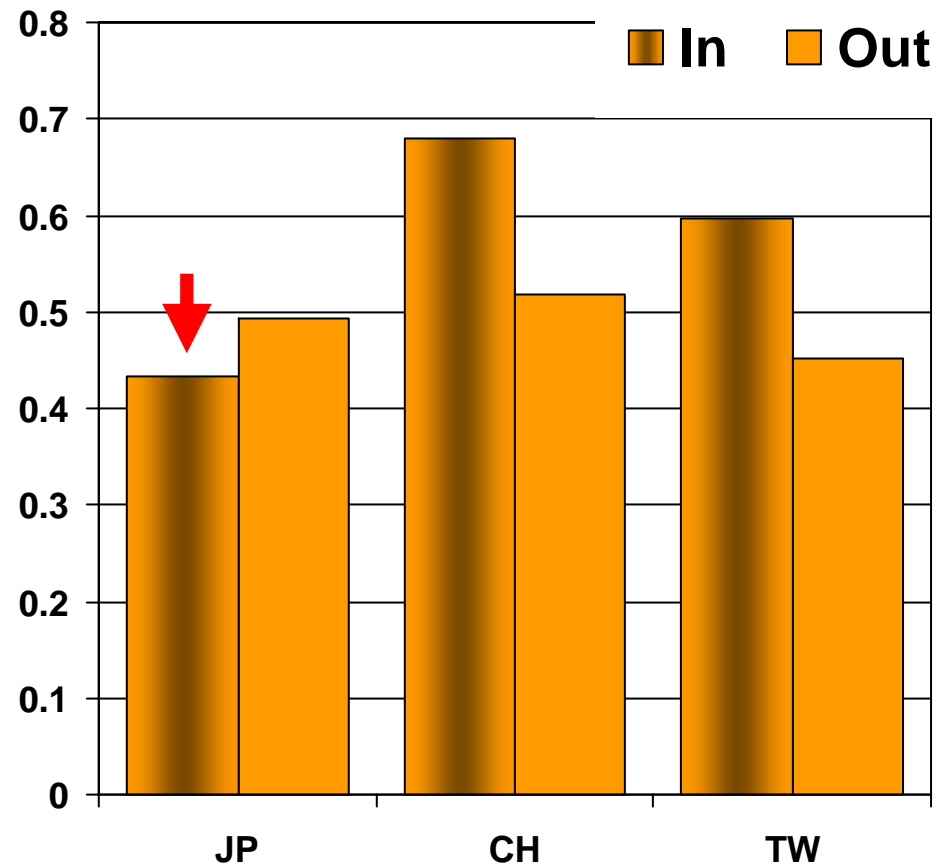


Effect of being trusted or not: $F(1, 319) = 10.47, p = .001$
Effect of society: $F(2,319)=3.52, p=.031$
No significant interaction

Chinese are more trustworthy than Japanese.

Trustworthiness/Reciprocity

by in-out group (when trusted)



