Honest Lies

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"AS WE ALL KNOW, THE APPEARANCE OF HONESTY IS THE BEST POLICY...."

Pay for an Honest Appearance: Alibi service

- Chicago-based company: Alibinetwork.com
  - "To invent, create and provide personalized virtual alibis for people wishing to anticipate and justify absences"
  - For $1500, the company arranges a great escape: sending you a fake conference agenda, a virtual hotel number complete with a phony 24-hour receptionist, and even bogus airline tickets, hotel and car rental receipts. Once it's over, you can even receive digital photos of you with conference participants.
  - $75 for a rescue call to get out of unwanted situations

Purpose

- To understand why people are partially dishonest when cheating maximally is more profitable

Motivation

- Deception is a part of everyday economic exchanges
  - Gneezy (2005); Lundquist et al. (2009)
- Evidence on partial cheating behavior even when complete cheating is more profitable
  - Lying aversion (Ellingsen and Johannesson 2004)
  - Self-concept maintenance (Mazar et al. 2008)
  - Aversion to greed (Fischbacher and Heusi (2008)

Motivation

- Two categories of explanations
  - Image-motivated and intrinsic preferences for honesty
  - There is a return to appearing honest, but not to being honest. - Akerlof (1983, p. 57)
- However, no previous study has clearly distinguished between the preferences for appearing honest and for being honest.

Motivation

- Knowing the relative strength of the two preferences can inform us on designing institutions to promote honest behavior.

Goal

- To design a two-stage experiment that can disentangle the preference for appearing honest from the preference for being honest.

Experiment Design

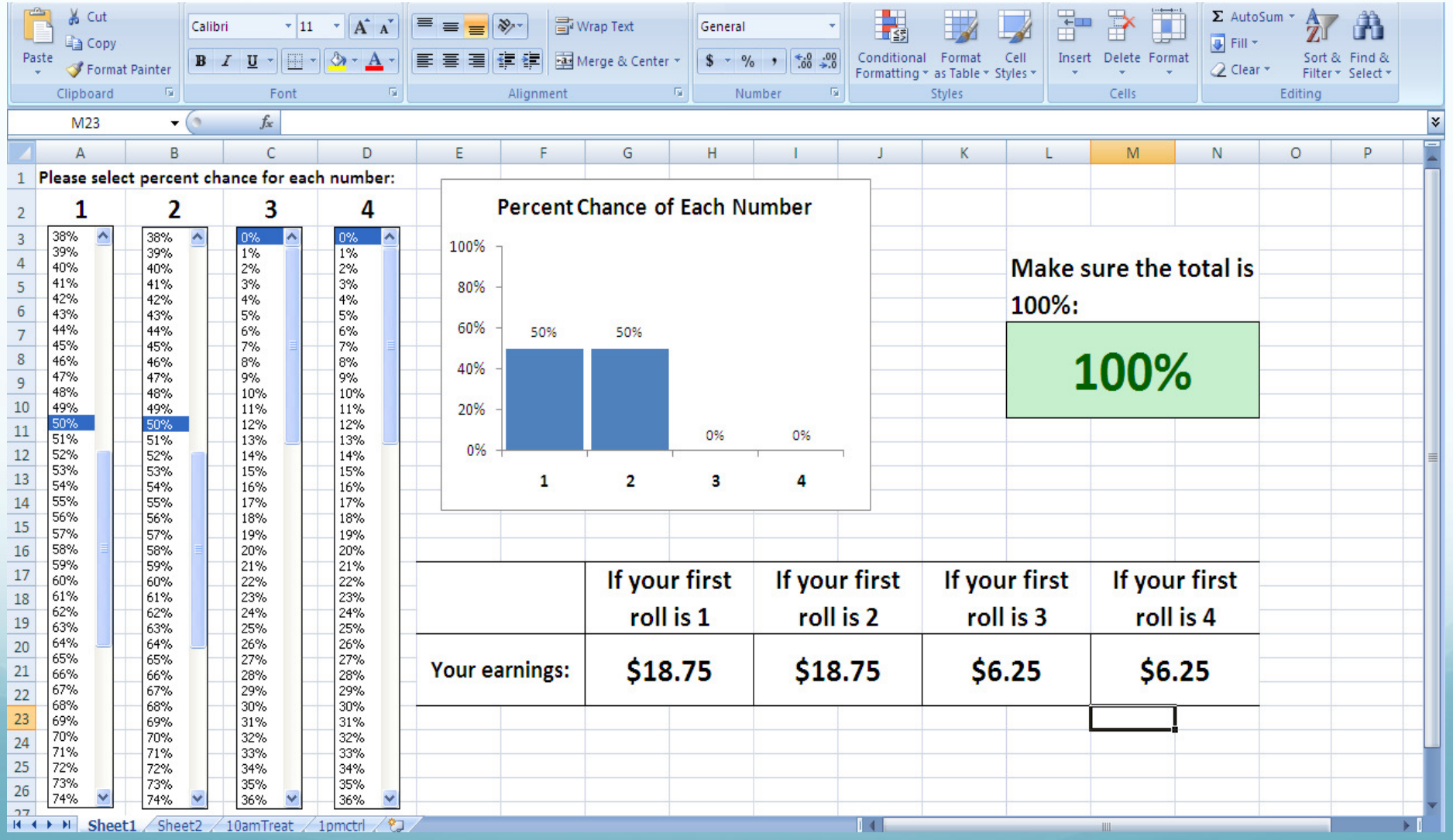
- Prediction Stage
  - Predict likelihoods of outcomes of a die roll
  - Submit predictions to experimenter
- Die Roll Stage
  - Control treatment: outcome verified by experimenter
  - Opportunity treatment: outcome not verified

