

Promise-Keeping under the Shadow of Confucius

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Abstract

We investigate whether Confucian cultural factors (both past exposure and agreeing with its value) influence Taiwanese people's promise-keeping and trusting decisions by priming Confucianism on Taiwanese college students. The results show that people are less likely to make (bare) promises and believe in others' (bare) promises when primed their Confucianism background. On the other hand, people who have more past exposure to Confucianism (self-reported in a post-experimental Confucius background survey) are more likely to keep their promises if Confucianism-primed, while those who merely claim to adhere to Confucian values are not. This points to different paths that lead to a social identity that is seemingly the same, but actually diverse.

J.E.L. classification codes: C91, A13, N35

Keywords: Bare Promise; Participation; Promise-keeping; Trusting; Confucian background; Confucianism; Psychological method; Priming

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1. Introduction

East Asian people live in the same area, have similar religions, share common historical experiences and even speak the same language or dialect. Most important, they share the same cultural background, that is, traditional Confucianism. Almost all of them have to go to school and receive compulsory education which is heavily influenced by Confucian culture. Thus, Confucian culture has become part of their daily lives and its importance cannot be underestimated. One of the interesting questions worth investigating is how Confucian culture affects moral decision making, such as promise-making, trusting promises, and promise-keeping. Many researchers study these behaviors to find key factors that enhance people's cooperation, because mutual trust and trustworthiness reduces transaction cost and the need for monitoring.

This paper investigates the relationship between Confucianism and promise-keeping by priming Confucianism and observing subsequent behavior. We also conduct post-experimental questionnaires to measure subjects' Confucian background to investigate the correlation between one's background and promise-keeping behavior. Our results show that priming Confucianism leads to less promise-making and less trusting behavior in a "bare promise" game. In particular, subjects who receive bare promises would be less likely to believe in them and their beliefs about others keeping their promises decrease significantly. Furthermore, priming Confucianism also makes subjects less likely to make promises to others. Finally, results show that people who have a stronger Confucian background, measured by past experience and exposure to Confucianism in the Confucian culture questionnaire have a higher chance to keep their promises, but only when primed; in contrast, people who merely claim to have a stronger adherence to

Confucian values have a higher chance to cheat other people by breaking their promises.

2. Literature Review

Various experiments were conducted to see why people sometimes tell lies and what deters them from telling lies. Gneezy (2005) finds that people are less likely to lie if other people's losses are more severe, but this tendency weakens when their gains are higher. Fischbacher and Heusi (2008) find that even when people do tell lies, they tend not to go all the way. Hence, they argue that people want to maintain a good self-image by avoiding traits of greediness or dishonesty. Charness and Dufwenberg (2006) find that communication (in the form of a hand-written promise) can foster cooperation, and propose guilt aversion as a reason why people tend to tell the truth and keep their promises, since subjects "do not want to let other people down (i.e., to fit other people's expectation)." This theoretical prediction is in line with Reuben, Sapienza and Zingales (2009)'s results showing that the receiver is less trustworthy when facing a low expectation sender, which is unexplained by other theories such as reciprocity and altruism. However, Vanberg (2008) show that in addition to guilt aversion, people also may like to keep their promises regardless of others' expectations. Indeed Charness and Dufwenberg (2010) find that guilt aversion plays a minor role when the promise is minimum (a one-line "bare promise" message).

When it comes to honesty, the Confucian culture plays an important role on Asians. Confucius himself thought that being honest is an indispensable factor in interpersonal relationship and people should never give promises which they cannot keep. In fact, he said that, "I do not know how a man without truthfulness is to

get on. How can a large carriage be made to go without the crossbar for yoking the oxen to, or a small carriage without the arrangement for yoking the horses?”¹ As Koehn (2001) concluded, “Trust or, more precisely, being trustworthy, plays a central role in the Confucian ethics.”

To investigate the relationship between honesty and Confucian culture, we employ the psychological method of “priming.” Priming has recently been used on economic experiments to observe the effect of different identity on economic behavior. For example, Benjamin, Choi and Strickland (2010) use priming to make subjects’ social identity salient and find that Asian-Americans and non-immigrant blacks make more patient choices when primed their social identities. Likewise, Benjamin, Choi and Fisher (2010) also use the same method to make subjects’ religious identities salient and observe that Protestantism, Catholicism and Judaism induces affect its followers’ social preferences differently. Recently, Liu, Meng and Wang (2014) show how risk, time and social preferences of Chinese and Taiwanese subjects change after being primed Confucianism.

3. Experimental Design

In this paper, we focus on analyzing the role that Confucian culture play on promise-making and promise-keeping behaviors. To achieve our goal, we prime our subjects for Confucianism and then conduct an economic experiment the “bare promise” game of Charness and Dufwenberg (2010). We recruited 152 students from Nation Taiwan University who have Taiwanese nationality. The average hourly wage payment for participating in this experiment was approximately NT\$335.3 (approximately US\$11.2), including a NT\$100 show-up fee.

¹ Legge, James (1893), *Confucian Analects* (論語), book 2, Wei Chang (為政篇). The original text is “子曰：「人而無信，不知其可也。大車無輓，小車無軌，其何以行之哉？」”

We conducted five experimental sessions, three neutral-primed and two Confucius-primed. Each session was held in two separate rooms next to each other and subjects were randomly assigned each room, one room assuming the role of member A and the other member B. At the beginning of the experiment, each subject was asked to draw paper slips from a box to determine their pairings (matching one A and one B from each room to form a group) and record their group.