Main effect of society: $F(2,224)=3.38$,
 $p<.05$

Main effect of in-out: $F(1, 224) = 11.42$,
 $p < .001$

Society x in-out: $F(2, 225) = 4.95$, $p < .01$

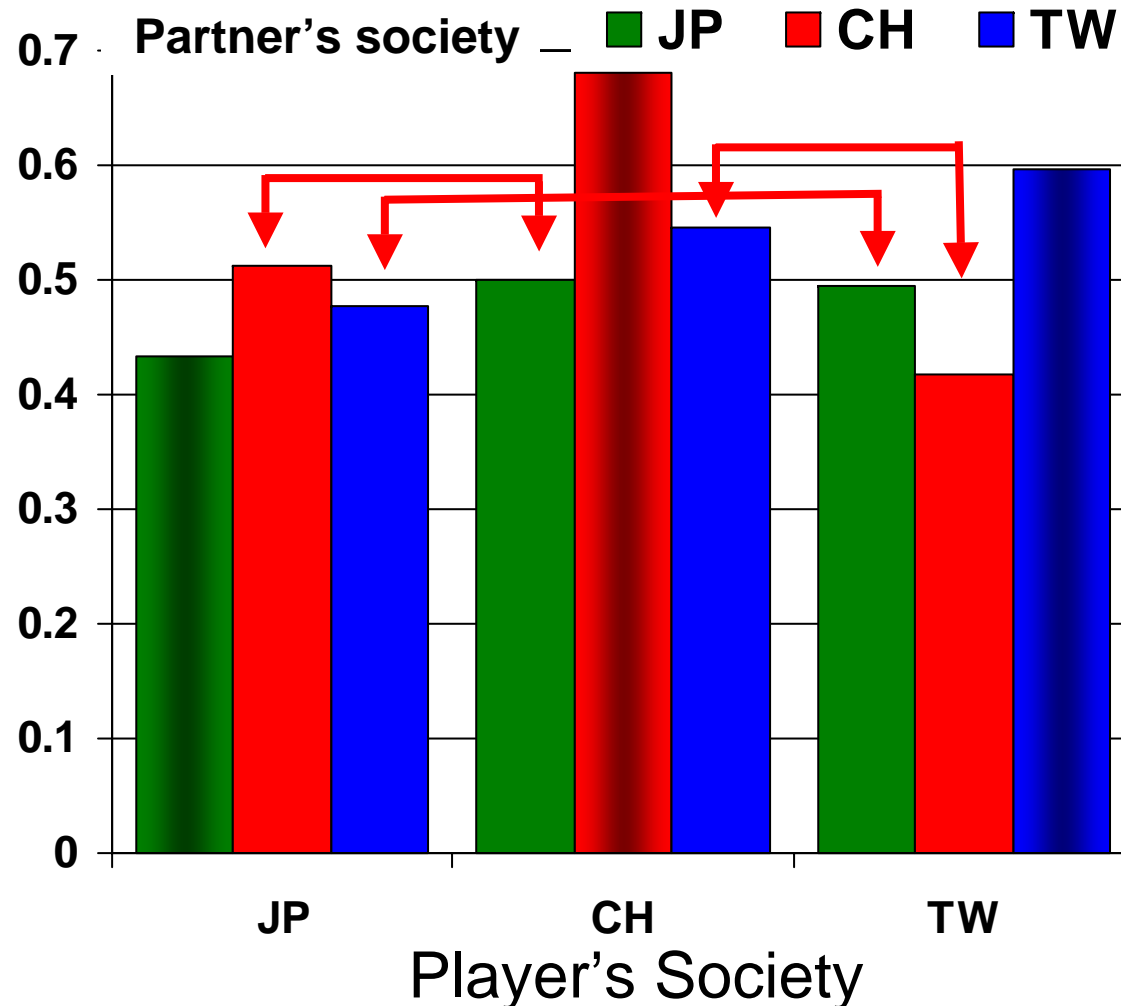
Societal difference was observed only in
the ingroup-partner: $F(2, 224) = 6.85$,
 $p < .01$

No societal difference in the outgroup-
partner: $F(2, 225) = .60$, $p = .55$

Both Chinese and Taiwanese showed strong ethnocentric bias in trustworthiness, whereas there was no such bias among Japanese participants.