Design: Key Features

- Between-subject design
- Fair dice, but “play hunches”
- Subjects were instructed clearly and repeatedly about whether their die roll would be private or public
- Help subjects understand quadratic scoring rule
  - Examples
  - Quizzes
  - Interactive Excel tool

Excel Interactive Tool for QSR

(thanks to Zack Grossman)



Procedure: Opportunity Treatment

- Before experiment starts:
  - Subjects are given clear and explicit instructions on what will happen in both stages, especially that in the second stage he will roll the die as many times as he wish on his own, he will need to remember the first roll only, and report it to the experimenter.
- First stage:
  - Subject predicts probabilities of outcomes of a fair four-sided die, and submits predictions on paper to the experimenter
- Second stage:
  - Subject given a die, experimenter leaves the room
  - After satisfied with the rolling, subject writes down the first roll, and submits it on paper

Experiment: Payoff function

- Quadratic Scoring Rule:

$$Earnings = \$25 - \$12.5 \sum_{i=1}^{4} (\chi_i - p_i)^2$$

100%	0%	0%	0%
$25	$0	$0	$0

Experiment: Payoff function

- Quadratic Scoring Rule:

$$Earnings = \$25 - \$12.5 \sum_{i=1}^{4} (\chi_i - p_i)^2$$

25%	25%	25%	25%
$15.63	$15.63	$15.63	$15.63

Experiment: Payoff function

- Quadratic Scoring Rule:

$$Earnings = \$25 - \$12.5 \sum_{i=1}^{4} (\chi_i - p_i)^2$$

40%	20%	20%	20%
$19	$14	$14	$14

Stage I: Preference for Appearing Honest

- Between-treatment comparison: predictions
  - In Control, majority no greater than 50% (69 of 70)
  - Hence 50% sets upper bound for “honest-looking”
  - “Honest-looking” <= 50% < “Dishonest looking”