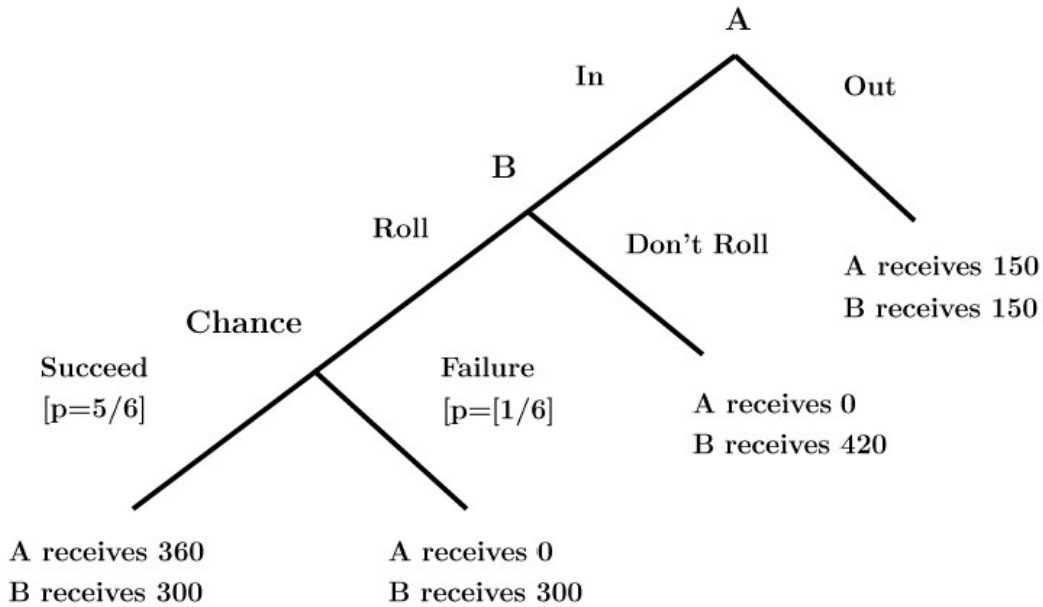


Figure 1: The “bare promise” game’s procedure.

Figure 1 illustrates the game. It started with subject A being asked to choose either *In* or *Out*, and then subject B chooses either *Roll* or *Don't Roll* a 6-sided die. The payoff would be both NT\$150 if subject A chose *Out*, and NT\$0 for A and NT\$420 for B if (*In*, *Don't Roll*) is chosen. If (*In*, *Roll*) was chosen, B receives NT\$300, and A receives NT\$0 if the die shows a 1, and receives NT\$360 otherwise.

At the beginning of the experiment, we follow Liu, Meng and Wang (2014) and prime subjects on Confucianism by taking a typo-correction test with six different Chinese sentences quoted from *Analects* that included a typo in it. Subjects

were asked to revise each sentence and rewrite the correct sentence entirely. If they could not find the typo in a sentence, they were to simply copy the original sentence. For the control group, subjects completed the same task, except the six sentences were other Chinese quotes *not* from the *Analects*. After everyone finished this test, subject B has to decide whether to make a promise to their partner. In our experiment, we replace the terms *In*, *Out*, *Roll*, *Don't Roll* with neutral terms *Left*, *Right*, *Up*, *Down*. Every subject B would receive a paper slip containing several questions. The first question was to decide if they wanted to send a paper slip with the sentence "I promise I will choose *Up (Roll)* on it or just sent a blank paper slip. Another was to let them choose *Up (Roll)* or *down (Don't Roll)*. After they answered the two questions, the experimenter would ask each subject B to roll a die and write down the number. In the meanwhile, subject A's were told that they had to wait till the subjects B's made their decisions. The experimenter then collected subject B's decisions and sent all the paper slips to the corresponding subject A. After subject A's received the messages, they have to decide whether to choose *Left (In)* or *Right (Out)*. Hence, the subjects did not know the other person's decision until they receive their payments (strategy method). We then measure the subjects' beliefs. In this part of the experiment, subject A's were asked to predict the probability of B's choosing *Up (Roll)* depending on whether they sent a promise or not. On the other hand, subject B's would be asked to predict what was the average prediction of subject A's guess condition on whether they choose *Left (In)* or *Right (Out)*. The subjects were informed if their guesses were within 5% of the true frequency. They would receive NT\$75 for B and NT\$150 for A for each prediction. The reward was different since subject B has four questions to answer but subject A only has two. Finally, subjects filled out a post-experimental survey, which included some background questions and a Confucius questionnaire

containing multiple-choice questions to measure the subjects' Confucius culture background. In the questionnaire, some of the questions ask whether one agrees with certain Confucian values, such as "Do you agree that the Confucian culture helps people deal with interpersonal relationship?" Others are questions regarding one's past experience and exposure to Confucianism such as "Have you ever attended Confucianism reading classes?" This questionnaire helps separate subjects who truly agreed with Confucianism from those who just learned a lot about it. The background survey questions include gender, age, major, and parental education, and so on, which we find no significant difference across the two treatments (Table 1). At the end of the experiment, we conducted the "other" priming task to see if subjects performed similarly as the other priming group. In other words, the control group received the Confucianism-priming task (consists of sentences from the *Analects*), while the treatment group received the neutral-priming task (with other Chinese quotes not from the *Analects*).

	Neutral prime	Confucian prime	Proportion* test p-value
Gender (1=Male, 0=Female)	0.61	0.46	0.074
Age	21.28	21.23	0.730
Graduate Students (1=Yes, 0=No)	0.21	0.25	0.560
Father has a college-equivalent degree	0.61	0.51	0.253
Mother has a college-equivalent degree	0.49	0.38	0.191
Confucian value score (1 to 5 points)	2.81	2.81	0.773
Confucian background score (1 to 5 points)	3.3	3.22	0.209
Confucian priming score (1 to 5 points)	3.57	3.44	0.274
Observations	76	76	

*Rank sum test used for non-proportional data (age, score).