Trustworthiness/Reciprocity

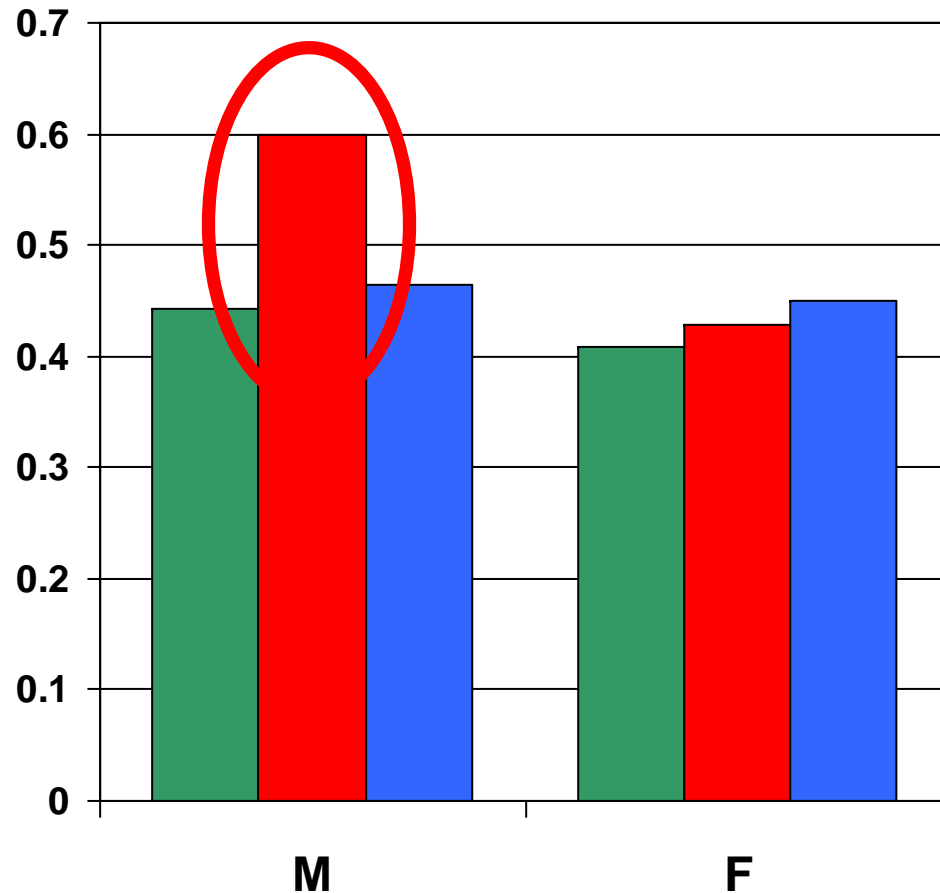
by the society of the partner



The level of trustworthy behavior did not vary much across societies when participants were trusted by an outgroup member. Japanese is low in reciprocating trust from their compatriot.

Gender Effect

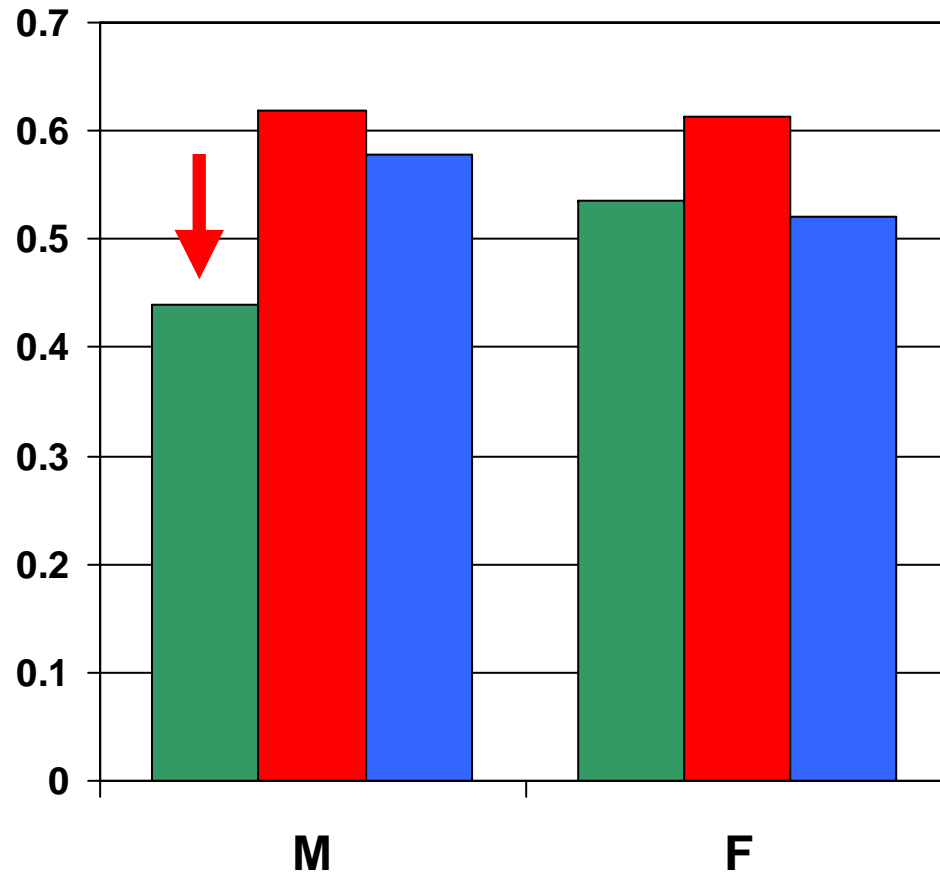
Overall level of Trust



The societal difference in the level of trust was observed only among men, not among women. Gender difference in trust is most pronounced in China. **Chinese men are highly trustful!**

