

Confucianism and Preferences: Evidence from Lab Experiments in Taiwan and China

用橫跨兩岸的經濟學實驗來研究儒家文化如何影響人的偏好

Joseph Tao-yi Wang
National Taiwan University

Joint with Elaine M. Liu (Houston) and Juanjuan Meng (PKU)

What is Confucianism?

- Philosophy, Culture or Religion?
 - What about Islam?
- Taught in middle school as part of Chinese literature
 - Like “The Republic”
- Need to pass exams on this to become government officials (for 1000+ years)

10 《论语》^① 十则

本课有的谈求知态度，有的谈学习方法，有的谈修身做人。语言简练，含义深远。学习时要熟读，深思，牢记。



子^②曰：“学而时习^③之，不亦说^④乎？有朋自远方来，不亦乐乎？人不知而不愠^⑤，不亦君子^⑥乎？”（《学而》）

曾子^⑦曰：“吾^⑧日^⑨三省^⑩吾身：为人谋而不忠乎？

①〔《论(lùn)语》〕记录孔子和他的弟子言行的一部书，共20篇，是儒家经典著作之一。 ②〔子〕先生，指孔子。孔子（前551—前479）。

Why Should We Care About This?

- Max Weber: Protestant spirit pro-capitalism
 - Confucianism/Hinduism stalls capitalism
- Liang ([AEJ-macro](#), 2010):
 - Leader-follower model with **lower discount rates and imitation cost** but **higher innovation cost** @ East Asia
 - Calibrate to quantify effect on long-term growth
- Factors that affect Macroeconomic Growth:
 - **Risk** Preferences (risk/loss aversion)
 - **Time** Preferences (present bias/discount rate)
 - Social Capital (**trust/trustworthiness**)

Risk Aversion and Loss Aversion

- Induce **Risk Aversion** and **Loss Aversion**
 - “One who understands destiny will **not stand beneath** a tottering wall.” (Mencius)

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Which quote is this? “One who understands destiny will not stand beneath a tottering wall.” (Mencius)

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Risk Aversion and Loss Aversion

- Induce **Risk Aversion** and **Loss Aversion**
 - “One who understands destiny will **not stand beneath** a tottering wall.” (Mencius)
 - 君子不立危牆之下 (孟子)
- **Collectivism**: Emphasize role within society and relationship to others
- **Risk-taking** challenges group's interest
- **Incurring loss** threatens group's harmony

Time Discounting and Present Bias

- More **Patient**, less **Present Bias**
 - “**Impatience** over trivial things may ruin important pursuits,” (*Analects*)



Which quote is this?

“Impatience over trivial things may ruin important pursuits,” (Analects)

Time Discounting and Present Bias

- More **Patient**, less **Present Bias**
 - “**Impatience** over trivial things may ruin important pursuits,” (*Analects*)
 - 小不忍則亂大謀(論語)
 - “If a man takes no thought about what is distant, he will **find sorrow near** at hand.”



Which quote is this?

“If a man takes no thought about what is distant, he will find sorrow near at hand.”

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Time Discounting and Present Bias

- More **Patient**, less **Present Bias**
 - “**Impatience** over trivial things may ruin important pursuits,” (*Analects*)
 - 小不忍則亂大謀(論語)
 - “If a man takes no thought about what is distant, he will **find sorrow near** at hand.”
 - 人無遠慮，必有近憂。(論語)

Trustworthiness and Trust

- **Trustworthiness** more important than **Trust**
 - “I do not know how a man without **truthfulness** is to get on.”



Which quote is this?

“I do not know how a man without truthfulness is to get on.”

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Trustworthiness and Trust

- **Trustworthiness** more important than **Trust**
 - “I do not know how a man without **truthfulness** is to get on.” (人而無信，不知其可也, *Analects*)
 - “I daily examine myself on three points:—whether, in transacting business for others, I may have been not **faithful**;—whether, in interaction with friends, I may have been not been **trustworthy**;—whether I may have not mastered and practiced the instructions of my teacher.” (吾日三省吾身...)
- **More trusting** if others are more trustworthy

Research Question

- How does **Confucianism** affect individual decision making?
 - **Risk** Preferences (risk/loss aversion)
 - Induce **Risk Aversion** and **Loss Aversion**
 - **Time** Preferences (present bias/discount rate)
 - More **Patient**, less **Present Bias**
 - **Social** Preferences (**trust**/trustworthiness)
 - **Trustworthiness** more important than **Trust**

Experimental Procedure

- Recruit students from
 - National Taiwan University (NTU) (top university)
 - Peking University (PKU) (top university)
- Randomly assign into
 - Treatment (**Confucius prime**)
 - Control (Neutral prime)
- Between-subject design
- 19 sessions

| | PKU | NTU | Total |
|-----------|-----|-----|-------|
| Confucius | 95 | 93 | 188 |
| Neutral | 90 | 102 | 192 |
| Total | 185 | 195 | 380 |

Experimental Procedure

1. Priming task
 - Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)
2. 17 binary lottery tasks (risk/loss aversion)
3. 10 convex time budget (CTB) questions (time discounting and present bias)
4. Trust game (trust/trustworthy)
5. Other error-correcting task and questionnaire



Experimental Procedure

1. Priming task

- Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)

Priming Task: Confucius Prime

Circle the incorrect words and re-write the correct sentence below. (If you think there are no errors, please copy the whole sentence.)

| Num. | Content |
|------|--|
| A | 子曰：「學而不思則罔，思而不學則迷。」 (translation) ¹ The Master said, 'Learning without thought is labor lost; thought without learning is perilous.' |
| B | 富貴不能移，貧賤不能淫，威武不能屈。 (translation) to be above the power of riches and honours to make dissipated, of poverty and mean condition to make swerve from principle, and of power and force to make bend |
| C | 子曰：「三人行，必有我師焉。擇其善者而從之，其不善者而棄之。」 (translation) The Master said, 'When I walk along with two others, they may serve me as my teachers. I will select their good qualities and follow them, their bad qualities and avoid them.' |

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Find the incorrect words in
Question A.

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Find the incorrect words in
Question B.

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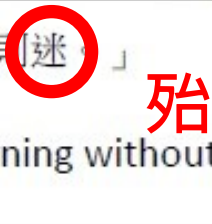
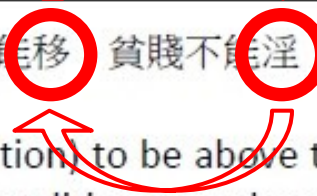
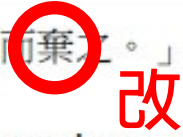


Find the incorrect words in
Question C.

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Priming Task: Confucius Prime

Circle the incorrect words and re-write the correct sentence below. (If you think there are no errors, please copy the whole sentence.)

| Num. | Content |
|------|---|
| A | 子曰：「學而不思則罔，思而不學則迷。」 (translation) ¹ The Master said, 'Learning without thought is labor lost; thought without learning is perilous.'  |
| B | 富貴不能移 貧賤不能淫 威武不能屈。 (translation) to be above the power of riches and honours to make dissipated, of poverty and mean condition to make swerve from principle, and of power and force to make bend  |
| C | 子曰：「三人行，必有我師焉。擇其善者而從之，其不善者而棄之。」 (translation) The Master said, 'When I walk along with two others, they may serve me as my teachers. I will select their good qualities and follow them, their bad qualities and avoid them.'  |

Priming Task: Neutral

Find the incorrect words and re-write the correct sentence below. (If you think there are no errors, simply re-write the entire sentence.)

| Num. | Content |
|------|--|
| 1 | <p>人生四大樂事：久旱逢甘霖，他鄉遇故知。洞房花燭夜，金榜提名時。</p> <p>Translation: <i>There are four happiest events in life: have a good rain after a long drought season, run into an old friend in a distant land, enjoy the wedding night and succeed in the government examination.</i></p> |
| 2 | <p>我要寫的是那些傳誦不已的親情故事。</p> <p>Translation : <i>I want to write about those family stores that have been in circulation for years</i></p> |
| 3 | <p>消息傳來，國人無不額首稱慶，歡欣不止。</p> <p>Translation : <i>After the news arrived, everyone in the country was overjoy</i></p> |

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Find the incorrect words in
Question 1.

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Find the incorrect words in
Question 2.

① Start presenting to display the poll results on this slide.

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Find the incorrect words in
Question 3.

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Priming Task: Neutral

Find the incorrect words and re-write the correct sentence below. (If you think there are no errors, simply re-write the entire sentence.)

| Num. | Content |
|------|--|
| 1 | <p>人生四大樂事：久旱逢甘霖，他鄉遇故知。洞房花燭夜，金榜提名時。</p> <p>Translation: <i>There are four happiest events in life: have a good rain after a long drought season, run into an old friend in a distant land, enjoy the wedding night and succeed in the government examination.</i></p> |
| 2 | <p>我要寫的是那些傳誦不已的親情故事。</p> <p>Translation : <i>I want to write about those family stores that have been in circulation for years</i></p> |
| 3 | <p>消息傳來，國人無不額首稱慶，歡欣不止。</p> <p>Translation : <i>After the news arrived, everyone in the country was overjoy</i></p> |

Experimental Procedure

1. Priming task
 - Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)
2. 17 binary lottery tasks (**risk**/loss aversion)

Risk Preferences (Holt-Laury Task)

| Decision | Lottery A | Lottery B | Your choice (A or B) |
|------------|---|--|----------------------|
| Question 1 | 1: Gain NT\$200 2~10: Gain NT\$160 | 1: Gain NT\$385 2~10: Gain NT\$10 | |
| Question 2 | 1~2: Gain NT\$200 3~10: Gain NT\$160 | 1~2: Gain NT\$385 3~10: Gain NT\$10 | |
| Question 3 | 1~3: Gain NT\$200 4~10: Gain NT\$160 | 1~3: Gain NT\$385 4~10: Gain NT\$10 | |
| Question 4 | 1~4: Gain NT\$200 5~10: Gain NT\$160 | 1~4: Gain NT\$385 5~10: Gain NT\$10 | |
| Question 5 | 1~5: Gain NT\$200 6~10: Gain NT\$160 | 1~5: Gain NT\$385 6~10: Gain NT\$10 | |
| Question 6 | 1~6: Gain NT\$200 7~10: Gain NT\$160 | 1~6: Gain NT\$385 7~10: Gain NT\$10 | |

