

Lying Behavior When Payoffs are Shared with Charity: Evidence from Singapore

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This paper in a nutshell (1/2)

- Rational Choice Theory: If (Dis)honesty not unobservable/punishable $\Rightarrow$ agents should lie
- Widespread evidence of *lying aversion*
 - Lying costs
 - Reputation costs

This paper in a nutshell (1/2)

- Rational Choice Theory: If (Dis)honesty not unobservable/punishable $\Rightarrow$ agents should lie
- Widespread evidence of *lying aversion*
 - Lying costs
 - Reputation costs
- This paper: Does honesty vary when beneficiary is a greater good?
- We test whether agents are more or less likely to lie when others benefit from the lie

This paper (2/2)

- Set-up
 - Lab experiment: Die-under-the cup
 - Payoffs for self **or** charity **or** split

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- Set-up
 - Lab experiment: Die-under-the cup
 - Payoffs for self **or** charity **or** split
- Contribution: Brings together two strands of the literature
 - Preferences for truth-telling
 - Other-regarding preferences
 - When a charity involved
 - When payoffs are split

Preview of findings

- Prediction:
 - Lying $\uparrow$ when payoffs go in full to charity
 - Lying $\uparrow$ when payoffs are split
- Findings

Preview of findings

- Prediction:
 - Lying $\uparrow$ when payoffs go in full to charity
 - Lying $\uparrow$ when payoffs are split
- Findings
 - Lying $\downarrow$ when payoffs go in full to charity
 - Lying $\approx$ when payoffs are split

Experiment overview (1/3)

- 4 sites on campus (National University of Singapore), March 2019
- Announcements: posters and internal mass emails around 2/3 days before posters
- Show-up fee: \$5 ($\sim$ 4USD, i.e., one meal outside)
- Same 4 RAs ran all 4 sites to prevent participants from repeating
- $\Rightarrow$ 524 students, from most fields

Experiment overview (2/3)

- Upon arrival: Group randomly assigned

Group	% participant	% charity	N
Self-only	100	0	108
90-self	90	10	101
50-self	50	50	110
10-self	10	90	103
Charity-only	0	100	102

- Instructions given
- Questions asked & answered privately
- For all split and charity groups: charity chosen among these 5

Experiment overview (3/3)

- Participants enter room
 - Fair die in a pouch
 - Pencil and paper in a lock box (1 minute)
 - $\Rightarrow$ outcome reported in written form

pouch and lockbox

Experiment overview (3/3)

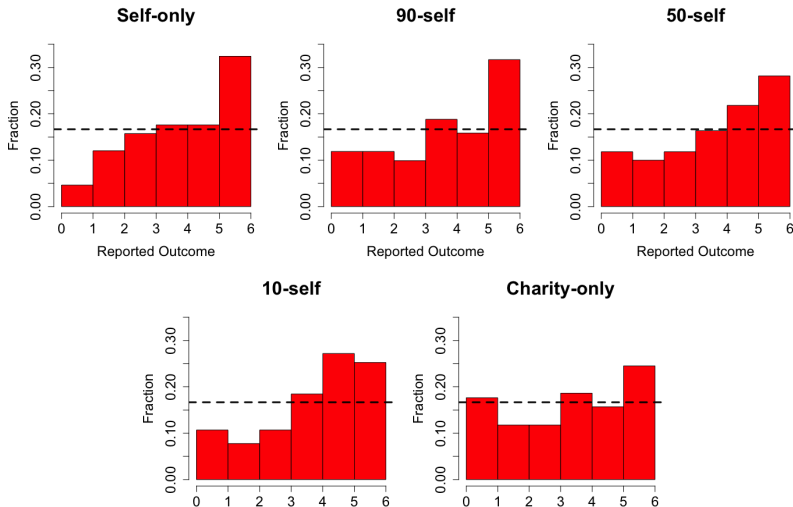
- Participants enter room
 - Fair die in a pouch
 - Pencil and paper in a lock box (1 minute) pouch and lockbox
 - $\Rightarrow$ outcome reported in written form
- Short questionnaire (gender, major, age, religion, “what were you thinking for the one minute wait?”)
- Payment made & donation oversight
- Total time: $\sim$ 15 minutes

Balance table

Group	% male	% spiritual	% economics	Median age	<i>N</i>
Self-only	36.1	41.7	16.7	22	108
90-self	41.6	45.5	14.9	22	101
50-self	37.3	44.6	10.9	21	110
10-self	34.9	41.8	16.5	21	103
Charity-only	39.2	47.1	14.7	21	102