Gender Effect

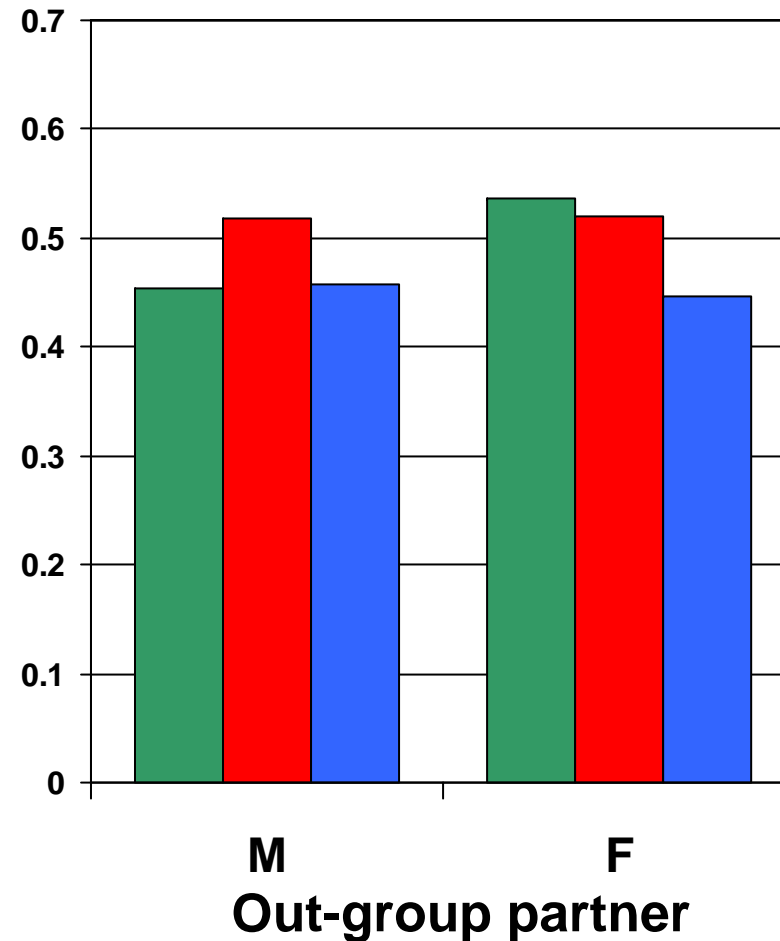
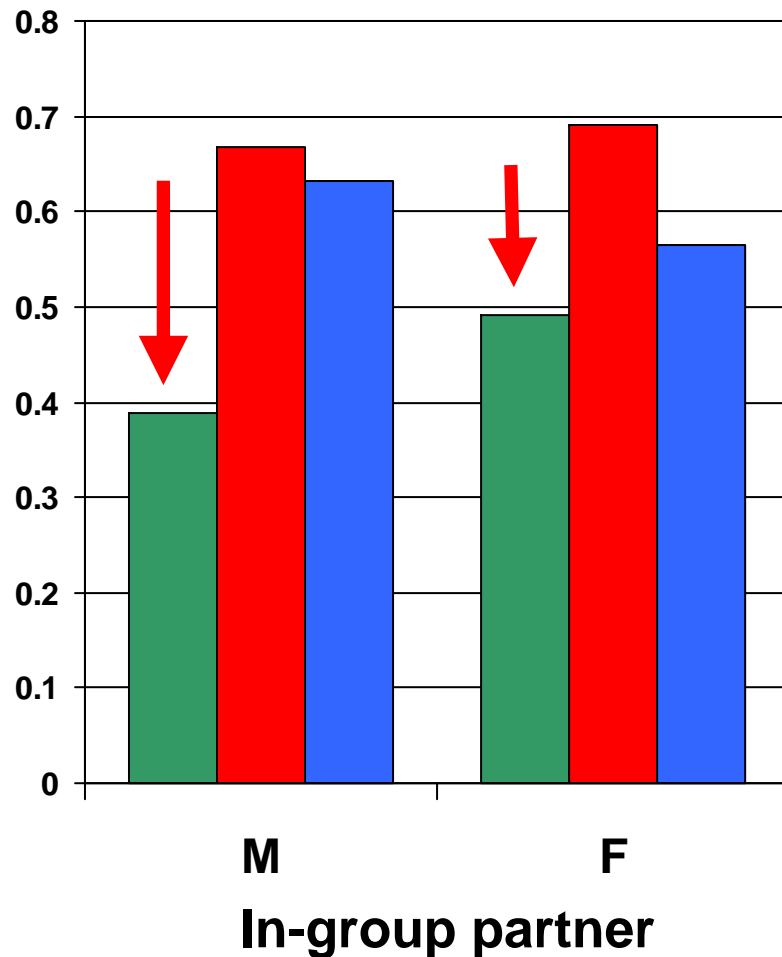
Overall level of Trustworthiness



The societal difference in the level of trustworthiness was also more pronounced among men than among women. **Japanese men are especially low in trustworthiness.**

Gender Effect

Trustworthiness



There isn't much societal differences in the level of trustworthiness with out-group partners. Most evident societal difference is the low level of trustworthiness of Japanese men with their compatriot.