Table 1: Subject Characteristics Stratified by Treatment

4. Result

4.1. Promise-Keeping Behavior

Figure 2 summarizes subject behavior in the bare promise game for both treatments, and compares the results with the results reported in Charness and Dufwenberg (2010). We have a total of 38 pairs of neutrally primed subjects (Control treatment) and 38 pairs of Confucian primed subjects (Confucian treatment). In the control treatment, 33 of 38 (86.84%) subject B's made promises and 17 of them (52.52%) eventually kept their promises by choosing "*Roll*." The remaining 5 B's did not make promises and chose "*Don't Roll*". On the other hand, 14 of 33 (42.42%) subject A's who received promises decided to believe in subject B's promises and chose "*In*." None chose "*In*" if they did not receive a promise. As a comparison, in Charness and Dufwenberg (2010), 41 of 48 (85.42%) subject B's made promises and 23 of them (56.10%) eventually kept them, while 25 of 41 (60.98%) subject A's believed in B's promises. The Fisher's exact test reports no difference between their results and subjects in our control treatment.²

In the Confucian treatment, 28 of 38 (73.68%) B's made promises, of whom 13 (46.43%) eventually kept them. In other words, the promise rate, which shows whether subject B's chose to send their promises, slightly decreased from 86.84% in the Control treatment to 73.68% ($Z=-1.44$, $p=0.1496$, 2-sided proportion test unless specified otherwise). Subject A's belief of subject B's keeping their promises also decreases significantly from 51.07% to 38.53% ($Z=2.213$, $p=0.0269$). As a result, the percentage of subject A's who trusted the promise dropped sharply from 42.42%

²This is despite the fact that we had both promise-making and promise-keeping decisions on the same sheet of paper, while Charness and Dufwenberg (2010) let promise makers (Subject A) decide whether to keep their promise only *after* they made a promise.

to 17.86% ($Z=-2.0647$, $p=0.039$), despite the fact that the percentage of subject B’s keeping their promises by choosing “roll” only decreased slightly from 51.52% to 46.43% ($Z=0.396$, $p=0.6921$).

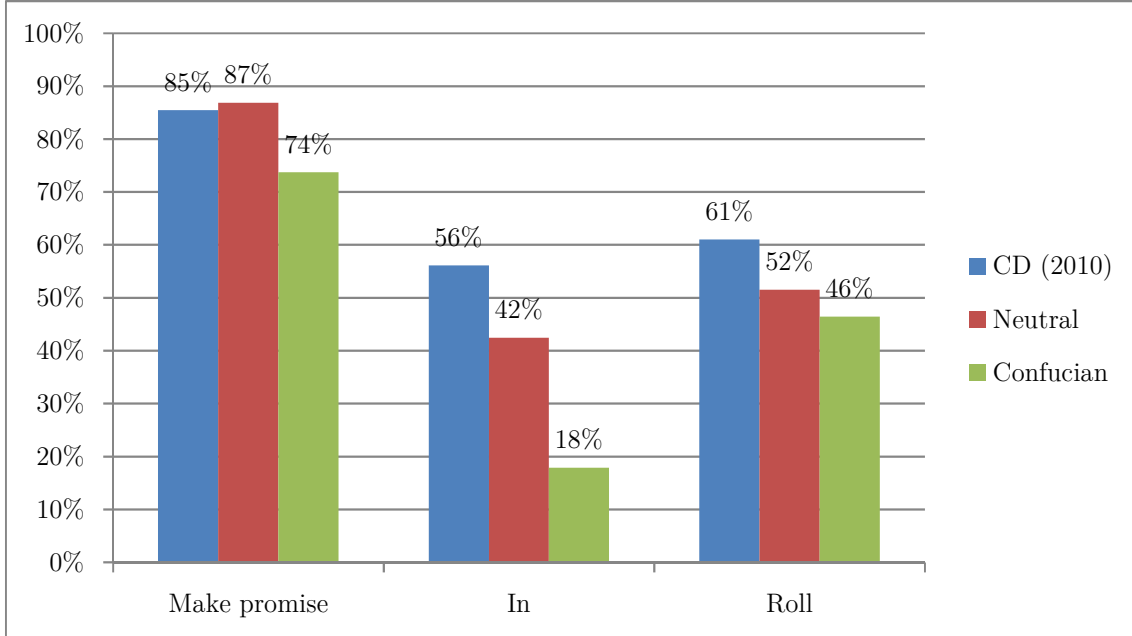


Figure 2: Promise-making, Trusting-Promises (“In”) and Promise-Keeping (“Roll”)

Prediction Question	Confucian (%)		Neutral (%)	
	Actual	Guess	Actual	Guess
Subject A				
Prob. of B’s choosing <i>Roll</i> if <i>Promised</i>	46.43	38.53	51.52	51.07
Prob. of B’s choosing <i>Roll</i> if <i>Not</i>	0	23.96	0	22.55
Subject B				
A’s average answer to Q1 if <i>In</i>	65	67.13	62.68	63.79
A’s average answer to Q1 if <i>Out</i>	33.57	33.11	44.3	37.18
A’s average answer to Q2 if <i>In</i>	37	45.39	32.43	40.24
A’s average answer to Q2 if <i>Out</i>	21.51	31.32	16.79	34.61

Table 2: Subjects’ average belief and actual probability

To summarize, we categorize the promise-makers (subject B) into three types: Promise-keepers (who send promises and keep them), promise-breakers (who send promises but do not keep them), and non-committers (who do not send promises at all). Figure 3 compares the proportion of these three types of people in the

Control and Confucian treatments. We find similar proportions of promise-breakers in the two treatments, while non-committers double in the Confucian treatment. However, since this is a between-subject design, we cannot identify whether these were promise-keepers who decided not to make promises anymore, or promise-breakers who decided to follow Confucian teaching and avoid making promise they cannot keep. Note that the latter explanation would also require some promise-keepers to violate Confucian teaching and break their promises to exactly make up for the reduction of promise-breakers (who became non-committers). This makes the former explanation more plausible than the latter, though further investigation is needed.