Experimental Procedure

1. Priming task
 - Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)
2. 17 binary lottery tasks (risk/**loss** aversion)

Loss Aversion (Similar to Tanaka et al., 2010)

| Decision | Lottery A | Lottery B | Your choice (A or B) |
|-------------|--|--|----------------------|
| Question 11 | 1~5: Gain \$60 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$65 | |
| Question 12 | 1~5: Gain \$55 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$65 | |
| Question 13 | 1~5: Gain \$50 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$65 | |
| Question 14 | 1~5: Gain \$45 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$65 | |
| Question 15 | 1~5: Gain \$40 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$50 | |
| Question 16 | 1~5: Gain \$40 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$45 | |
| Question 17 | 1~5: Gain \$35 6~10: Lose \$35 | 1~5: Gain \$75 6~10: Lose \$40 | |

Experimental Procedure

1. Priming task
 - Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)
2. 17 binary lottery tasks (risk/loss aversion)
3. 10 convex time budget (CTB) questions
(time discounting and present bias)

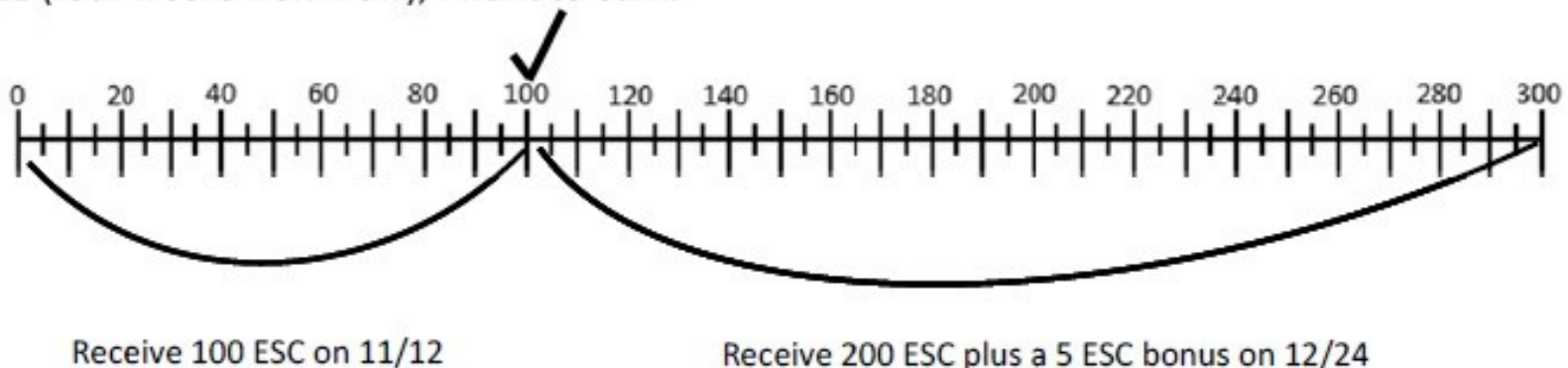
Time Preferences (CTB)

Please allocate 300 ESC to the following: 11/12 (four weeks from now) and 12/24 (ten weeks from now)

Please indicate your allocation on the line below. Check the amount you want to allocate to the early date. Each segment indicates 5 ESC. The amount allocated to 12/24 can earn a bonus of 2.5%. NOTE: The bonus could differ across questions.

If your desired allocation is "Earn 100 ESC on 11/12 (four weeks from now) and earn 200 ESC plus a 5 ESC bonus on 12/24 (after another six weeks)," please check 100 on the line as shown below.

On 11/12 (four weeks from now), I want to earn:



Time Preferences (CTB)

Table 3: Choices for Convex Time Budget Task

| Game | Interest Rate (r) | Sooner Date (t) | Later Date (t+h) |
|------|-------------------|-----------------|------------------|
| 1 | 0.50% | today | 4 weeks |
| 2 | 1% | today | 4 weeks |
| 3 | 1.50% | today | 4 weeks |
| 4 | 2% | today | 4 weeks |
| 5 | 2.50% | today | 4 weeks |
| 6 | 0.50% | 6 weeks | 10 weeks |
| 7 | 1% | 6 weeks | 10 weeks |
| 8 | 1.50% | 6 weeks | 10 weeks |
| 9 | 2% | 6 weeks | 10 weeks |
| 10 | 2.50% | 6 weeks | 10 weeks |

Bonus =
0.5-2.5%

4 Weeks

4 Weeks

6 Weeks

Note: Subjects decide how much (of the 300 tokens) to receive earlier rather than later for each of the 10 games. The amount allocated at the later date would earn interest at the corresponding interesting rate.

Experimental Procedure

1. Priming task
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4. Trust game (**social capital – trust**)

Social Preferences (Trust Game - Investor)

You have to decide how much to allocate to the other participant. Each row in the following table indicates possible allocations and what the other participant will receive: **Amount You Entrust:**

Table 1: You are the first allocator (ESC)

| Amount allocated to the other participant | | The other participant Receives |
|---|---------|--------------------------------|
| None | 0 ESC | 0 ESC |
| | 25 ESC | 75 ESC |
| | 50 ESC | 150 ESC |
| | 75 ESC | 225 ESC |
| | 100 ESC | 300 ESC |
| | 125 ESC | 375 ESC |
| | 150 ESC | 450 ESC |
| All | | |

3X

I decide to allocate _____ ESC to the other participant.

(Please choose from 0, 25, 50, 75, 100, 125, and 150)

Experimental Procedure

1. Priming task
 - Correcting errors and re-writing six sentences, either taken from the Analect/Mencius (Confucius prime) or from other texts (neutral)
2. 17 binary lottery tasks (risk/loss aversion)
3. 10 convex time budget (CTB) questions (time discounting and present bias)
4. Trust game (**social capital – trustworthy**)

Social Preferences (Trust Game - Trustee)

| Table 2 : You are the second allocator | | |
|---|------------------------------------|---|
| Amount the other participant allocated to you (ESC) | Amount you received, tripled (ESC) | Write down the amount you want to allocate to the other participant |
| None 0 ESC | 0 ESC | Amount You Repay (if) ____ 0 ESC (N/A) ____ |
| 25 ESC | 75 ESC | _____ ESC |
| 50 ESC | 150 ESC | _____ ESC |
| 75 ESC | 225 ESC | _____ ESC |
| 100 ESC | 300 ESC | _____ ESC |

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What is the amount you entrust?

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What is the amount (0-75) you would repay given the other participant invested 25 (second row), so you now have 75?

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What is the amount (0-450) you would repay given the other participant invested 150 (last row), so you now have 450?

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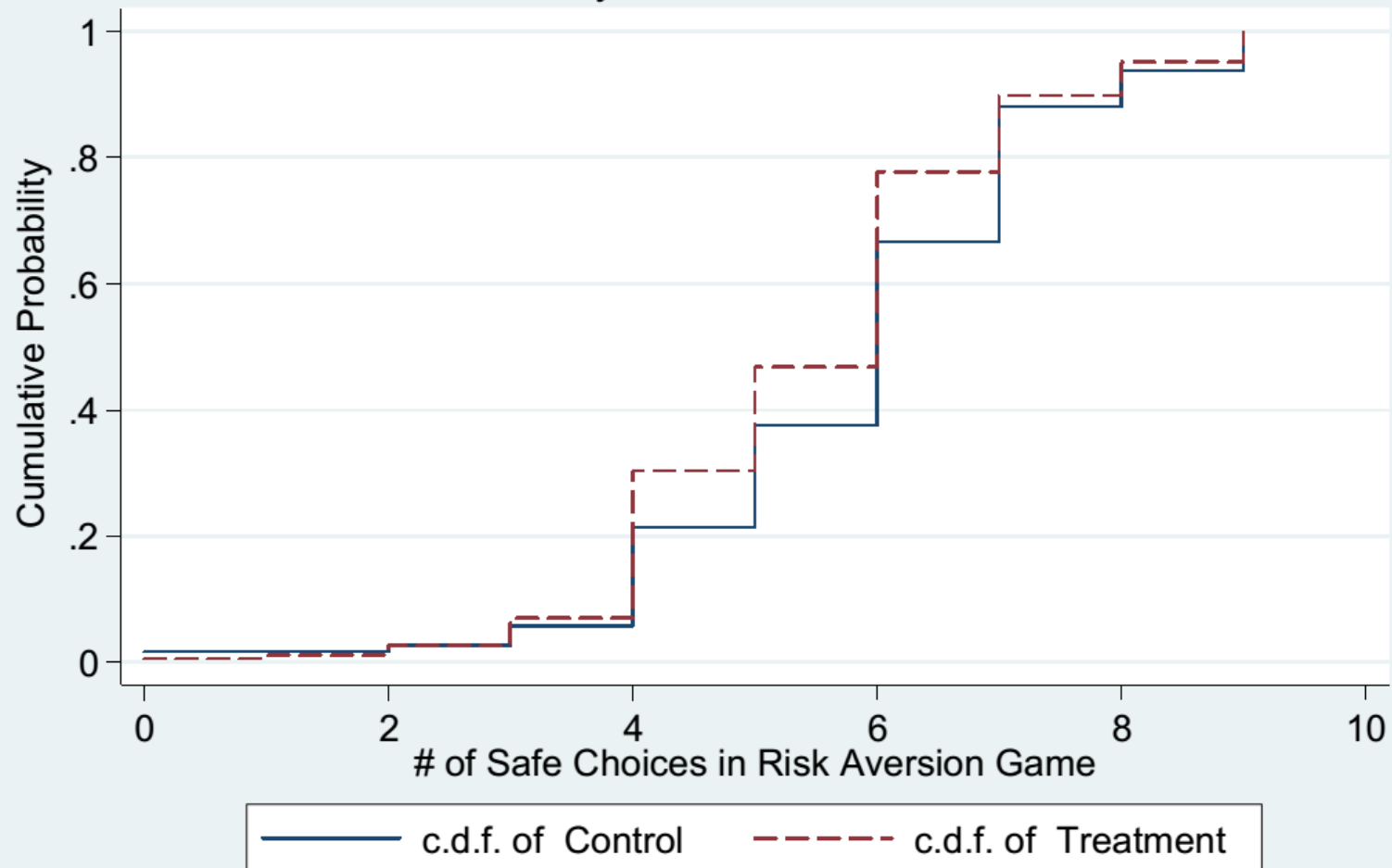
Experimental Procedure