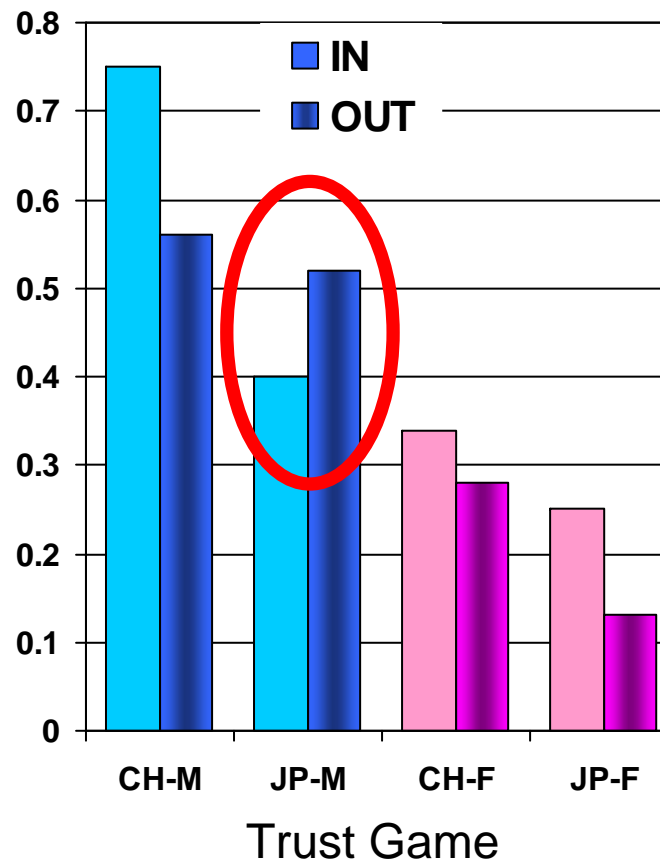
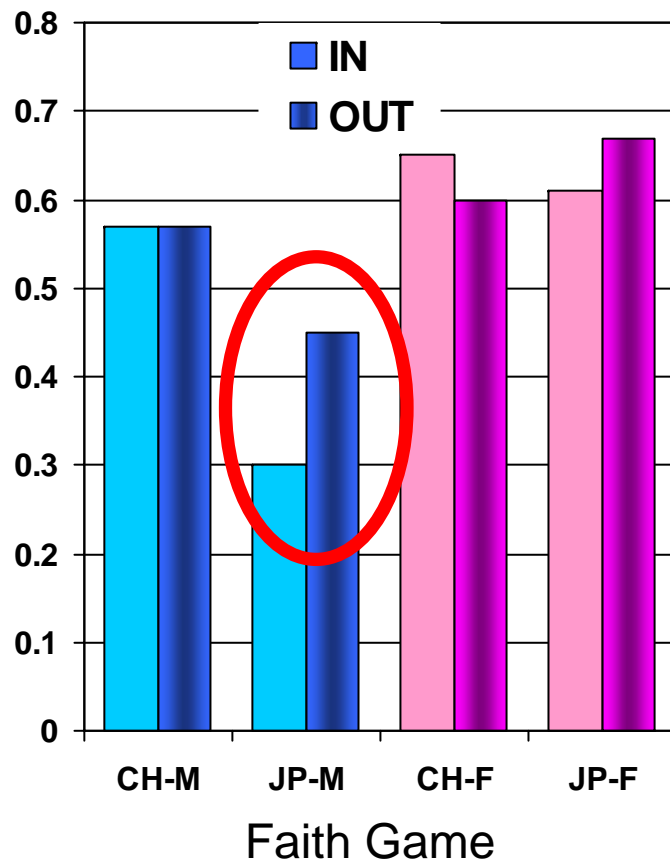
General Pattern

Chinese participants were both trustful and trustworthy than their Japanese counterparts, but at the same time, they were ethnocentric.

Japanese participants were less trustful and trustworthy than Chinese, but they did not show ethnocentrism.

Taiwanese participants were in-between Japanese and Chinese participants, though their lack of trust in Chinese was evident.