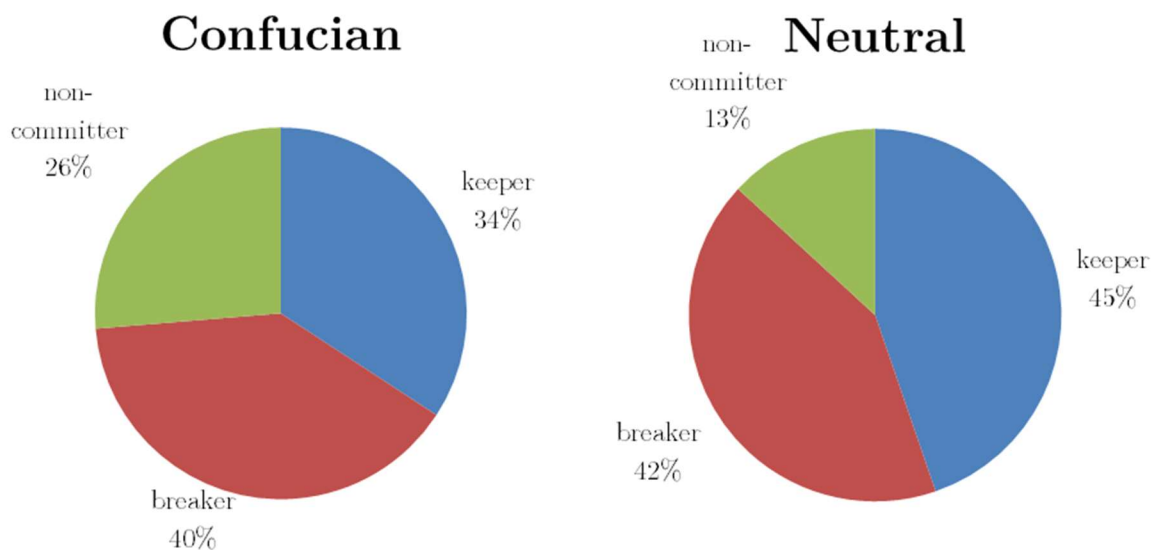


Figure 3: Three types of subjects in the neutral and Confucian treatments.

4.2. Why Keep a Promise?

We are interested in finding the relationship between people’s Confucian cultural background and their behavior. Hence we let the subjects complete a Confucian culture questionnaire so we can grade these questions at a 5 points scale. Furthermore, we calculate each subject’s scores regarding Confucian value and Confucian background. We find that when subjects are primed Confucianism background, the results show that there exists very high correlation between the subjects’ scores and their choices. As shown in the Wilcoxon ranksum test (Table 3), the background scores between those who kept their promises and those who did not yield $Z=-2.283$, $p=0.0224$. This suggests that people with higher scores on Confucian background incline to keep their promises. However, people with higher Confucian value scores are less likely to keep their promises, though this result is only marginally significant ($Z=1.653$, $p=0.0984$).

	Keeper	Breaker	Test of difference
Average Confucian value scores (under Confucian prime)	2.706	2.903	$Z=1.653$, $p=0.0984^*$
Average Confucian value scores (under Neutral prime)	2.781	2,864	$Z=0.508$, $p=0.6114$
Average Confucian background scores(under Confucian prime)	3.510	2.908	$Z=-2.283$, $p=0.0224^{**}$
Average Confucian background scores(under Neutral prime)	3.341	3.018	$Z=-1.081$, $p=0.2795$

Table 3: Confucian culture scores test.

The first four columns of Table 4 reports marginal effects of probit regressions that summarize factors that influenced subjects’ promise-keeping behavior. We normalize Confucian background score (NCBS) and Confucian value score (NCVS)

to have mean zero and standard deviation of one and use them as regressors to obtain the marginal effect of promise-keeping when these two variables change by one standard deviation. As can be seen in Table 4, when NCBS increase one standard deviation, promise-keeping increases 18.8%. However, when NCVS increase one standard deviation, promise-keeping decreases 15.6%. Results are similar even if we separate NCBS into two parts: Normalized Confucian background score from survey (NCBS1) and Normalized Confucian priming task performance (NCBS2), indicating the effect is not driven by subjects who are only good at correctly answering the priming task. Lastly, we break the effect into the Confucian priming and neutral priming treatments. We find the positive effect of NCBS enhancing subjects' promise-keeping solely coming from the Confucian priming treatment. On the other hand, the negative effect of NCVS reducing subjects' promise-keeping lack statistical significance in both treatments. This indicates that Confucian priming induces more promise-keeping for those who have more past exposure to Confucianism.

We also conduct tests to see if there exists "Guilt Aversion," proposed by Charness and Dufwenberg (2006), in our data. We find out that subject B's beliefs of A's beliefs of B's keeping their promises are not significantly different between B's who chose "*In*" and "*Out*" ($Z=-1.382$, $p=0.1669$). This is consistent with the results of Charness and Dufwenberg (2010), who also find little guilt aversion when bare promises (instead of detailed written promises) are involved.

Probit model	(1)	(2)	(3)	(4)	(5)	(6)
(1=Yes, 0=No)	Keep promise			Believe promise		
1{Confucian prime} (1=Yes, 0=No)	-0.0509 (0.128)	-0.116 (0.144)	-0.152 (0.148)		-0.246** (0.112)	-0.217* (0.118)
Gender (1=Male, 0=Female)		0.0112 (0.146)	0.0177 (0.149)			0.0663 (0.133)
Graduate student (1=Yes, 0=No)		0.0765 (0.171)	0.112 (0.173)			-0.0933 (0.131)
Father has a college- equivalent degree		-0.200 (0.142)	-0.257* (0.148)			-0.0230 (0.142)
NCBS (Normalized Confucian background score)		0.188** (0.0740)				-0.0346 (0.0622)
NCBS1 (Normalized Confucian background score from survey)			0.201** (0.0804)			
NCBS2 (Normalized Confucian priming task score)			0.137* (0.0707)			
1{Neutral priming} * NCBS				0.153 (0.0967)		
1{Confucian priming} * NCBS				0.231** (0.117)		
NCVS (Normalized Confucian value score)		-0.156** (0.0726)	-0.202** (0.0813)			0.0158 (0.0620)
1{Neutral priming} * NCVS				-0.121 (0.0960)		
1{Confucian priming} * NCVS				-0.118 (0.108)		
Subject A's expected return (per NT\$100)						0.330*** (0.0886)
<i>N</i>	61	61	61	61	61	61