Results

Results



Results for self-only group

Group	Share of participants (%)						<i>N</i>
	1	2	3	4	5	6	
This study (self-only group)	4.6	12.0	15.7	17.6	17.6	32.4	108
Singapore (Shen et al., 2016)	9.8	8.3	11.2	14.1	27.8	28.8	205
Meta study (Abeler et al., 2019)	7.6	8.4	10.9	15.6	25.0	32.5	30,185

Group	Share of participants (%)						N
	1	2	3	4	5	6	
Self-only	4.63***	12.04	15.74	17.59	17.59	32.41+++	108
90-self	11.88	11.88	9.90**	18.81	15.84	31.68+++	101
50-self	11.82	10.00**	11.82	16.36	21.82 ⁺	28.18+++	110
10-self	10.68*	7.77*	10.68*	18.45	27.18+++	25.24 ⁺⁺	103
Charity-only	17.65	11.76	11.76	18.63	15.69	24.51 ⁺⁺	102

***(+++) $p < 0.01$, **(+++) $p < 0.05$, *(+) $p < 0.1$.

*: Stars: significance for one-sided binomial tests that observed share is smaller than expected share of 16.67%

⁺: Plus signs: significance for one-sided binomial tests that observed share is larger than expected share of 16.67%

Kolmogorov-Smirnov and Wilcoxon rank-sum tests

Estimated lying

$$\text{Estimated lying} = 1 - \left| \frac{\text{reported \# of } \{1,2,3,4\}}{\text{expected \# of } \{1,2,3,4\}} \right| \quad (\text{Abeler et al., 2019})$$

- If 2/3 of respondents report $\{1,2,3,4\}$, Estimated lying = 0
- If no respondents report $\{1,2,3,4\}$, Estimated lying = 1
- If 1/3 of respondents report $\{1,2,3,4\}$, Estimated lying = 0.5

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Group	Estimated lying (%)
Self-only	25.00
90-self	21.28
50-self	25.00
10-self	28.63
Charity-only	10.30

What fraction of the people are lying? Estimated lying (5 or 6)

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Group	Estimated lying (%)	
	{5,6}	{6}
Self-only	25.00	18.89
90-self	21.28	18.02
50-self	25.00	13.81
10-self	28.63	10.29
Charity-only	10.30	9.41

Comments

- Prediction 1 (Lying $\uparrow$ when only charity): $\times$

Comments

- Prediction 1 (Lying $\uparrow$ when only charity): ✗
- Prediction 2 (Lying $\uparrow$ when splitting with charity): dubious at best
- What have similar studies found?

Comparison: Lying for others only

Difference: % Lying for others-only – % Lying for self-only

	Difference	Who is other
Prediction	$\oplus$	
This study	[-9.48, -14.70]	Charity

Comparison: Lying for others only

Difference: % Lying for others-only – % Lying for self-only

	Difference	Who is other
Prediction	$\oplus$	
This study	[-9.48, -14.70]	Charity
*Lupoli et al. (2017)	0	Charity
Maggian (2019)	0	Charity
*Wiltermuth (2011)	[-5.7, -12.7]	Other participant
*Gino et al. (2013)	-1.2	Other participant
Klein et al. (2017)	-10	Other participant

- True concern for others (lying does exist)
- *: Based on a task (others: based on luck)

Comparison: Split payoffs

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Difference: % Lying for both – % Lying for self-only

	Difference	Who is other	Split (% other)
Prediction	$\oplus$		
This study	[-8.6, 3.6]	Charity	[10 - 90]

Comparison: Split payoffs

Difference: % Lying for both – % Lying for self-only

	Difference	Who is other	Split (% other)
Prediction	$\oplus$		
This study	[-8.6, 3.6]	Charity	[10 - 90]
Klein et al. (2017)	[-10, 10]	Other participant	[33.3 - 88.8]
*Wiltermuth (2011)	[10, 15.3]	Other participant	50
*Gino et al. (2013)	[14.5, 33]	Other participant	50

* Task based

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*Wiltermuth (2011)	[10, 15.3]	Other participant	50
*Gino et al. (2013)	[14.5, 33]	Other participant	50

* Task based

- When $\exists$ range of splits: “Dishonesty increased with increasing self-profit” (Klein et al., 2017) [details](#)
- Framing may matter (Schindler & Pfattheicher, 2017)
 - This study & Klein et al., (2017): “Split earnings with”
 - Wiltermuth (2011) & Gino et al. (2013): “Added earnings for”

Takeaways

- Examine lying behavior when spoils are donated to or shared with charity
- What have we learnt:

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 - People cheat the most when they keep it all

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- Examine lying behavior when spoils are donated to or shared with charity
- What have we learnt:
 - People cheat for a good cause, even if no material benefit for them, but less than to favor self
 - Even more people cheat when they earn material benefits, shared or not
 - People cheat the most when they keep it all
 - Some people *never* lie, regardless

BONUS: who lies more often?