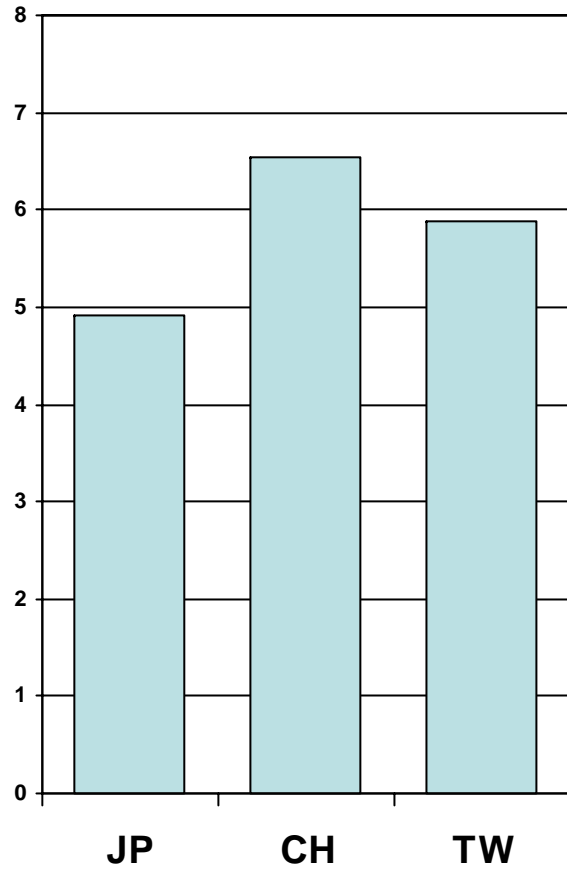
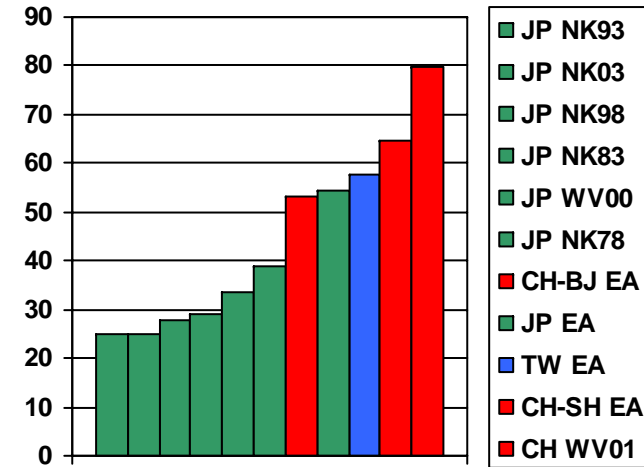
Comparison with a minimal group study



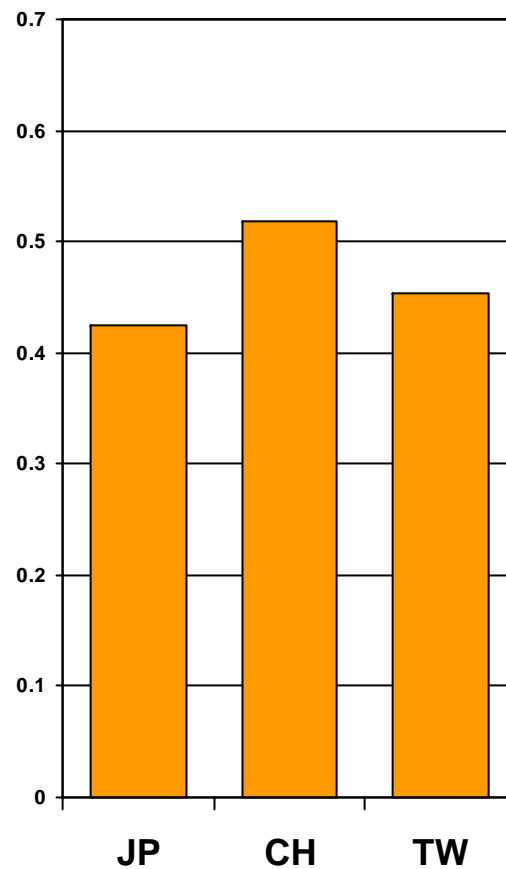
Japanese men were also trusting ingroup members less than outgroup members—consistent with the result of the current study.