1. Priming task
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4. Trust game (trust/trustworthy)
5. Other error-correcting task and questionnaire



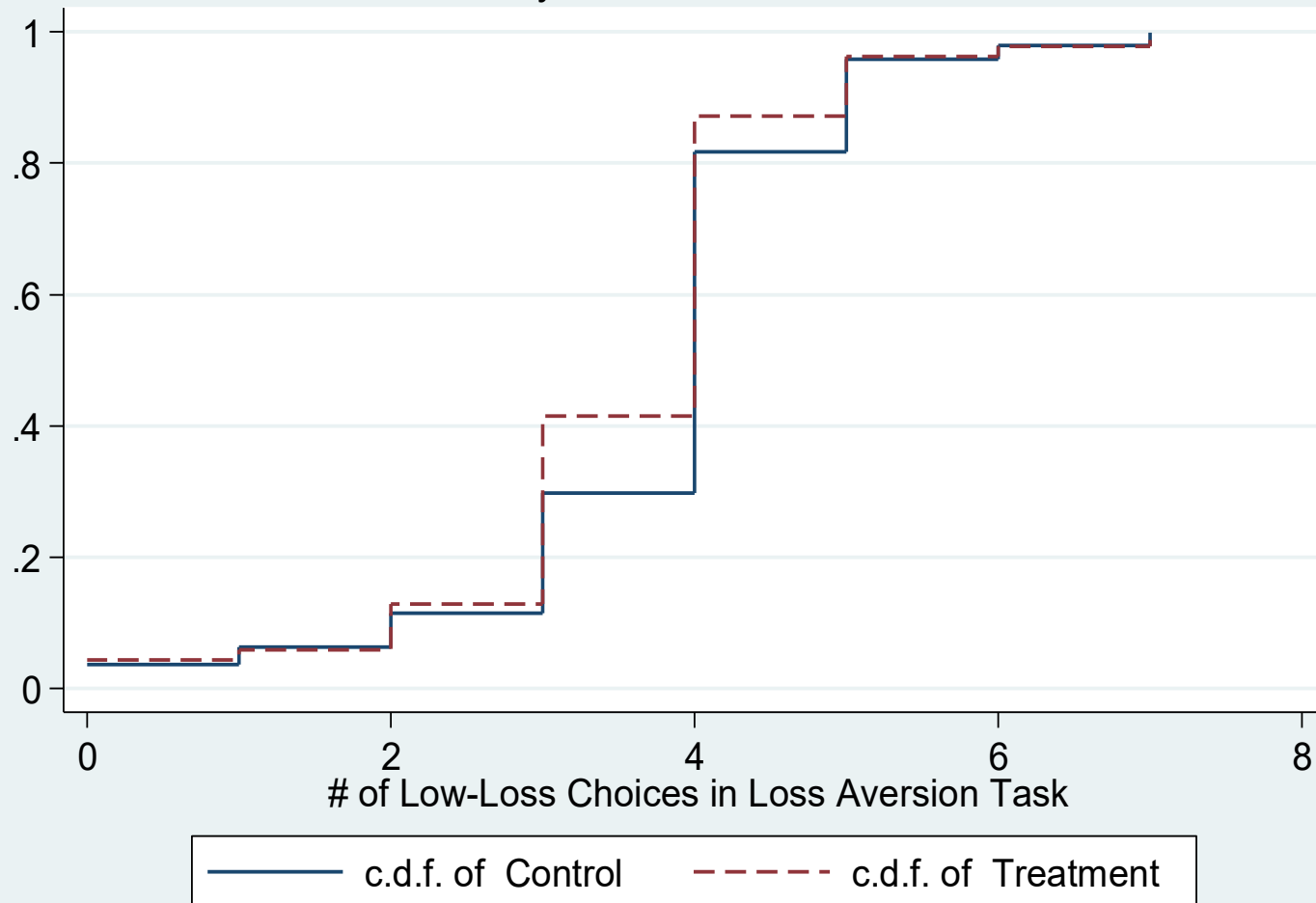
Risk Preferences: Risk Aversion

Figure 1: Cumulative Distribution of Safe Choices in Lottery Game I
By Treatment Status



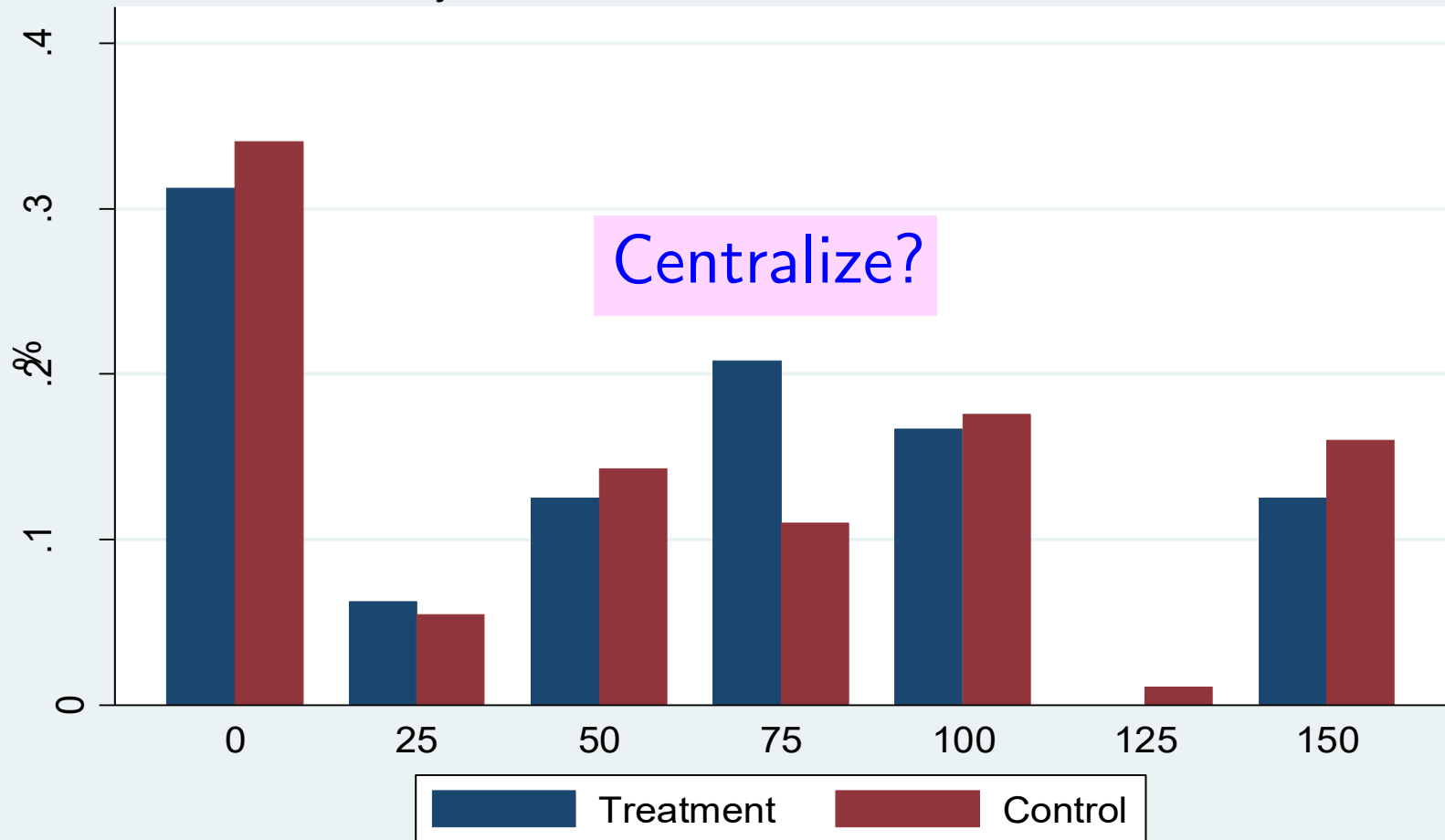
Risk Preferences: Loss Aversion

Figure 2: Cumulative Distribution of Low-Loss Choices in Lottery Game II
By Treatment Status