Stage II: Preference for Being Honest

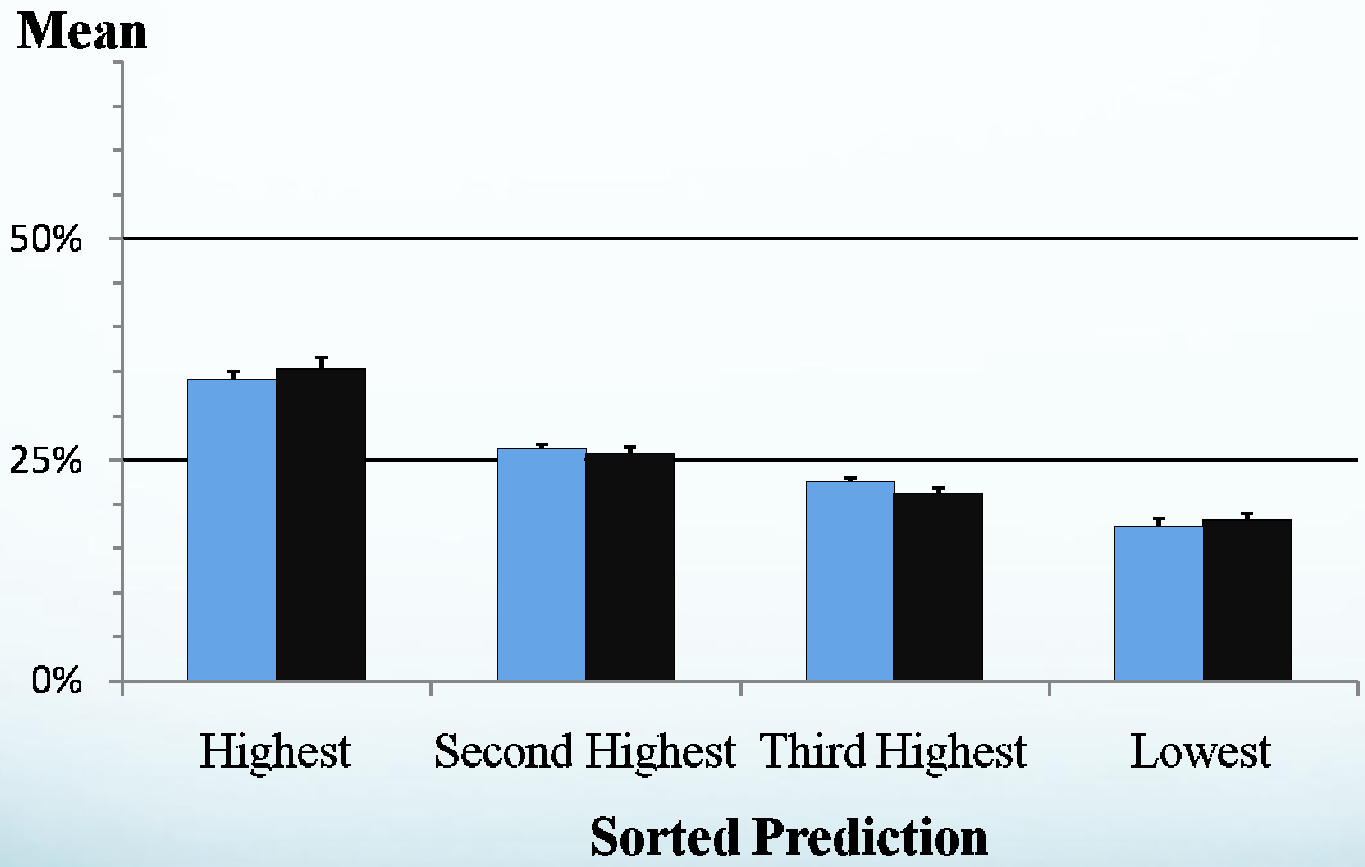
- "Truth-telling"
  - Subject reports each outcome with prob=25%.
- "Maximum Cheating"
  - Subject reports the highest-payoff outcome.
- "One-step Cheating"
  - Subject reports an outcome to achieve the next available payoff level.