General trust measure by Yamagishi's general trust scale

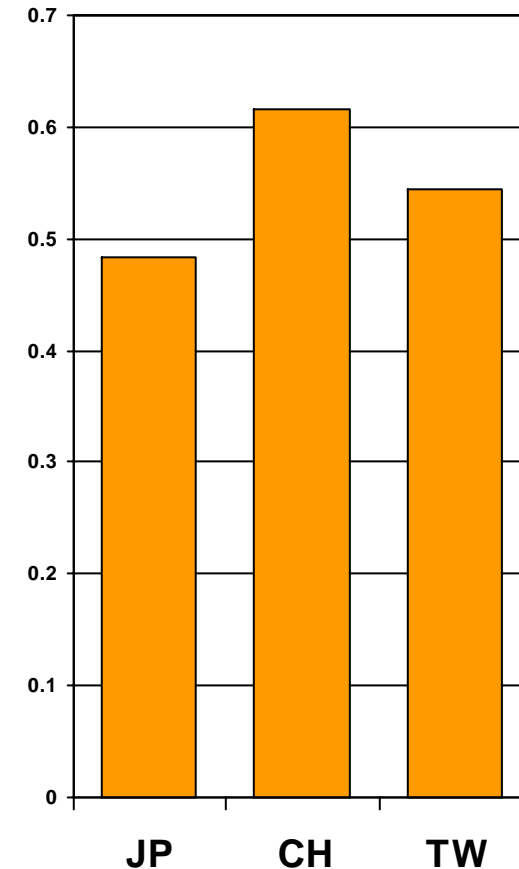
➡ The current finding does not seem to be an artifact of the experiment



General Trust Score

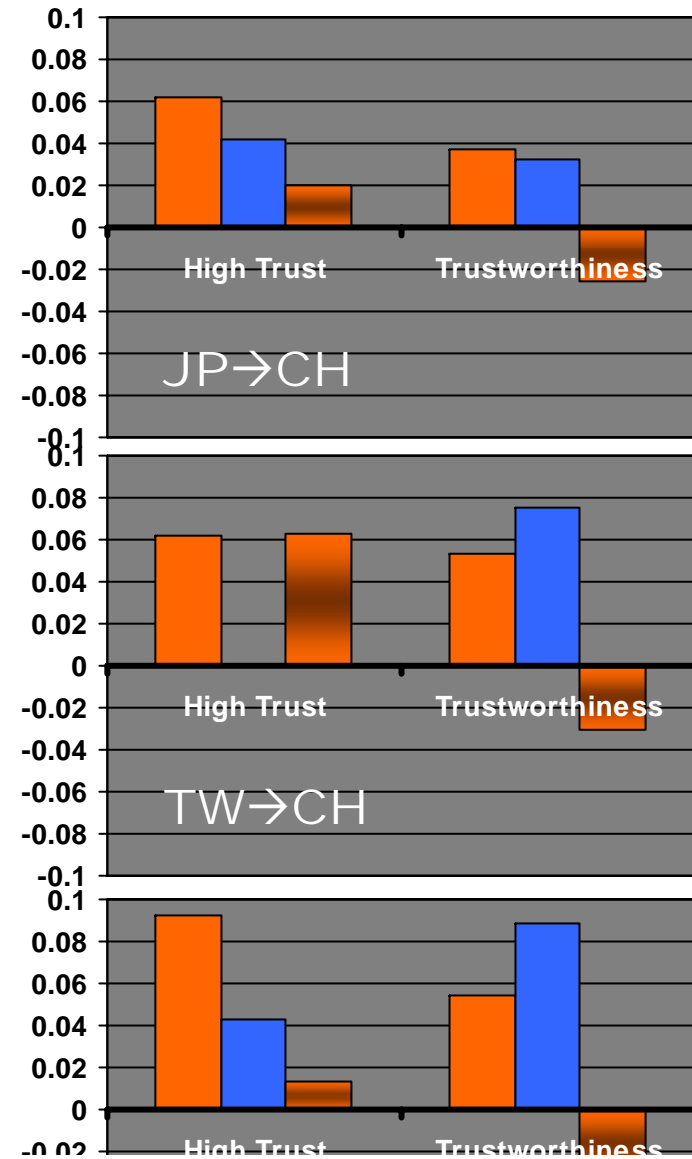
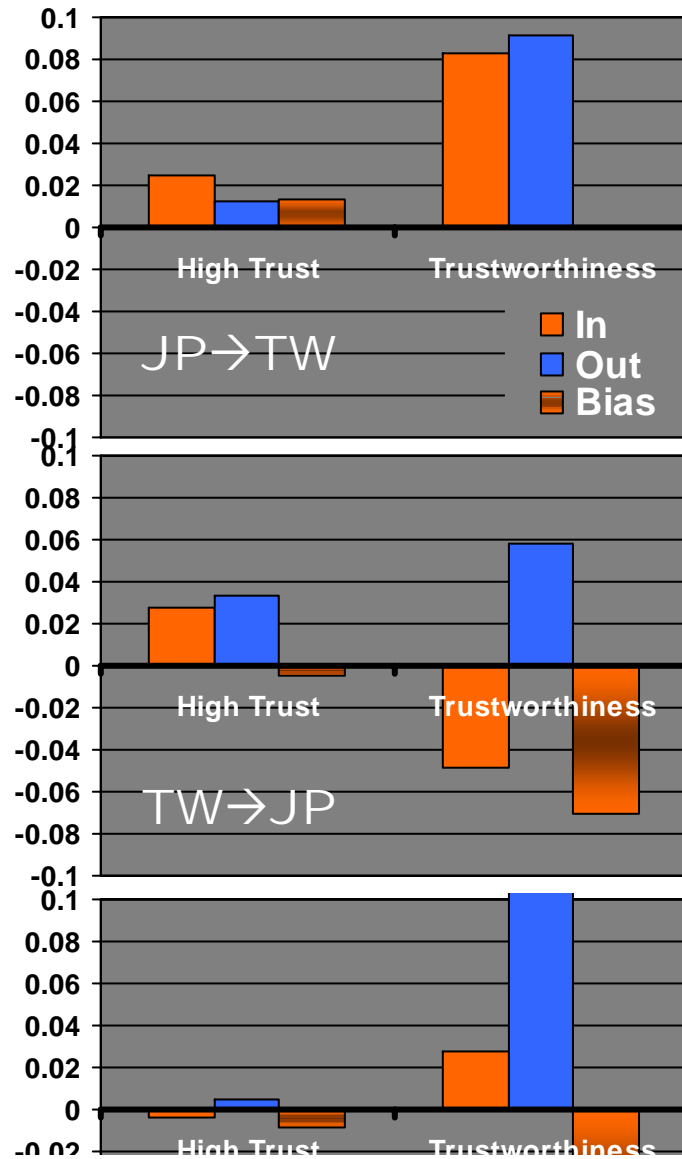