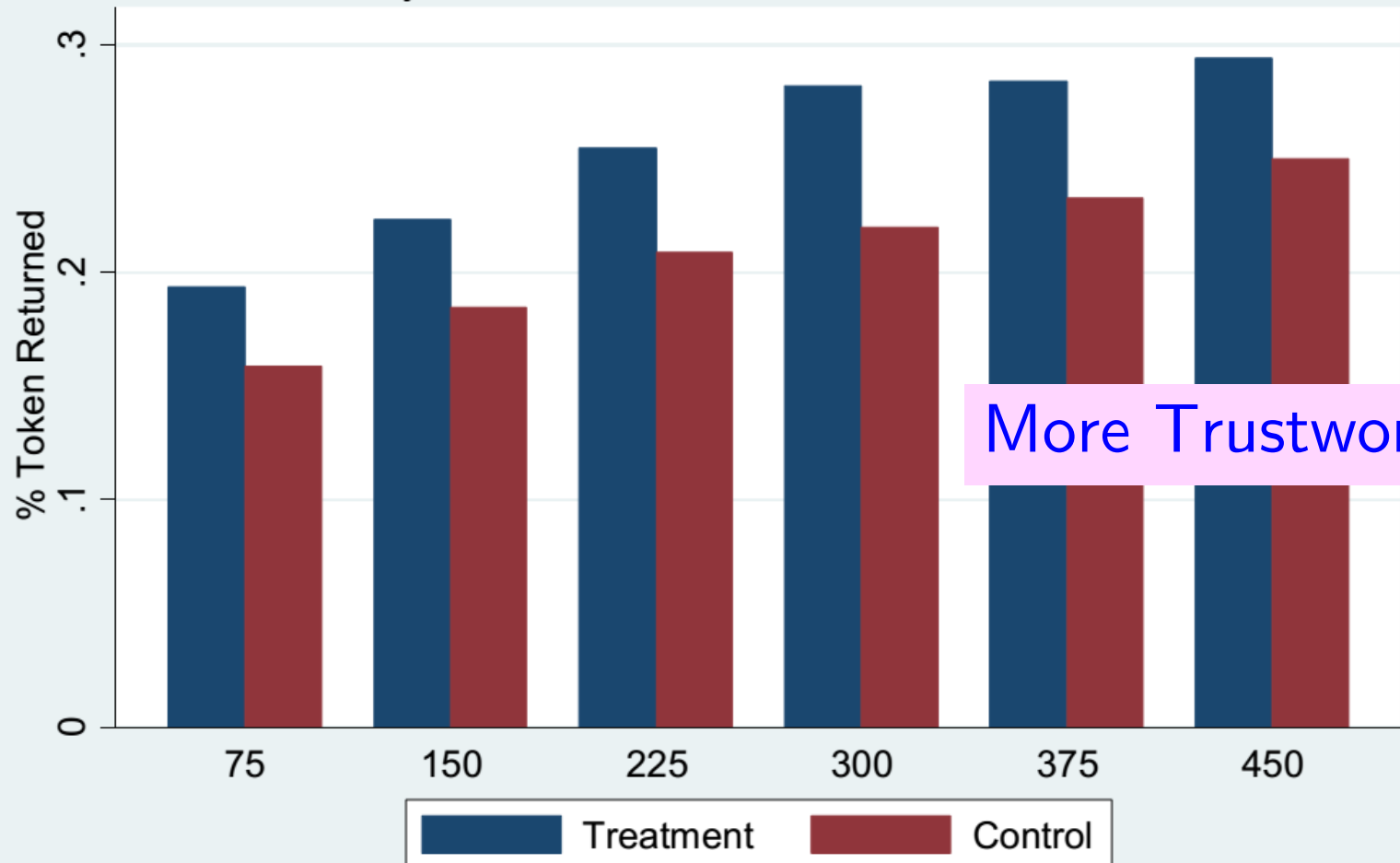
Social Preferences: Trust

Figure 3: Probability Distribution of Tokens Invested
By Tokens Given and Treatment Status



Trustworthiness

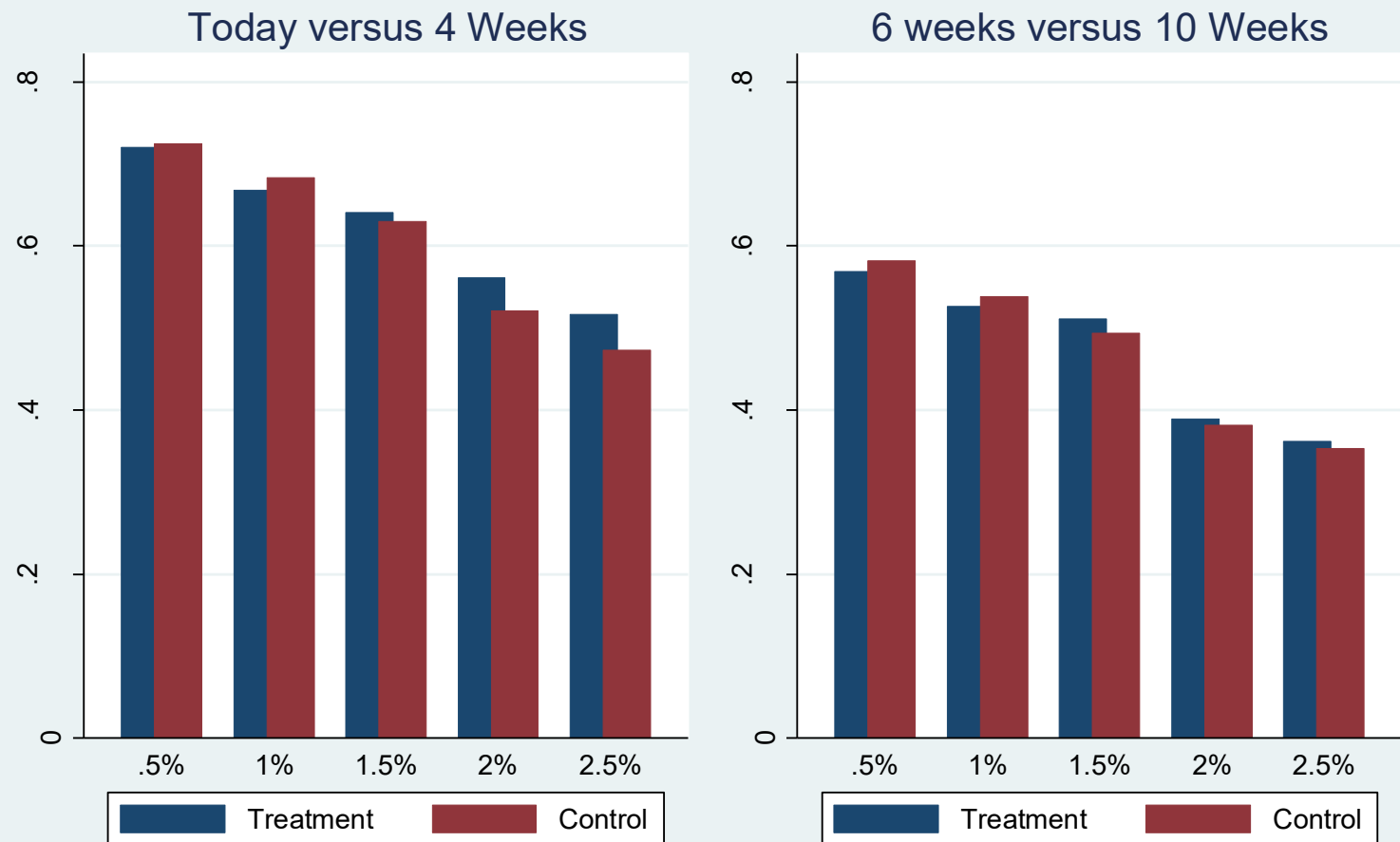
Figure 4: Average Share of Tokens Returned
By Token Received and Treatment Status



More Trustworthy

Time Preferences

Figure 5: Proportion of Tokens Allocated to Earlier Payment
Stratified by Treatment Status and by Interest Rates



Risk/Loss and Trustworthy/Trust

$$Y_i = \beta_0 + \beta_1 (\text{ConfuciusPrime})_i + X_i + \epsilon_i$$

X_i = parental edu, grad student, age, gender, upbringing, science/eng major, PKU student

Table 6: The Priming Effects on Risk Preferences, Trust/Trustworthy and Time Preferences

| | (1) | (2) | (3) | (4) |
|-----------------------------|--|--|--|--|
| | (RISK AVERSION) Number of Safe Choices in Lottery Task I | (Loss Aversion) Number of Low loss Choices in Task II | (Trust) Share of Tokens Invested in Investment Game | (Trustworthy) Average Share of Tokens Returned in Investment Game |
| VARIABLES | | | | |
| Mean(Dep Variable) | 3.64 | 0.40 | 0.23 | 0.61 |
| Standard Dev (Dep Variable) | [1.64] | [1.25] | [0.35] | [0.19] |
| <i>Confucius Prime</i> | -0.259** (0.115) | -0.115 (0.117) | 0.016 (0.038) | 0.049* (0.023) |
| Observations | 373 | 373 | 185 | 188 |
| R-squared | 0.039 | 0.061 | 0.020 | 0.044 |

Risk/Loss and Trustworthy/Trust

$$Y_i = \beta_0 + \gamma_0 \text{C-Prime}_i + \gamma_1 (\text{C-Prime})_i * \text{NTU}_i + \gamma_2 \text{NTU}_i + X_i$$

Table 8: Confucius Priming Effects by Schools

| | (1) | (2) | (3) | (4) |
|---|--|--|--|--|
| | (RISK AVERSION) Number of Safe Choices in Lottery Task | (LOSS AVERSION) Number of Low loss Choices in Task II | (TRUST) Share of Tokens Invested in Investment Game | (TRUSTWORTHY) Average Share of Tokens Returned in Investment Game |
| VARIABLES | I | in Task II | Game | Game |
| Mean(Dep Variable) | 5.65 | 3.64 | 0.40 | 0.23 |
| Standard Dev(Dep Variable) | [1.64] | [1.25] | [0.35] | [0.19] |
| <i>Confucius Prime</i> (γ_0) | -0.332* (0.172) | -0.219* (0.109) | 0.039 (0.040) | 0.033 (0.024) |
| <i>Confucius Prime</i> *NTU (γ_1) | 0.143 (0.200) | 0.203 (0.134) | -0.045 (0.051) | 0.031 (0.050) |
| NTU | | | | -0.017 (0.040) |
| P-value from F-test ($\gamma_0 + \gamma_1 = 0$) | 0.189 | 0.933 | 0.927 | 0.132 |
| Observations | 373 | 373 | 185 | 188 |
| R-squared | 0.040 | 0.062 | 0.021 | 0.046 |

Less risk-averse, less loss averse

Note: standard errors are clustered at the session level for Columns 1-6 and clustered at the individual level for Columns 7 and 8. Confucius Prime is a dummy for subjects receiving Confucian-salient primes. NTU is a dummy for subjects from National Taiwan University. Variables indicating the father's

Discount Rates and Present Bias

$$U(x_t, x_{t+k}) = x_t^\alpha + \beta \delta^k x_{t+k} \text{ if } t = 0,$$

$$U(x_t, x_{t+k}) = x_t^\alpha + \delta^k x_{t+k} \text{ if } t > 0$$

Table 9: Time Preference Parameters By Treatment Status By Schools

| | PKU | NTU | PKU | NTU |
|---|--------------------|--------------------|--------------------|--------------------|
| | Delta | Delta | Beta | Beta |
| | (Discount | (Discount | (Present Bias) | (Present Bias) |
| VARIABLES | Factor) | Factor) | | |
| | (1) | (2) | (3) | (4) |
| Confucius Prime | 0.9913 (0.0003) | 0.9919 (0.0002) | 0.9450 (0.0023) | 0.9290 (0.0019) |
| Neutral Prime | 0.9945 (0.0001) | 0.9919 (0.0001) | 0.9420 (0.0025) | 0.9180 (0.0025) |
| P-value of F-Test for Differences in Parameter | 0.0000 | 0.1078 | 0.3575 | 0.0005 |

More impatient

Less present-biased

Experimental Results

- After priming Confucianism...
- Chinese (PKU) subjects became
 - more risk-loving, less loss averse, more impatient
- Taiwanese (NTU) subjects became
 - less present-biased and mildly more trustworthy
- Very different, so we did a validation check surveying a new set of 389 students

Validation Survey

- Rank these four belief systems:
 - (1) most agree ... (4) least agree
- 1. Rationalism,
- 2. Confucianism,
- 3. Eastern Religion (Buddhism, Taoism),
- 4. Western Religion (Christianity, etc.)
- How much do you agree with each system?
 - (1) least agree ... (10) most agree

Validation Results

Table 10: Validation Test of Priming Method

| VARIABLES | (1) Ranking of Confucianism (1=best, 4= worst) | (2) How much do you agree with Confucianism(10 = most agree) | (3) Rank Confucianism as most important |
|---|---|--|--|
| <i>Confucius Prime</i> (γ_0) | 0.384* (0.223) | -0.603* (0.331) | -0.620** (0.278) |
| <i>Confucius Prime</i> *NTU (γ_1) | -0.463* (0.257) | 0.753** (0.381) | 0.576* (0.323) |
| NTU | 0.460** (0.188) | -0.832*** (0.274) | -0.502** (0.223) |
| P-value from F-test ($\gamma_0 + \gamma_1 = 0$) | 0.52 | 0.42 | 0.78 |

Validation Survey

- When primed Confucianism,
- Chinese (PKU) subjects ranked it significantly **lower** and **disagreed** more
- Taiwanese (NTU) subjects mildly **improved** ranking of Confucianism and **agreed** more
- Elites in China and Taiwan react differently to Confucianism!