Results

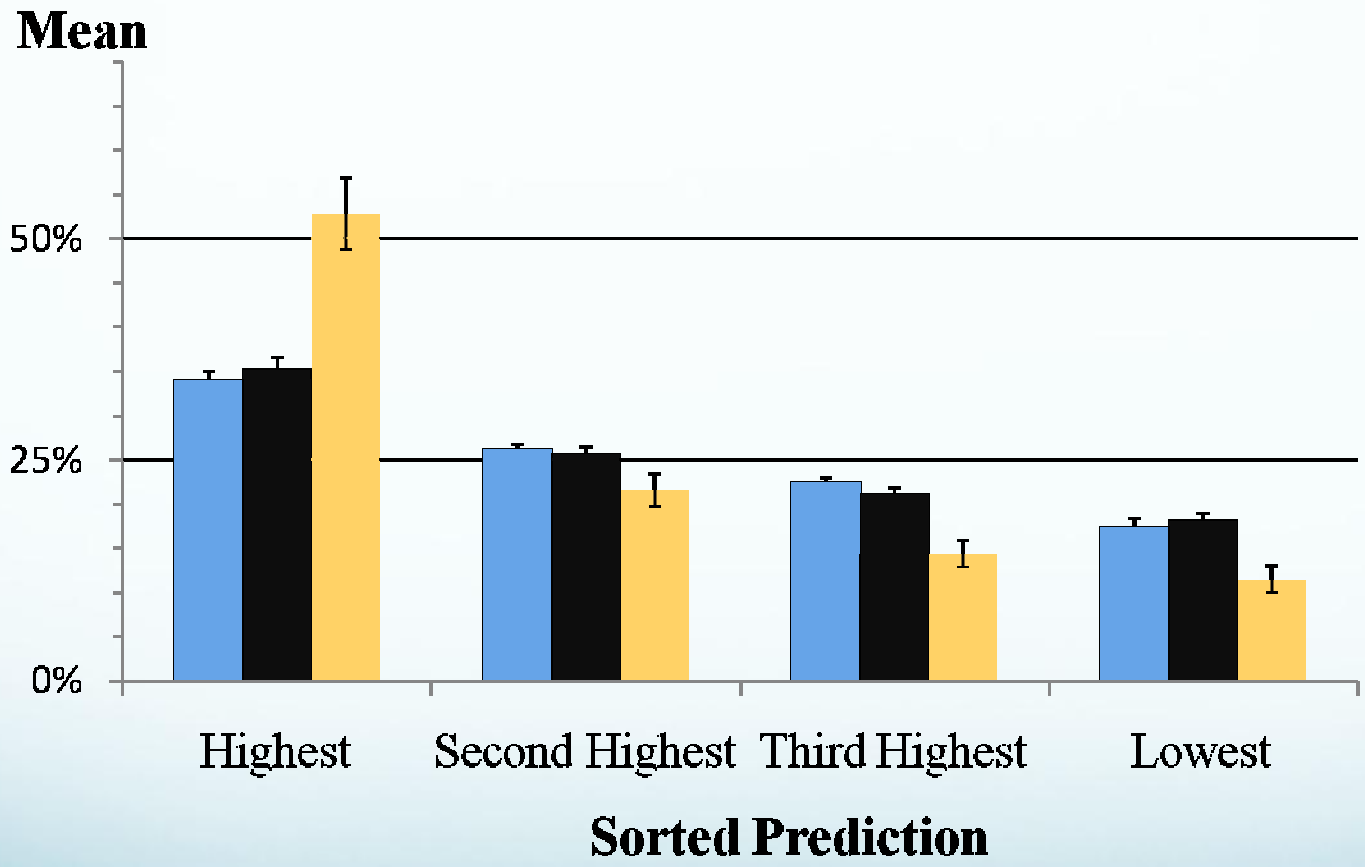
Result 1: Preference for Appearing Honest

- In Opportunity, 95% of predictions are "honest-looking."
- Distributions of predictions are statistically identical between treatments.
  - Fraction of objective predictions : 33% and 32%
  - Excluding objective predictions, distributions still identical