Trust



Trustworthiness

General Trust and Behavior in the Experiment (regression coefficient)



General trust is consistently related to trustworthiness for outgroup

How perceptions of history affected Japanese and Chinese behavior in trust and trustworthiness in the experiment.
(in the Japan-China Experiment)

Japanese Participants

- “Given the history between Japan and China, do you think that Japanese people have done wrong things to Chinese people?”
➡ increased trust in Chinese $r=.23$, reduced ingroup bias in trust $r=-.21$
- “Do you think **Chinese people are angry** about the past historical relationship between Japanese and Chinese?” ➡ **reduced trustworthiness for Chinese** $r=-.27$
- ➡ **Perception of anger of Chinese triggered made Japanese participants behave toward Chinese in a negative manner.**

Chinese Participants

“Do you think Japanese people have done wrong things to Chinese people?”

➡ increased trust in Chinese $r=.25$ and ingroup bias in trust $r=.31$, reduced trustworthiness for Japanese $r=-.30$

“Do you think Japanese people are aware of the wrongdoings they have done on Chinese?” ➡ increased trust in Japanese $r=.22$

“Do you think Japanese people feel guilty of the wrongdoings they have done on Chinese?” ➡ reduced ingroup bias in trustworthiness $r=-.25$

⇒ **positive effect of apology**

“Do you think **Chinese people are angry** about the past historical relationship between Japanese and Chinese?” ➡ **increased ingroup bias in trustworthiness** $r=.35$

Anger increases ingroup bias in trustworthiness and perception of Japanese' guilt reduces it.

$$\text{Ingroup bias in trustworthiness} = -.49 + .11 * \text{anger} - .05 * \text{guilt}$$

Media Exposure

- ◆ TV: Hours to watch TV per week
- ◆ TV news: Hours to watch TV news per week
- ◆ Internet: Hours to use Internet
- ◆ Newspaper: Times to read newspapers

Japanese

Internet use promotes ethnocentric bias in trust and trustworthiness:

ingroup bias in trust of CH, $r = .41$, and reduced trustworthiness for TW, $r = -.36$

TV promotes trust of Chinese, $r = .26$

Chinese

Internet use promotes ethnocentric bias in trust with regard to JP:

trust of Chinese, $r = .40$ with JP

ingroup bias in trust, $r = .33$ with JP

TV promotes trust of Chinese, $r = .32$, and ingroup bias in trust, $r = .29$ with TW

Taiwanese

Internet tend to promote both ingroup and outgroup trust with JP:

overall trust, $r = .25$ with JP



Thank you