Discussion

- Are students “special”? No—we specifically care about the elite, not the illiterate public...
- Are other characteristics causing this?

Table 5: Randomization Check

| Panel A: National Taiwan University | | | | | | | |
|-------------------------------------|----------------------|---------------------|----------------------|----------------------|---------------------|-------------------------|----------------------|
| VARIABLES | Female | Age | Graduate Student | Father's Education | Mother's Education | Conservative Upbringing | STEM Major |
| <i>Confucius Prime</i> | -0.033 (0.058) | 0.402 (0.814) | 0.109 (0.139) | -0.02 (0.195) | 0.02 (0.175) | -0.153 (0.120) | -0.052 (0.083) |
| Constant | 0.441*** (0.0397) | 21.04*** (0.450) | 0.235*** (0.0734) | 3.238*** (0.0863) | 2.882*** (0.114) | 2.804*** (0.0737) | 0.324*** (0.0468) |
| Observations | 195 | 195 | 195 | 193 | 194 | 195 | 194 |
| R-squared | 0.001 | 0.008 | 0.014 | 0.000 | 0.000 | 0.011 | 0.003 |

Discussion

Panel A: National Taiwan University

| VARIABLES | Female | Age | Graduate Student | Father's Education | Mother's Education | Conservative Upbringing | STEM Major |
|------------------------|----------------------|---------------------|----------------------|----------------------|---------------------|-------------------------|----------------------|
| <i>Confucius Prime</i> | -0.033 (0.058) | 0.402 (0.814) | 0.109 (0.139) | -0.02 (0.195) | 0.02 (0.175) | -0.153 (0.120) | -0.052 (0.083) |
| Constant | 0.441*** (0.0397) | 21.04*** (0.450) | 0.235*** (0.0734) | 3.238*** (0.0863) | 2.882*** (0.114) | 2.804*** (0.0737) | 0.324*** (0.0468) |
| Observations | 195 | 195 | 195 | 193 | 194 | 195 | 194 |
| R-squared | 0.001 | 0.008 | 0.014 | 0.000 | 0.000 | 0.011 | 0.003 |

Panel B: Peking University

| VARIABLES | Female | Age | Graduate Student | Father's Education | Mother's Education | Conservative Upbringing | STEM Major |
|------------------------|----------------------|---------------------|----------------------|---------------------|----------------------|-------------------------|----------------------|
| <i>Confucius Prime</i> | -0.038 (0.059) | 0.115 (0.467) | 0.027 (0.115) | -0.011 (0.232) | 0.063 (0.167) | -0.230 (0.130) | -0.049 (0.041) |
| Constant | 0.522*** (0.0236) | 22.42*** (0.263) | 0.489*** (0.0423) | 2.800*** (0.164) | 2.411*** (0.0714) | 2.900*** (0.0761) | 0.460*** (0.0726) |

Conclusion: Persistent Historical Influence?



The End

– Any Question?

slido



Audience Q&A Session

① Start presenting to display the audience questions on this slide.