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Probit Regression for Promise-keeping and Believing (Marginal effects)

4.3. Why Trust a Promise?

The subject A's average belief toward subject B's would keep their promises was 51.07%. We can use this to calculate the subject A's expected return for choosing "In" depending on whether they received promises or not. The average expected return of subject A's for choosing "In" among those who actually chose "In" if promised was 188.04 and those who actually chose "Out" was 117.36. These results suggested that the subjects made (risk-neutral) rational choices based on their beliefs. Moreover, there were a total of 17 subject A's whose expected returns were more than (or equal to) 150 and 11 of them (65%) chose "In". 16 subject A's had expected returns under 150 and 3 of them (19%) made a riskier choice of choosing "In". All these statistics are summarized in Table 5.

	Confucian prime	Neutral prime
A's expect return of choosing "In" under promise (actually choose "In")	207	188.04
A's expect return of choosing "In" under promise (actually choose "Out")	102.9	117.36
The fraction of A's who chose "In" when their expected returns were more than (or equal to) 150	42%(5/12)	65%(11/17)
The fraction of A's who chose "In" when their expected returns were under 150	0%(0/16)	19%(3/16)

Table 5: The comparison between Confucian prime and neutral prime.

Table 5 showed that subject A's in the neutral prime treatment also made (risk-neutral) rational choices by choosing what maximized their expected returns. However, A's made different choices in the Confucian prime treatment. The percentage of A's who chose "In" when their expected returns were more than (or equal to) 150 dropped from 65% to 42%, and the ratio of A's who chose "In" when

their expected returns were under 150 also dropped from 19% to 0%. We also use a probit regression model to explain whether subject A believes in other's promise and report the results in the last two column of Table 4. Results show that when primed one's Confucian background, the likelihood of believing other subject's promise decreases 24.6%. Moreover, this result is robust to adding various control variables, in which their expected return believing the promise is the main driving force for believing in other subjects. In particular, increasing this return by NT\$100 increases the likelihood of believing in other's promise by 33.0%.

5. Discussion

In our results, the most important findings are summarized as follow: When primed their Confucianism background subject B were less likely to send promises and people with higher Confucian background scores incline to keep their promises. Confucius had said "Let his words be sincere and truthful and his actions honorable and careful; such conduct may be practiced among the rude tribes of the South or the North. If his words be not sincere and truthful, and his actions not honorable and careful, will he, with such conduct, be appreciated, even in his neighborhood?"² This statement presents the core spirit of traditional Confucian education toward trust and promise. Maybe it is the reason why people become more trustworthy and give less promises when primed their Confucian background (given that the promise-keeping fraction of subjects B's are almost the same between the Confucian prime and neutral prime treatment). Second, subject A's inclined to not believe in subject B's promises and people with higher Confucian value scores tend to break their promises when primed their Confucianism background (the latter result have

² Legge, James (1893), Confucian Analects (論語), book 15, Wei Ling Kung (魏靈公篇). The original text is "子曰：「言忠信，行篤敬，雖蠻貊之邦行矣；言不忠信，行不篤敬，雖州里行乎哉？」".

weak statistical significance compare to the other result). According to Delhey, Newton and Welzel (2011), the trust radius is significantly narrower in Confucian-influenced countries such as Taiwan, China and Singapore than in other countries. This result suggested in Confucian-influenced countries, people become trustworthy toward others who are familiar with them like parents, brothers, sisters, and friends. People are more likely to keep promises with the above members than strangers and this may be one of the possible explanations to our result. Another explanation is about education in Taiwan. Education in Taiwan is gradually becoming going to cram schools, and Lin and Huang (2007) claimed that going to the cram schools has been a fad in Taiwan. Students have been taught to memorize the “correct” answer without asking good questions since junior high. Therefore, when they are answering the Confucian questionnaires they fill in the “correct” answer quickly without thinking.

They may not really identify themselves with Confucianism. Nevertheless, the higher Confucian value scores also represent the higher chance they pretend to accept Confucian culture. Thus, people with higher Confucian value scores tend to break their promises when primed their Confucian background.

6. Conclusion

“Hold faithfulness and sincerity as first principles,”³ said Confucius more than 2000 years ago, representing one of the central ideas of the Confucian culture. This paper employs a simple experiment previously used to observe people’s promise-trusting and promise-keeping behaviors to see if Confucian culture plays an important role. Our results showed that when primed their Confucian background,

³Legge, James (1893), *Confucian Analects* (論語), book 1, Hsio R (學而篇). The original text is “子曰：「君子不重則不威，學則不固，主忠信，無友不如己者，過則勿憚改」”.

people are less likely to make promises and believe in others' promises. Besides, those who are more exposed to Confucianism tend to keep their promises under such priming. In contrast, people who merely claim to agree with Confucian value are less likely to keep their promises. These results show that more exposure to Confucian culture does has positive effect on increasing promise-keeping behaviors so we are tempted to add more Confucian culture materials to the curricular of compulsory education. However, these results also show that Confucianism can backfire, especially on promise-trusting behaviors, and hence, people can be primed to become scrupulous when facing risky decisions such as deciding whether to believe in the financial advisor and invest a great amount of money on stocks, junk bonds, or other risky financial derivatives. Moreover, adherence to Confucian value could be merely lip service, which is not backed by incentivized promise-keeping actions. As a result, the effect of Confucianism on promise-keeping behavior is subtle and requires more future studies to fully uncover.