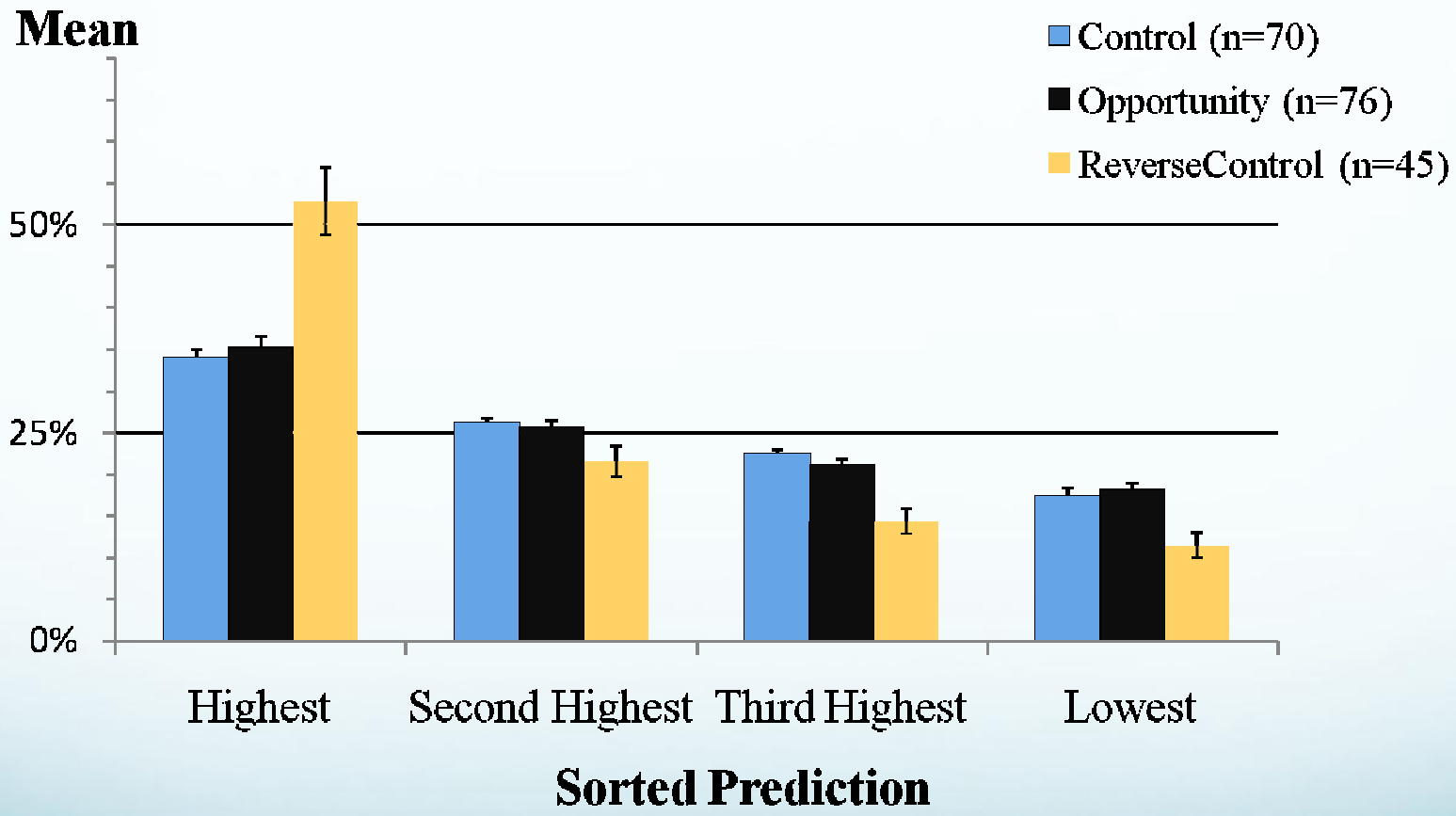
Subjects' Predictions



Subjects' Predictions



Subjects' Predictions



Result 2: Preference for not being Honest

- Cheating occurs in self-reported outcomes.