Promise-Keeping Under the Shadow of Confucius

Joseph Tao-yi Wang
Joint with Hsi-wei Wang
National Taiwan University

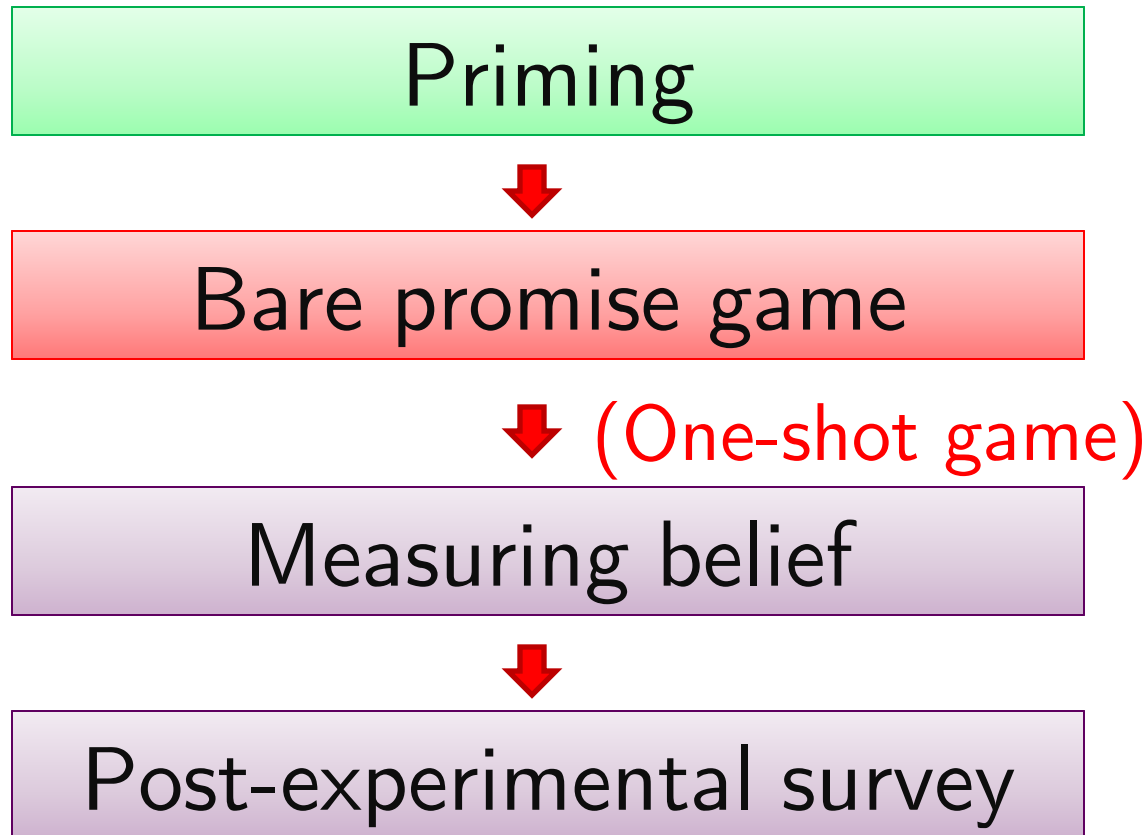
Goal: Investigate Relationship Between

Confucianism

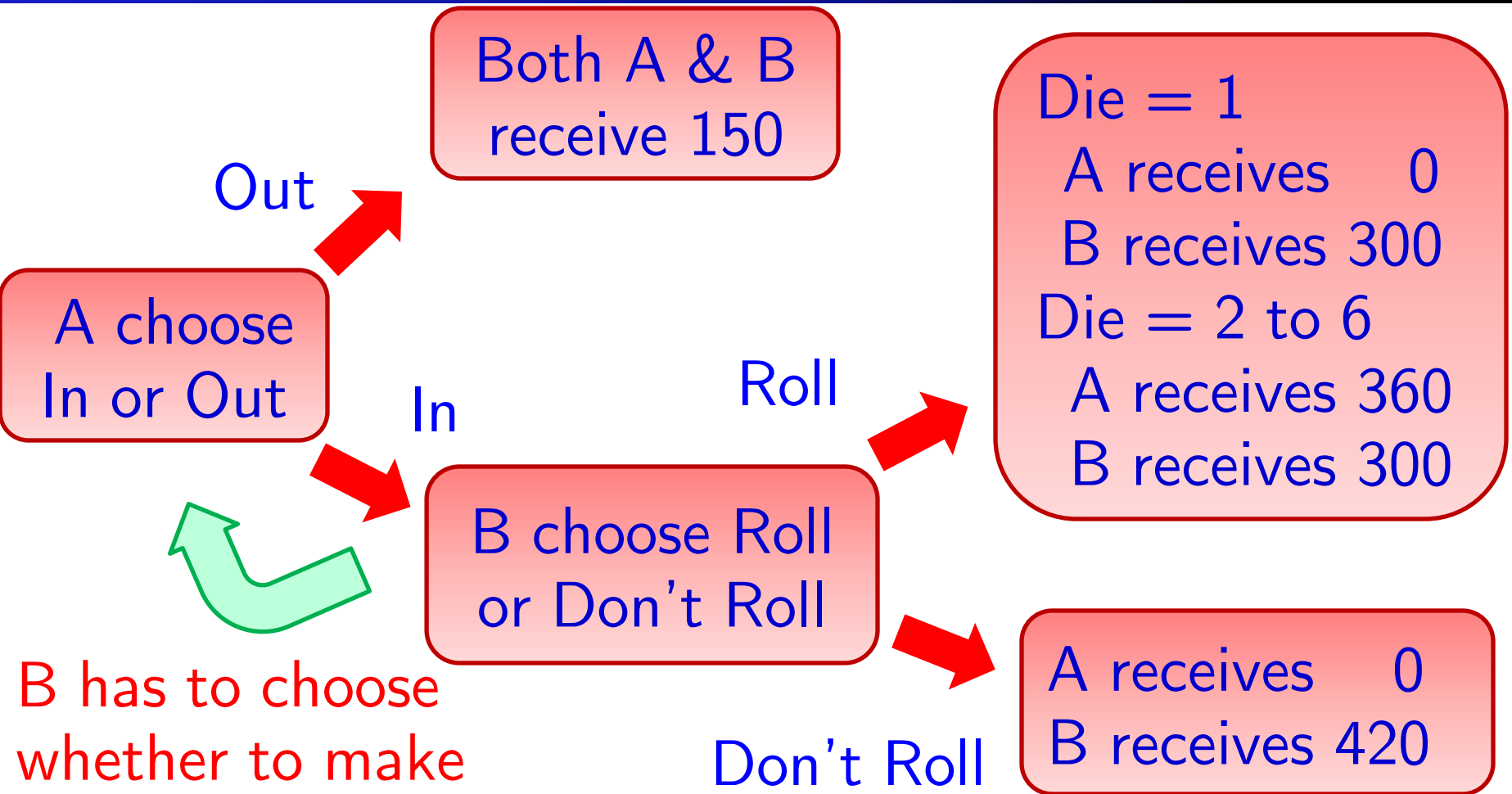
and

promise-keeping and trusting behaviors

The Experiment

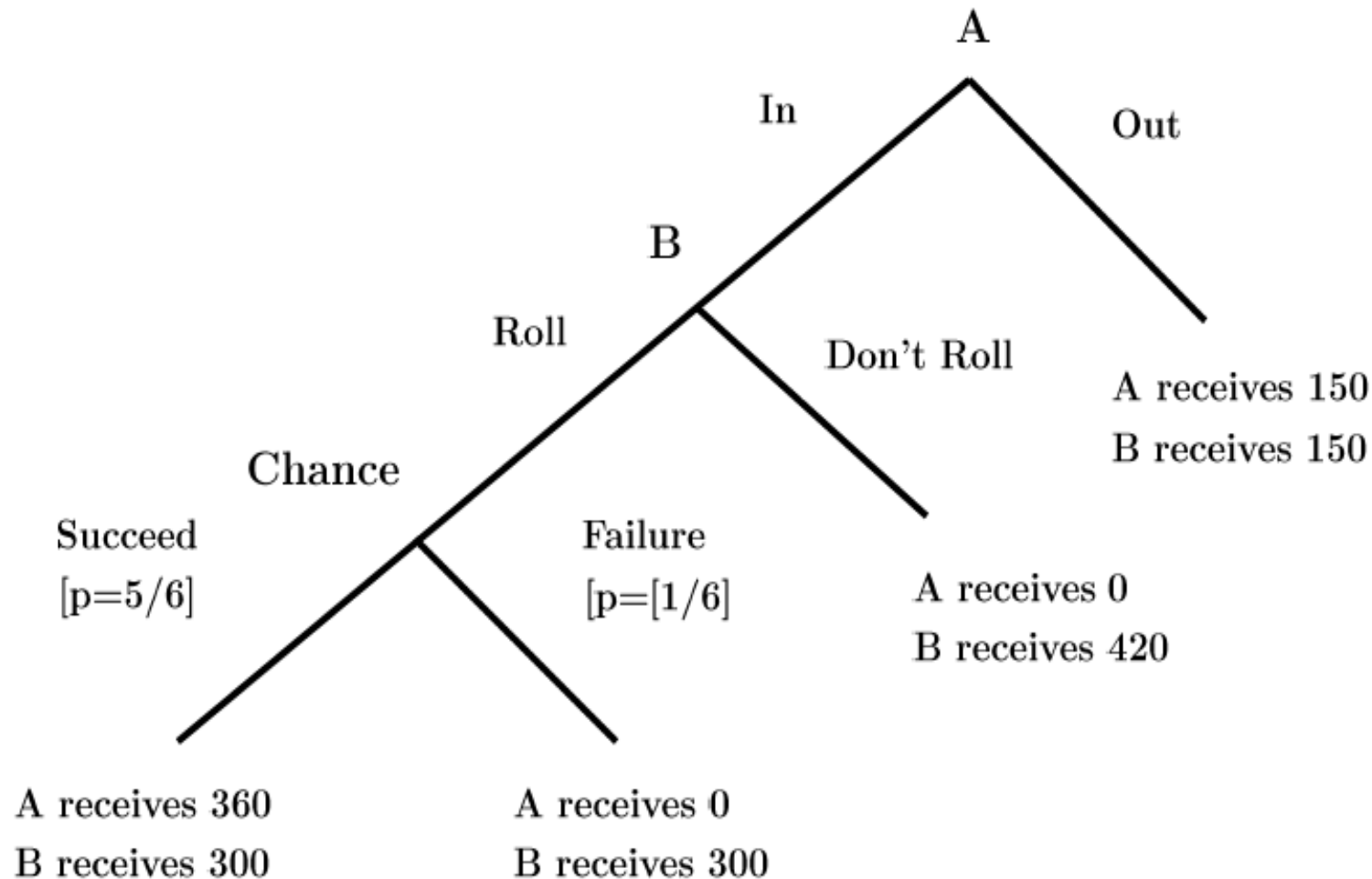


The Bare Promise Game



B has to choose whether to make a promise or not

The Bare Promise Game Tree



Neutral Language Payoff Matrix

| A B | | | | |
|---------|--|--|--|--|
| | “Up” and die number is 1~5 | “Up” and die number is 6 | “Down” and die number is 1~5 | “Down” and die number is 6 |
| “Left” | A receives NT\$ 360 B receives NT\$ 300 | A receives NT\$ 0 B receives NT\$ 300 | A receives NT\$ 0 B receives NT\$ 420 | A receives NT\$ 0 B receives NT\$ 420 |
| “Right” | A receives NT\$ 150 B receives NT\$ 150 | A receives NT\$ 150 B receives NT\$ 150 | A receives NT\$ 150 B receives NT\$ 150 | A receives NT\$ 150 B receives NT\$ 150 |

Priming: Confucian vs. Neutral (Control)

- Ask subjects to correct errors in sentences
 - Find error and re-write the correct sentence.
 - "If you think there is no error, simply copy the whole sentence."
- In the Confucian Prime:
 - Sentences chosen from Analects or Mencius
- Example:

子曰：「學而不思則罔，思而不學則迷。」

Ans：「學而不思則罔，思而不學則殆。」

Priming: Confucian vs. Neutral (Control)

- In neutral prime treatment:
 - Sentences chosen from other Chinese quotes
- Example:
- 人生四大樂事：久旱逢甘霖，他鄉遇故知。洞房花燭夜，金榜~~提~~名時。
- Ans:
人生四大樂事：久旱逢甘霖，他鄉遇故知。洞房花燭夜，金榜~~題~~名時。

Measuring Subject Beliefs

- We measure subject beliefs regarding the opponent behavior:
- **Example:** member A guesses
 1. If member B sent you the paper slip
"I promise I will choose Up (Roll)",
$$P(Up) = ___\%$$
 2. If member B sent the blank paper slip,
$$P(Up) = ___\%$$

Post-exp. Survey: Confucian Value-Q

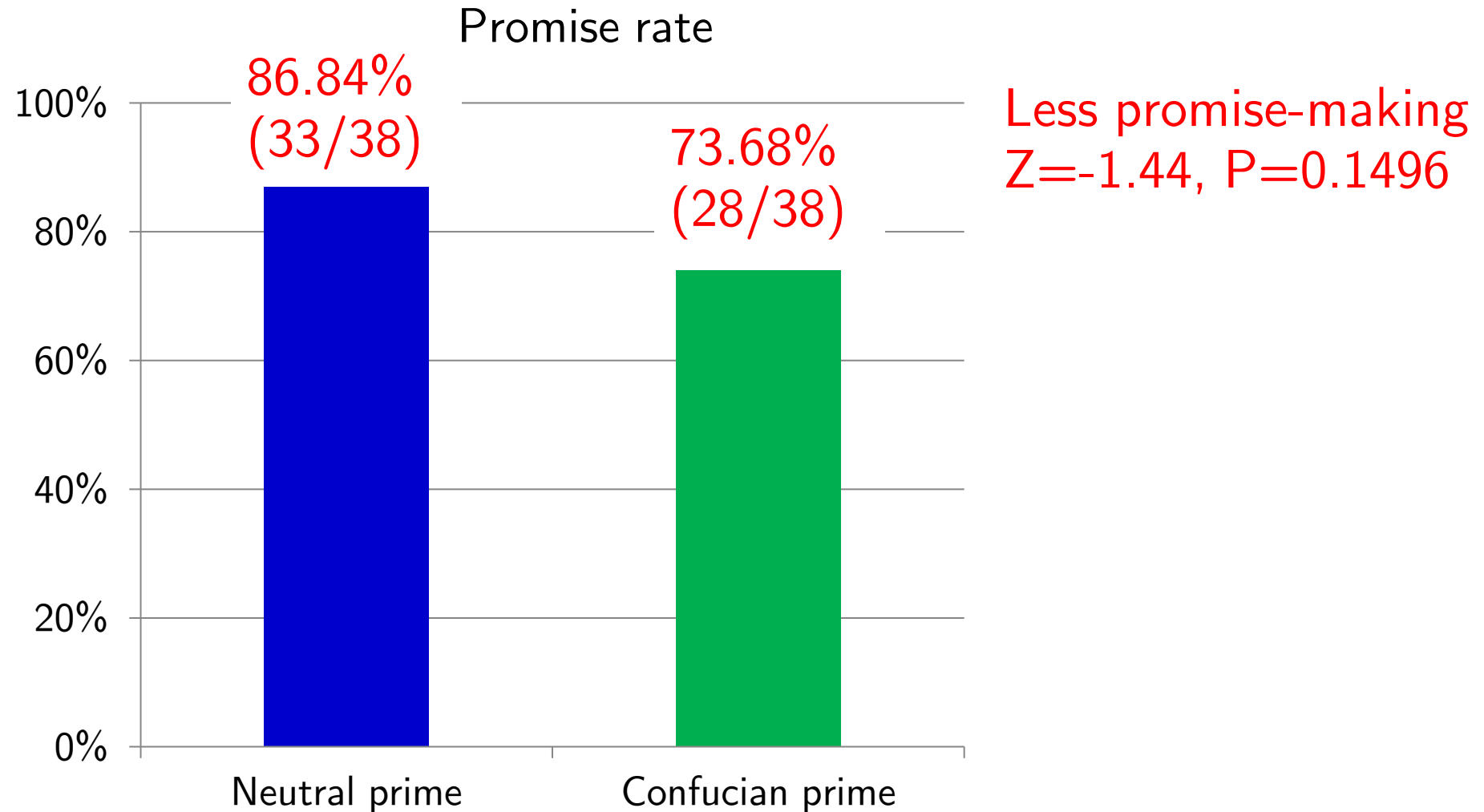
- Do you think Confucianism is important when dealing with relationships?