- Thank you!

Ad on campus



One-Shot Games of Luck: A Study

Get **\$5 for 15 minutes**
of easy game play!

Eligibility: 18+ for NUS students, 21+ otherwise

Location: [placeholder], NUS Campus

You will: Play a short game
Fill out a questionnaire

Schedule and sign-ups at:

tinyurl.com/gamesofluck

Reimbursement of \$5 is for your time and effort.
Contact Guillem Rimbau (Research Coordinator) with any questions at
guillem.rimbau@nus.edu.sg
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Charities available

- <https://www.makeawish.org.sg/> (Terminally ill children)
- <https://www.yellowribbon.org.sg/> (Ex-offenders)
- <https://www.aidha.org/> (Low-income women and foreign domestic workers)
- <https://www.oscas.sg/> (Second Chance Animal Shelter)
- <https://www.redcross.sg> (Vulnerable populations and populations in crisis)

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Results



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Estimated lying

Payoffs	This study		Klein et al. (2017)	
	Estimated lying (%)		Payoffs	Est. lying (%)
	Other: charity {5,6}		Other: anonymous participant	
		{6}		
Self-only	25.00	18.89	€5 - €0	25
			€4 - €2	35
90-self	21.28	18.02	€3 - €4	26
50-self	25.00	13.81	€2 - €6	26
10-self	28.63	10.29	€1 - €8	15
Other-only	10.30	9.41	€0 - €10	15

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Who lies more?

Who lies more?

Variable	Reported outcome r
Female	-0.04 (0.166)
Age (base: 18-20 y.o.)	
21-23 y.o.	0.20 (0.184)
24-26 y.o.	-0.20 (0.288)
27-30 y.o.	0.31 (0.431)
Economics	-0.01 (0.003)
Spiritual	-0.01 (0.002)
N	524
R^2	0.01

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

[admitted lying](#)

[more results](#)

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Who lies about lying?

“Were you honest in your report?” [Yes OR No]

- YES: 90.4%
- NO: 4.3%
- No Answer: 5.2%
- (No participant who admitted to lying had reported a 1, 2, or 3)

Who lies about lying?

Group	Share of participants (%)		
	Estimated lying	Admitted lying	Admitted/Estimated (%)
Self-only	25.00	0.93	3.72
90-self	21.28	4.95	23.26
50-self	25.00	5.45	21.80
10-self	28.63	7.77	27.14
Charity-only	10.30	2.94	28.55

$$\text{Estimated lying} = 1 - \left| \frac{\text{reported \# of } \{1,2,3,4\}}{\text{expected \# of } \{1,2,3,4\}} \right|.$$

Who lies about lying?

Group	Share of participants (%)		
	Estimated lying	Admitted lying	Admitted/Estimated (%)
Self-only	18.89	0.93	4.92
90-self	18.02	4.95	27.47
50-self	13.81	5.45	39.46
10-self	10.29	7.77	75.51
Charity-only	9.41	2.94	31.24

$$\text{Estimated lying} = 1 - \left| \frac{\text{reported \# of } \{1,2,3,4,5\}}{\text{expected \# of } \{1,2,3,4,5\}} \right|$$

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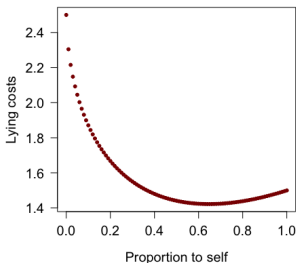
Simulations (Abeler et al. (2019) model)

$$U_i(r) = (\alpha r)^{\beta_s} + ((1 - \alpha)r)^{\beta_c} - \theta_i(\alpha - \Psi\alpha^\gamma) - RC$$

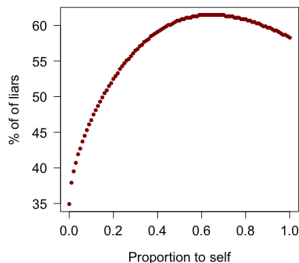
$$U_i(\omega) = (\alpha\omega)^{\beta_s} + ((1 - \alpha)\omega)^{\beta_c}$$

$$\beta_s = \beta_c = 1 \quad \theta \sim U[0, 5] \quad \gamma = 2/3 \quad \Psi = 7/5 \quad RC = 2$$