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Appendix: Instruction (Chinese version)

TASSEL 實驗說明 p.1

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TASSEL 實驗說明 p.2

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請挑出句子中的錯誤、在下方重新謄寫正確句子。(如果沒錯直接抄寫整句即可。)

題號	文字內容
1	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。 答：
2	我要寫的是那些傳誦不已的親情故事。 答：
3	消息傳來，國人無不額首稱慶，歡欣不止。 答：
4	這樣精闢的議論，真是讓我甘敗下風。 答：
5	他這種論調實在以偏蓋全，我們必須嚴正駁斥。 答：
6	你想一股作氣把全部的事情做完，那是不可能的。 答：

TASSEL 實驗說明 p.3

第二部分

實驗內容

在本實驗的一開始，實驗者將會把所有的受試者兩兩分組，每組當中其中一人為成員甲另一人為成員乙，**請注意所有的分組方式都是隨機抽出，因此您將不知道與您配對的人是誰，反之對方也不知道您是誰。**

在實驗過程中成員甲必須進行的決策為「左」或「右」，成員乙必須進行的決策為「上」或「下」，請注意您的實驗報酬取決於您的決定、對方的決定以及隨機的結果而定，因此請務必審慎的進行選擇，在此部分實驗結束後，所有的成員乙都必須投擲一顆 6 面骰，報酬由甲、乙的選擇、以及六面骰擲出的點數決定如下：

本實驗的報酬決定表

乙決策 甲決策	「上」 點數為 1,2,3,4,5	「上」 點數為 6	「下」 點數為 1,2,3,4,5	「下」 點數為 6
「左」	甲得法幣 360 元 乙得法幣 300 元	甲得法幣 0 元 乙得法幣 300 元	甲得法幣 0 元 乙得法幣 420 元	甲得法幣 0 元 乙得法幣 420 元
「右」	甲得法幣 150 元 乙得法幣 150 元	甲得法幣 150 元 乙得法幣 150 元	甲得法幣 150 元 乙得法幣 150 元	甲得法幣 150 元 乙得法幣 150 元

成員甲在進行決策之前，成員乙會先傳遞一張紙條給成員甲，然後成員甲才做出選擇。這張紙條可從下列兩張選出：一張紙條寫著「**我承諾我會選擇『上』**」的紙條與上面**沒有任何文字的空白紙條**。實驗者會幫您完成紙條傳遞的動作。

請注意:本實驗將只進行一回合

TASSEL 實驗說明

成員甲的決策回條:

您為成員甲 請勾選您的決策

您的編號:

您的學號:

您的決策為 左

右

乙的決策回條:

您為成員乙 請勾選您的決策

您的編號:

您的學號:

您的決策為 上

下

擲出的號碼為: 您的訊息 我承諾我會選「上」

空白紙條

TASSEL 實驗說明 p.4

預測別人的決定

接下來我們將請您預測別人的決定。請按照下面的說明預測，如有不懂的地方請舉手我們會立刻為您解答。

當您的預測與真實發生的頻率誤差範圍在正負五個百分點內時，我們將額外發放給您若干法幣作為獎勵。舉例而言，若您為成員甲，下面實驗者會請您預測：若成員乙傳遞「我承諾我會選『上』」，他最後真的選擇「上」的可能性。假設本場實驗共有五位成員乙，但其中只有兩位傳遞「我承諾我會選『上』」，而這兩位當中只有一位的決定也同樣為「上」。則上述問題的正确答案為 50%，這時若您寫下的答案位於 45%~55%之間，我們就會發給您額外的法幣報酬。當您的預測缺乏真實發生的頻率作為比較基準時，我們將一律視為預測正確並發放給您額外的法幣報酬。舉例而言，在上例中，若實際的結果是所有成員乙都選擇傳遞「空白紙條」，則我們缺乏真實發生的頻率作為比較基準，則不管您的預測為何，我們將一律視為預測正確並發放額外的法幣報酬。

請回答下列問題：

您的編號：_____

如您為成員甲請您預測：（預測正確每題可得法幣 150 元）

1. 若成員乙傳遞「我承諾我會選擇『上』」，他最後選擇「上」的可能性為 _____ %
2. 若成員乙傳遞「空白紙條」，他最後選擇「上」的可能性為 _____ %

如您為成員乙請您預測：（預測正確每題可得法幣 75 元）

1. 所有選擇「左」的成員甲，在上述問題 1 所做預測的平均值為 _____ %
2. 所有選擇「右」的成員甲，在上述問題 1 所做預測的平均值為 _____ %
3. 所有選擇「左」的成員甲，在上述問題 2 所做預測的平均值為 _____ %
4. 所有選擇「右」的成員甲，在上述問題 2 所做預測的平均值為 _____ %

TASSEL 實驗問卷

若無特別註明則為單選，請將答案寫於題號前。

1. 參與者編號：_____

2. 性別： 男 女

3. 年齡：_____

4. 你目前是： A.大學部 B. 碩士班 C. 博士班

5. 系級_____，你認為你最適合和感興趣的科系/領域是_____ (自由作答)

6. 你來自_____市(縣) _____鄉鎮區市

7. 你父母會講哪些語言(多選)：

A. 國語 B. 台語 C. 客家話 D. 原住民族語 E. 日語 F. 英語

請圈選： 父親： A B C D E F 母親： A B C D
E F

8. 父親的教育水準

A. 國中及以下 B. 高中職 C. 專科 D. 大學 E. 研究所以上學歷

9. 母親的教育水準

A. 國中及以下 B. 高中職 C. 專科 D. 大學 E. 研究所以上學歷

10. 你小時候是否被爺爺奶奶(或者外公外婆)撫養過？

A. 沒有 B. 一年到三年 C. 三年到五年 D. 五年以上

11. 父母是否在家庭教育中看重傳統文化(如儒家文化)的教育？

A. 非常不重視 B. 稍微不重視 C. 稍微重視 D. 非常重視

12. 過春節的習俗，你們會進行以下幾種活動：(請勾選所有會進行的活動)