Treatment	Control	Opportunity	Reverse Control
Objective frequency of highest-payoff outcomes	32%	30%	30%
Empirical frequency of highest-payoff outcomes	36%	**71%**	91%
Equality Test	$p = 0.538$	$p < 0.001$	$p < 0.001$

Result 3: Preference for being Honest

- Significant truth-telling in self-reported outcomes.
  - 24 (32%) objective predictions
  - 7 of 52 people (13%) reported lowest-payoff outcomes

Truth-tellers, Liars, and Shaders

- Which subset of types exists in our population?
- I use a variant of El-Gamal and Grether's (1995) algorithm
  - To determine which subset of pre-specified types exists in the population.
  - Special feature: magnitude of error component can be interpreted as the proportion of truth-telling type.

El-Gamal and Grether's (1995) Algorithm

- "Maximum Cheating" and "Truth-telling"

$$\prod_{i=1}^{n} L_i(D_i) = \prod_{i=1}^{n} ((1-\varepsilon)+\frac{\varepsilon}{4})^{D_i} (\frac{3\varepsilon}{4})^{1-D_i}$$

- "One-step Cheating" and "Truth-telling"

$$\prod_{i=1}^{n} L_i(t_i^{(j)}, D_i^{(j)}) = \begin{cases} \prod_{i=1}^{n} (\frac{1-\varepsilon}{4} \frac{t_i^{(S_i)} + t_i^{(S_i-1)}}{t_i^{(S_i)}} + \frac{\varepsilon}{4}), & if \ D_i^{(S_i)} = 1 \\ \prod_{i=1}^{n} (\frac{1-\varepsilon}{4} \frac{t_i^{(j-1)}}{t_i^{(j)}} + \frac{\varepsilon}{4}), & if \ D_i^{(j)} = 1 \ and \ 2 \le j \le S_i \\ \prod_{i=1}^{n} \frac{\varepsilon}{4}, & if \ D_i^{(1)} = 1 \end{cases}$$

- "Maximum Cheating", "One-step Cheating" & "Truth-telling"

El-Gamal and Grether's (1995) Algorithm

$$\log\left(\prod_{i=1}^{n} \max L_i\left(t_i^{(j)}, D_i^{(j)}\right)\right) - k * \log(2) - k * \log(3) - n * \log(k)$$

Result 4: Model Selection

- The mixture of "lying" and "truth-telling" best characterizes second-stage behavior, with 44% of subjects estimated to be truth-tellers.

N=52	**Shading+Truth**	**Lying+Truth**	**Shading+Lying+Truth**
# of models	2	2	3
posterior mode	-128.98	***-126.96***	-143.18
Frequency of Truth-Tellers	34%	***44%***	28%

Willingness-to-Pay for Honest Appearance

- Subjects who reported highest-payoff outcomes in the second stage gave up about a quarter of maximum profit in the first stage to preserve an honest appearance.

Summary

- Clean evidence that a preference for an honest appearance exists in the vast majority (95%) of subjects, while only 44% exhibit an intrinsic preference for honesty.
- "Liars" (56% of our subjects) left roughly a quarter of max profit (about $6) on the table.

Contributions

- Methodologically, this two-stage experiment is the first to allow subjects separately express preferences for appearing and for being honest.
- Substantively, my results suggest that "incomplete cheating" behavior can be explained as primarily due to a preference to preserve an honest appearance.

Implications

- The "verification problem" (Manski, 2004) in belief elicitation may not be as severe as people had thought.
- Despite the self-reported outcomes are not truthful, elicited beliefs can be accurate for out-of-sample predictions.
  - Preference for appearing honest might lead one to report beliefs sensibly, regardless whether s/he cheats in self-reported outcomes.

Applications and Future Research

- Take advantage of preference for appearing honest to design institutions to promote honesty.
  - Corporate ethics
  - Managerial reports

Thank You

Earnings: Scatter Plot