- A. strongly agree
- B. somewhat agree
- C. maybe
- D. somewhat disagree
- E. strongly disagree

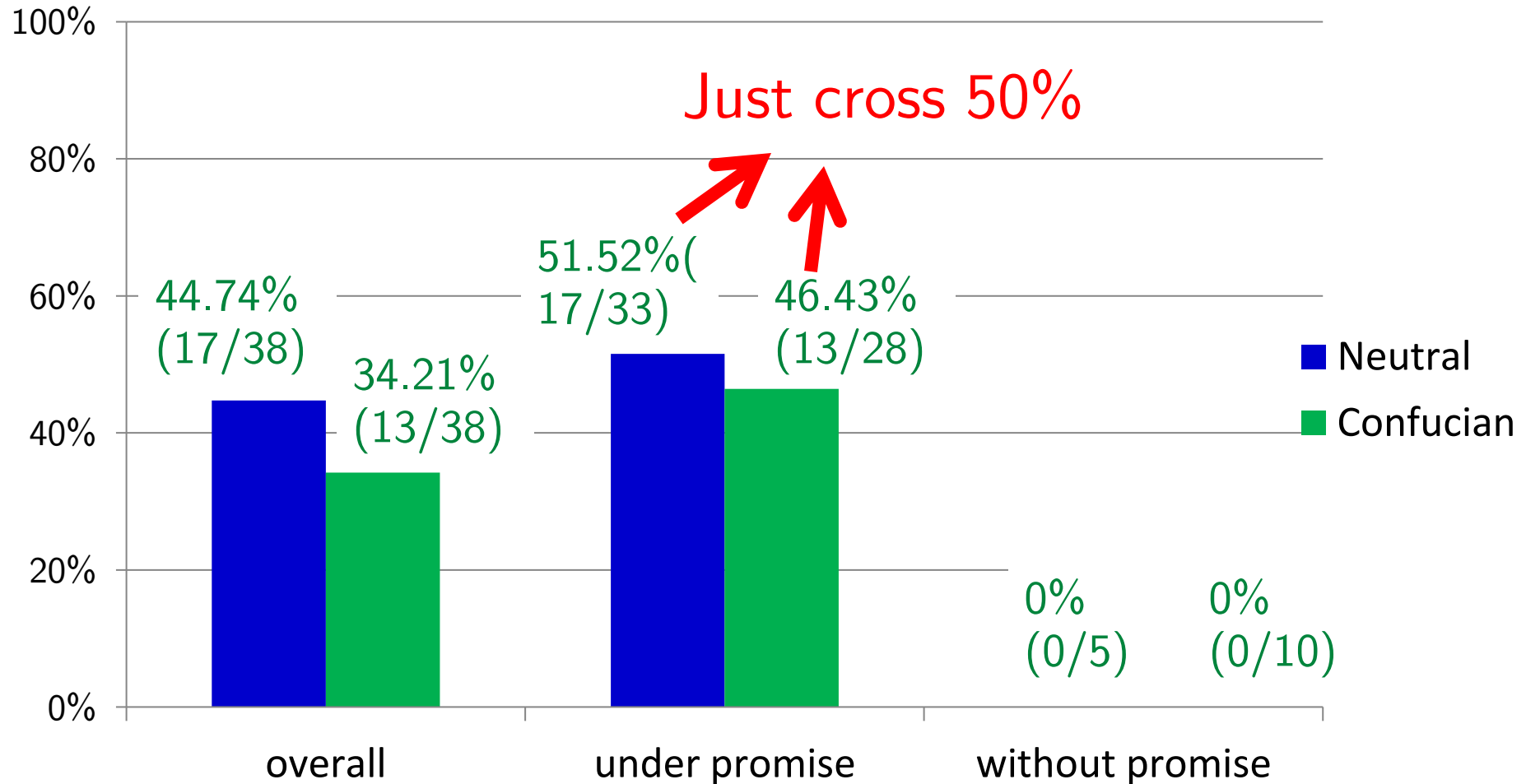
Post-exp. Survey: Confucian Background-Q

- Have you ever attended "reading classes"
 - (that read or memorized classic reading of Confucianism such as the *Dialects*, *Di Zi Gui* (*standards for students*), etc.)?
- A. never
- B. several times
- C. less than 1 year
- D. 1-2 years
- E. more than 2 years

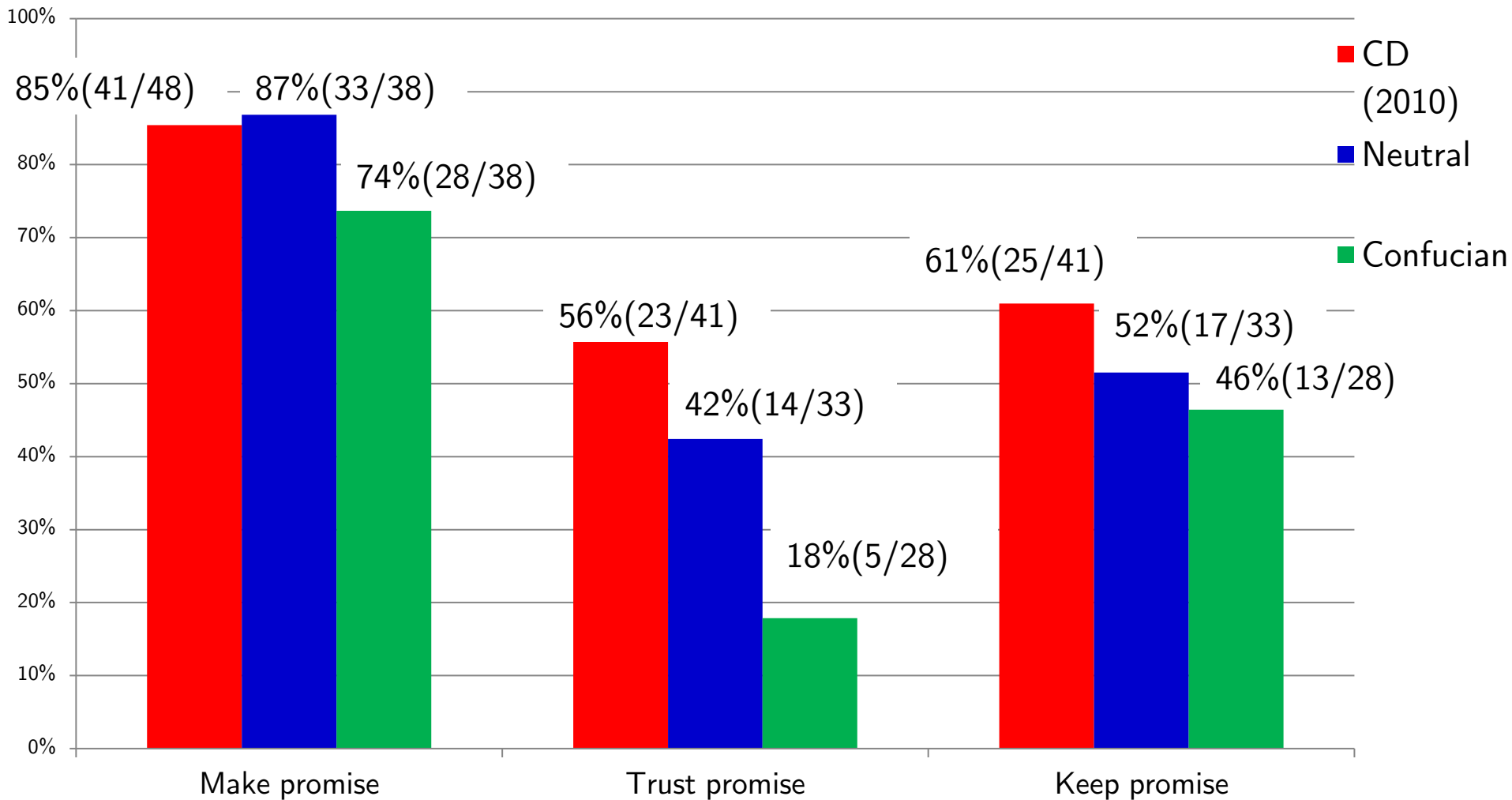
To Promise, or Not To Promise?



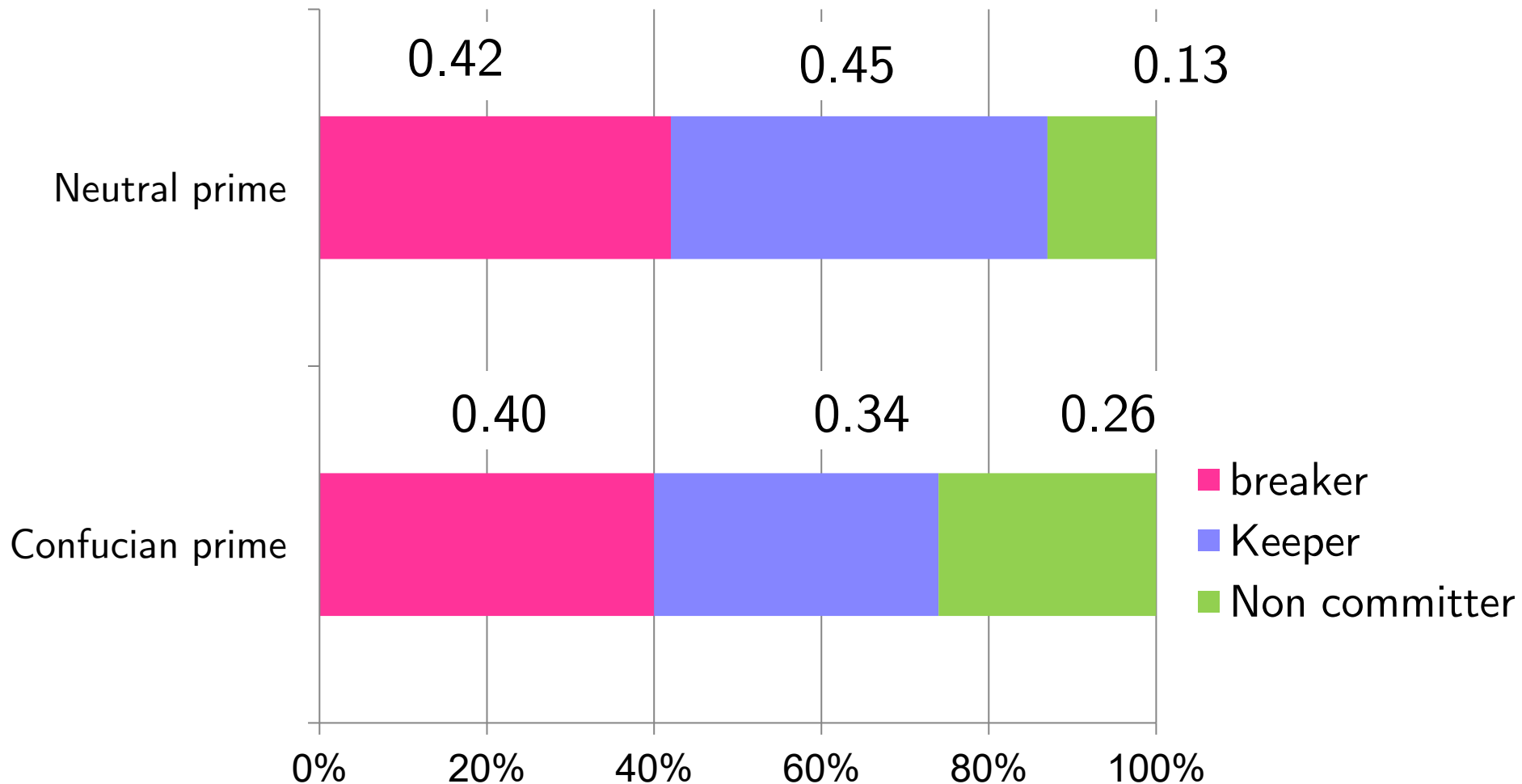
Keep Your Promise (Roll) or Not?