___貼春聯， ___貼年畫， ___吃餃子， ___吃年糕， ___守歲，
___穿新衣， ___拜年走春 ___講吉祥話， ___早餐吃素， ___拜天
公。

13. 你是否同意「男主外，女主內」這樣的觀點？

A. 非常同意 B. 有點同意 C. 有點不同意 D. 非常不同意

14. 你是否會選擇結婚以後和父母同住？

- A. 一定不會 B. 可能不會 C. 都可以 D. 可能會 E. 一定會
15. 你在結婚後是否希望要孩子？
- A. 非常想要 B. 有點想要 C. 都可以 D. 有點不想要 E. 非常不想要
16. 你會希望生個男孩嗎？
- A. 非常希望 B. 有點希望 C. 都可以 D. 有點不希望 E. 非常不希望
17. 你是否同意「光有女兒，沒有兒子是家庭的不幸」？
- A. 非常同意 B. 同意 C. 不大同意 D. 不同意 E. 很不同意
18. 你是否同意「生兒生女都可以防老」？
- A. 非常同意 B. 同意 C. 不大同意 D. 不同意 E. 很不同意
19. 如果你有小孩，你會希望他閱讀或背誦儒家經典（如《論語》、《弟子規》等）嗎？
- A. 非常希望 B. 有點希望 C. 都可以 D. 有點不希望 E. 非常不希望
20. 你是否學過國樂、書法或國畫等傳統技藝？
- A. 是 B. 否 C. 不確定
21. 你曾經自行閱讀過《論語》、《詩經》之類的國學經典嗎？
- A. 很多 B. 有一點 C. 基本上沒有
22. 你是否覺得「儒家文化」對「處理人際關係」起重要作用？
- A. 非常同意 B. 有點同意 C. 有可能 D. 有點不同意 E. 非常不同意
23. 你是否覺得「儒家文化」對「追尋生活意義」起重要作用？
- A. 非常不同意 B. 有點不同意 C. 有可能 D. 有點同意 E. 非常同意
24. 你是否覺得我們應該慶祝耶誕節等外國節日？
- A. 非常同意 B. 有點同意 C. 有可能 D. 有點不同意 E. 非常不同意
25. 你是否曾經參加過『讀經班』（閱讀、背誦儒家經典，如《論語》、《弟子規》等）？
- A. 從未參加 B. 參加過幾次 C. 不滿一年 D. 一年～兩年 E. 上過兩年以上
26. 請問在以下的話中，你曾聽過幾句？_____（請填入數字）

(1) 吾日三省吾身——為人謀而不忠乎？與朋友交而不信乎？傳不習乎？

(2) 誠於中，形於外，故君子必慎其獨。

(3) 己欲立而立人，己欲達而達人。

(4) 愛人者人恒愛之

(5) 窮則獨善其身，達則兼善天下。

(6) 君子和而不同，小人同而不和。

27. 請問你每個星期平均花費多少錢（不含住宿費）？大約新台幣 _____
元。

問卷到此結束，謝謝您的填答。

TASSEL 實驗說明 p.5

第三部分

請填寫你的受試者編號：_____

請挑出句子中的錯誤、在下方重新謄寫正確句子。(如果沒錯直接抄寫整句即可。)

題號	文字內容
甲	子曰：「學而不思則罔，思而不學則迷。」 答：
乙	富貴不能移，貧賤不能淫，威武不能屈。 答：
丙	子曰：「三人行，必有我師焉。擇其善者而從之，其不善者而棄之。」 答：
丁	知之者不如好之者，好之者不如喜之者。 答：
戊	子曰：「歲寒，然後知松竹之後凋也。」 答：
己	憫而好學，不恥下問，是以謂之文也。 答：

Appendix: Instruction

TASSEL Experiment Instruction p.1

Experimental Payoff

Welcome to attend this experiment! You can earn NT dollars which is exchanged by Experimental Standard Currency with different rate in addition to NT\$100 show-up fee after completing of this experiment. The amount you can earn depends on your decisions, others' decisions and is affected by random variables. Everyone who is paid individually might get different payoffs. In addition, you do not owe to tell others how much money you make.

Caution: The exchange rate of Experimental Standard Currency for NT dollars is 1:1 (1 Experimental Standard Currency equals to 1 NT dollar) in this experiment and this experiment has three parts.

Notice: please don't do anything unrelated to this experiment during the experiment including chatting, using mobile phone, reading books. Thank you for your cooperation.

TASSEL Experiment Instruction p.2

Part 1

Please write your **Participation ID**: _____

Find wrong words and re-write the correct sentence below. (If you think there is no error, simply copy the whole sentence.)

Num.	Content
A	子曰：「學而不思則罔，思而不學則迷。」 Ans :
B	富貴不能移，貧賤不能淫，威武不能屈。 Ans :
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。」 Ans :
D	知之者不如好之者，好之者不如喜之者。 Ans :
E	子曰：「歲寒，然後知松竹之後凋也。」 Ans :
F	憫而好學，不恥下問，是以謂之文也。 Ans :

(Please wait for experimenter instructions)

TASSEL Experiment Instructions p.3

Part 2

Experiment Content

In the beginning of this experiment, the experimenter will randomly assign you into different groups. Each group has two participants, one is member A and the other is member B. Please notice that all the groups are randomly assigned, so you have no chance to know the other member's identity and vice versa.

In the experiment, member A has to make a decision which is choosing "*Left*" or "*Right*" and member B has to decide choosing "*Up*" or "*Down*." Please notice that your payoff depends on your decision, the other participant's decision and random process, so you must make your decision carefully. After finishing this part, member B has to roll a six-sided die and your payoff is determined by A's choice, B's choice and the six-sided die's number. The payoffs are shown in the following payoff matrix.

This experiment's payoff matrix

B \ A	"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

Before member A makes his decision, member B has to choose one of the two paper slips to send to member A. One is written "I promise I will choose *Up*" and the other is a blank paper slip. Experimenter would help you pass the paper slip.

Caution: This part of experiment will only play one time.