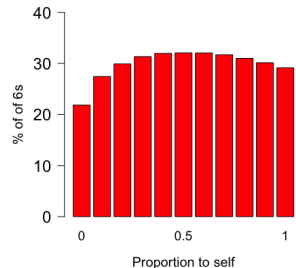
Lying costs for the average agent



Percentage of liars for w=2



Percentage of reported 6s



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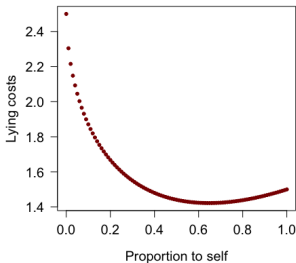
Simulations (Abeler et al. (2019) model)

$$U_i(r) = \alpha r + (1 - \alpha)r - \theta_i(\alpha - \Psi\alpha^\gamma) - RC$$

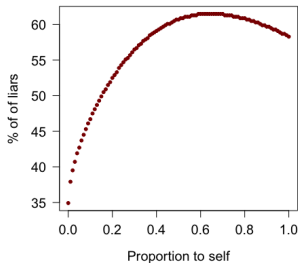
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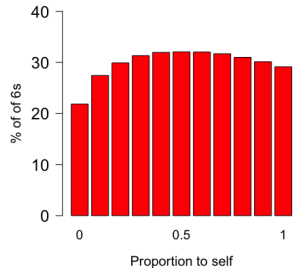
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Percentage of liars for w=2



Percentage of reported 6s



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Teasing out mechanism

- (\$ self,\$ charity)
- Suppose more lying when (\$9,\$1) than when (\$10,\$0)
- Pattern can be explained by
 - $v'(\$1) > u'(\$10)$
 - $LC(\$9,\$1) < LC(\$10,\$0)$

Teasing out mechanism

- (\$ self, \$ charity)
- Suppose more lying when (\$9, \$1) than when (\$10, \$0)
- Pattern can be explained by
 - $v'(\$1) > u'(\$10)$
 - $LC(\$9, \$1) < LC(\$10, \$0)$
- Play the following game (double blind)
 - (a) Choose between 3 allocations: (\$10, \$0), (\$9, \$1), (\$0, \$10)
 - (b) Roll a die to get one of the 3: (\$10, \$0), (\$9, \$1), (\$0, \$10)
- If tendency is [(a), (b)]: [(\$10, \$0), (\$9, \$1)] $\Rightarrow$ Lying costs are driving the results

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Who lies more?

Variable	Reported outcome r
Female	0.028 (0.165)
Age (base: 18-20 y.o.)	
21-23 y.o.	0.17 (0.181)
24-26 y.o.	-0.17 (0.284)
27-30 y.o.	0.29 (0.423)
Economics	-0.00 (0.003)
Engineering	0.70*** (0.196)
Spiritual	-0.00 (0.001)
N	524
R^2	0.03

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Prediction 2: Lying $\uparrow$ when payoffs are for charity-only

- $$\underbrace{u(r) - u(\omega)}_{\text{Utility for self}} > \underbrace{v(r) - v(\omega)}_{\text{Utility giving to charity}} \quad \forall (r > \omega)$$

Wiltermuth, 2011; Lucassen & Grossman, 2013; Eckel & Grossman, 1996, 2006, 2015; (Hoffman et al., 1994; Hoffman et al., 1996; Franzen and Pointner, 2012)

- Then $\exists$ sufficiently small ε^* s.th.

$$\begin{aligned} \text{if } u(r) - LC - RC &> u(\omega) \\ \Rightarrow v(r) - LC - \varepsilon^* RC &> v(\omega), \quad 0 < \varepsilon^* < 1 \end{aligned}$$

If $RC_{\text{charity}} = \varepsilon RC \quad \varepsilon < \varepsilon^*$

$\Rightarrow$ Donating fully to charity weakly increases lying incentives

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Nonparametric tests of observed outcome distributions against uniform. p -values reported

Group	Kolmogorov-Smirnov test (one sample, two-sided)		Wilcoxon rank-sum test (two-sided)	
	Accurate	Conservative	Accurate	Conservative
Self-only	0.001***	0.003**	0.001***	0.001***
90-self	0.004**	0.009**	0.012*	0.013*
50-self	0.001***	0.004**	0.008**	0.009**
10-self	0.000***	0.000***	0.003**	0.004**
Charity-only	0.182	0.405	0.270	0.270

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Public Goods game

- 4 players
- $u_i = x_i - c_i + 0.5 \times \sum_j c_j$

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- What if one player is allowed to “randomize” her choice?
- What if one player is allowed to “randomize” her choice after others have donated?