Compare with CD(2010)



Breakers, Keepers, and Non-Committers



Background-Q: Promise Keepers vs. Breakers

| | Keeper | Breaker | Rank Sum Test Results |
|--|--------|---------|---------------------------------|
| Confucian background scores (priming) | 3.519 | 2.908 | $Z=-2.283$, $p=0.0224^{**}$ |
| Confucian background scores (control) | 3.341 | 3.018 | $Z=-1.081$, $p=0.2795$ |

Value-Q: Promise Keepers vs. Breakers

| | Keeper | Breaker | Rank Sum Test Results |
|-------------------------------------|--------|---------|-----------------------------|
| Confucian value scores (priming) | 2.706 | 2.903 | $Z=1.653$, $p=0.0984^*$ |
| Confucian value scores (control) | 2.781 | 2.864 | $Z=0.508$, $p=0.6114$ |

Background-Q: Committer vs. Non-committer

| | Committer | Non-committer | Rank Sum Test Results |
|---------------------------------------|-----------|---------------|---------------------------|
| Confucian background scores (priming) | 3.192 | 3.217 | $Z=-0.315$, $p=0.753$ |
| Confucian background scores (control) | 3.184 | 3.433 | $Z=0.303$, $p=0.762$ |

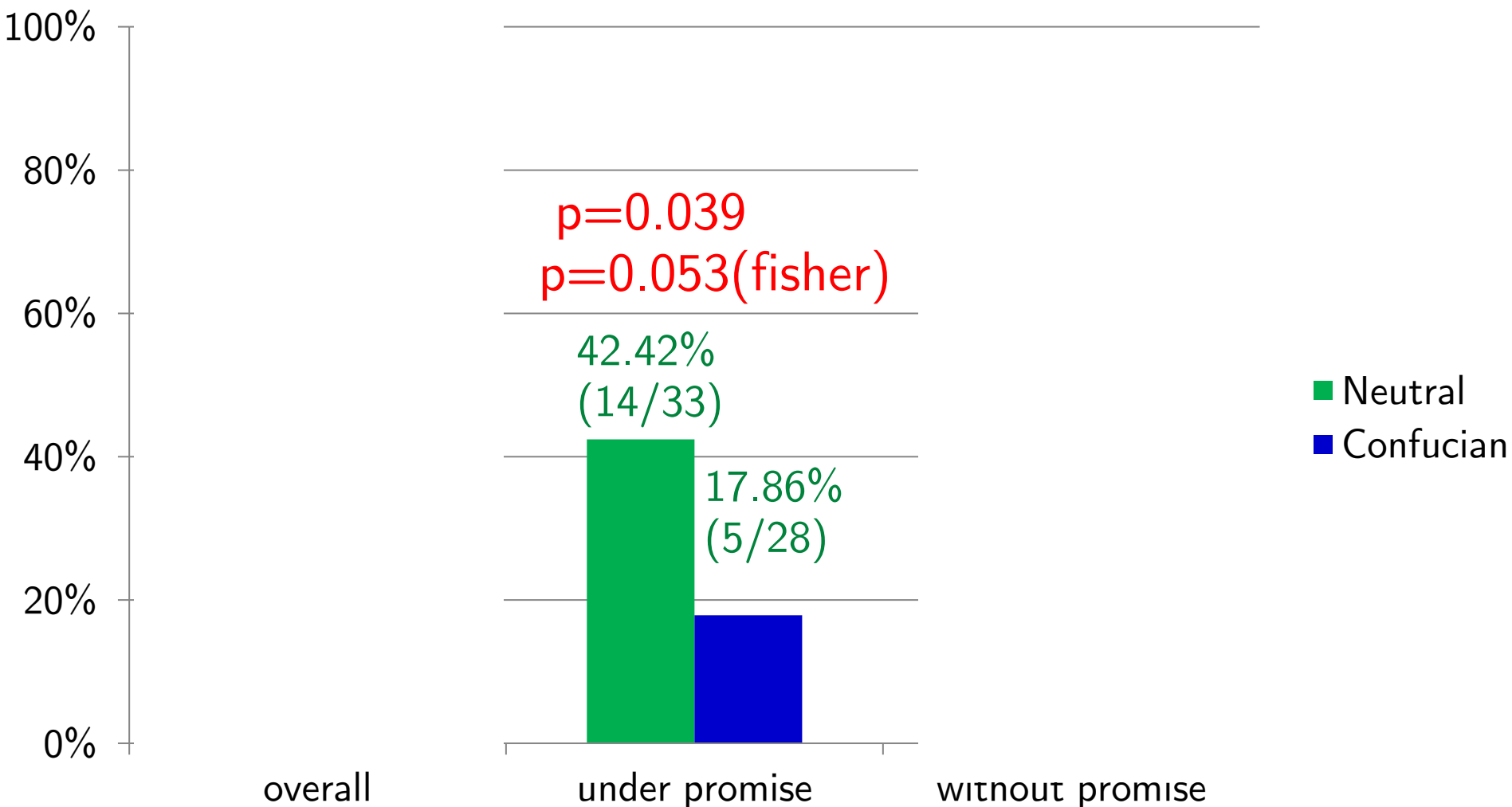
Value-Q: Committer vs. Non-committer

| | Committer | Non-committer | Rank Sum Test Results |
|----------------------------------|-----------|---------------|---------------------------|
| Confucian value scores (priming) | 2.812 | 2.882 | $Z=0.585$, $p=0.558$ |
| Confucian value scores (control) | 2.821 | 2.818 | $Z=-0.543$, $p=0.587$ |

Summary for Player B

- Priming Confucianism makes subjects
- less promise-making and promise-keeping
 - Because when primed,
- People with **more past exposure** to Confucianism more likely to keep promises
 - Self-reported in background-Q
- Those who merely **claim to adhere** to Confucian values may not!
 - Self-reported in value-Q

To Trust, or Not To Trust?



Background-Q: Trust vs. Distrust

| | Trust | Distrust | Rank Sum Test Results |
|---|-------|----------|-------------------------------|
| Confucian background scores (priming) | 3.042 | 3.199 | $Z = 0.511$, $p = 0.6095$ |
| Confucian background scores (control) | 3.435 | 3.373 | $Z = -0.51$, $p = 0.6099$ |

Value-Q: Trust vs. Distrust

| | Truster | Distrust | Rank Sum Test Results |
|-------------------------------------|---------|----------|--------------------------|
| Confucian value scores (priming) | 2.764 | 2.743 | Z= -0.121, p= 0.904 |
| Confucian value scores (control) | 2.773 | 2.799 | Z= 0.018, p= 0.9854 |

Summary for Player A

- Priming Confucianism,
- Makes Subjects Less Trusting
 - Why?
- Subjects become more risk-averse?
 - Look at $E(\text{payoff})$ based on elicited beliefs

Average Guess vs. True Value

| Prediction Question | Confucian (%) | | Neutral (%) | |
|------------------------------|---------------|-------|-------------|-------|
| | Actual | Guess | Actual | Guess |
| Prediction Task of Subject A | | | | |
| Q1: Pr(B Roll if Promised) | 46.43 | 38.53 | 51.52 | 51.07 |
| Q2: Pr(B Roll if Not) | 0 | 23.96 | 0 | 22.55 |
| Prediction Task of Subject B | | | | |
| A's answer to Q1 if In | 65 | 67.13 | 62.68 | 63.79 |
| A's answer to Q1 if Out | 33.57 | 33.11 | 44.3 | 37.18 |
| A's answer to Q2 if In | 37 | 45.39 | 32.43 | 40.24 |
| A's answer to Q2 if Out | 21.51 | 31.32 | 16.79 | 34.61 |

Individual Estimates of $E(\text{payoff})$

| | Control | Priming | Two sample proportional test |
|---|----------------|---------------|--------------------------------------|
| Trust Promise when $E(\text{payoff}) \geq 150$ | 65% (11/17) | 42% (5/12) | $p=0.219$ $p=0.274$ (fisher) |
| Trust Promise when $E(\text{payoff}) < 150$ | 19% (3/16) | 0% (0/16) | $p=0.069^*$ $p=0.226$ (fisher) |

Subjects become less risk-loving/more risk-averse
when primed Confucianism!!

Discussion and Conclusion

- Prime Confucianism → **Not Trust** Promise?
 - Since Confucianism can backfire:
- Primed to be conservative in risky decisions
 - For Promise-Making and Promise-Keeping:
- Breakers **Claim to Adhere** Values, but Cheat
 - Pay Lip Service in Value-Q
- But Keep Promise if **More Past Exposure**
 - Or, do not commit at all! (Background-Q)