TASSEL Experiment Instructions p.4

Guess other participants' decision

Now, you have to guess other participants' decision. Please follow the instruction below. If you have any question, please raise your hand. We are happy to explain it more carefully to you.

When the differences between your guess and the true probability are within 5%, we will give you extra Experimental Standard Currency as reward. For example, if you are member A, we will ask you to guess: if member B sends you the paper slip written "I promise I will choose Up ," the probability of he actually choose " Up ." Suppose we totally have five member B in this experiment, and only two of them decide to send the paper slip written "I promise I will choose Up ." And only one of them finally chooses Up . Then, the above question's correct answer is 50%. If your guess are between 45% ~ 55% you will have the extra Experimental Standard Currency as reward. When your guess lacks true probability as benchmark, we will give you the extra Experimental Standard Currency no matter what number you guess. For example, in the above example, if the five member B's all choose to send blank paper slips, then we lack the true probability as benchmark. Therefore, we will give you the extra Experimental Standard Currency

Please write your **Participation ID**: _____

Please guess the following questions:

If you are member A, please guess (each correct guess can receive 150 Experimental Standard Currency)

1. If member B send you the paper slip written "I promise I will choose Up ", the real probability he chooses Up is _____%
2. If member B send you the blank paper slip, the real probability he chooses Up is _____%

If you are member B, please guess (each correct guess can receive 75 Experimental Standard Currency)

1. Average guess in question 1 above by all member A who chose *Left* is _____%
2. Average guess in question 1 above by all member A who chose *Right* is _____%
3. Average guess in question 1 above by all member A who chose *Left* is _____%
4. Average guess in question 1 above by all member A who chose *Right* is _____%

TASSEL Experimental Questionnaire

Choose one answer unless specified otherwise. Write the answer in front of the question number. Please write your **Participation ID**:

11. Gender : Male Female

12. Age : _____

13. Program I am enrolled in: A. undergraduate B. master C. Ph.D.

14. Major/Year _____, Major/field most interested in/suitable _____ (answer freely)

15. I am from _____ (City/County) _____ (District)

16. My parents can speak (circle all that apply):

B. Mandarin B. Taiwanese C. Hakka D. Aborigines E. Japanese F. English

Father: A B C D E F Mother: A B C D E F

17. Father's education level:

B. below high school B. high school C. Associate D. Bachelor E. Graduate

18. Mother's education level:

below high school B. high school C. Associate D. Bachelor E. Graduate

20. Were you ever raised by your grandparents?

A. No B. for 1-3 year C. 3-5 years D. more than five years

10. Did your parents emphasize traditional values (such as Confucianism) at home?

A. certainly not B. maybe not C. maybe yes D. certainly yes

11. My family will do the following at Chinese New Year: (check all that apply)

___貼春聯, ___貼年畫, ___吃餃子, ___吃年糕, ___守歲,
___穿新衣, ___拜年走春 ___講吉祥話, ___早餐吃素, ___拜天公。

12. Do you agree that "men should take care of external affairs, while women manage internal affairs"?

A. strongly agree B. somewhat agree C. somewhat disagree D. strongly disagree

13. Would you choose to live with the husband's parents after getting married?

A. certainly not B. maybe not C. either way D. maybe yes E. certainly yes

14. Do you wish to have children after getting married?

- A. certainly yes B. maybe yes C. either way D. maybe not E. certainly not
15. Do you wish to have a boy?
A. certainly yes B. maybe yes C. either way D. maybe not E. certainly not
16. Do you agree that “It is unfortunate for a family to have only daughters but not a son”?
A. strongly agree B. agree C. somewhat disagree D. disagree E. strongly disagree
17. Do you agree that “Both sons and daughters can prevent tragic aging”?
A. strongly agree B. agree C. somewhat disagree D. disagree E. strongly disagree
18. If you have children, would you want him/her to read or memorize classic reading of Confucianism (such as the *Dialects*, *Di Zi Gui (Standards for Students)* etc.)?
A. certainly B. maybe C. either way D. maybe not E. certainly not
19. Have you ever learned traditional Chinese music, calligraphy, painting, etc.?
A. yes B. no C. not sure
20. Have you read on your own Chinese classics such as the *Dialects* or *Shi Jing (the book of Poetry)*?
A. a lot B. a little C. basically nothing
21. Do you think “Confucianism” is important when “dealing with relationships”?
A. strongly agree B. somewhat agree C. maybe D. somewhat disagree E. strongly disagree
22. Do you think “Confucianism” is important when “seeking the meaning of life”?
A. strongly disagree B. somewhat disagree C. maybe D. somewhat agree E. strongly agree
23. Do you think we should celebrate foreign holidays such as Christmas?
A. strongly agree B. somewhat agree C. maybe D. somewhat disagree E. strongly disagree
24. Have you ever attended “reading classes” (that read or memorize 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
25. How many quotes have you heard of before? _____ (Write 1-6)
- (1) 吾日三省吾身——為人謀而不忠乎？與朋友交而不信乎？傳不習乎？
(2) 誠於中，形於外，故君子必慎其獨。
(3) 己欲立而立人，己欲達而達人。
(4) 愛人者人恒愛之
(5) 窮則獨善其身，達則兼善天下。
(6) 君子和而不同，小人同而不和。
26. How much do you usually spend a week (excluding housing)? About NT\$_____.

TASSEL Experimental Instruction p.5

Part 3

Please write your **Participation ID**: _____

Find wrong words and re-write the correct sentence below. (If you think there is no error, simply copy the whole sentence.)

Num.	Content
1	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 :
2	我要寫的是那些傳誦不已的親情故事。 Ans :
3	消息傳來，國人無不額首稱慶，歡欣不止。 Ans :
4	這樣精闢的議論，真是讓我甘敗下風。 Ans :
5	他這種論調實在以偏蓋全，我們必須嚴正駁斥。 Ans :
6	你想一股作氣把全部的事情做完，那是不可能的。 Ans :