The Effect of Chosen or Given Luck on Honesty

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Background / Motivation

- Literature on lying behavior (for a review, see, e.g., Abeler et al., 2019; Gerlach et al., 2019)
- People have a preference for honesty (Abeler et al., 2019)
- To preserve one's self-image, people often lie in a way to appear honest (e.g., Gneezy et al., 2018)
- Lying is often associated with (the existence of) a justification, which naturally makes lying **sensitive to context change** (Shalvi et al., 2015; Markowitz and Levine, 2020)

Many studies take a stance investigating under which context/treatment people lie more/less.

Background / Motivation

We investigate how being lucky (or unlucky) in one orthogonal dimension affects lying in another dimension.

- Luck is prominent in life: Everyone experiences good or bad income-related luck in their lives.
- If context(*) matters, especially when context could affect the decision-maker's **moral capacity** or self-image concern, a lying opportunity *after being lucky* would be appreciated differently from the same opportunity *after being unlucky*.

* By contexts, we mean that the marginally different conditions or outcomes faced by an individual, with holding the social contexts and broadly-defined circumstances constant.

A Cute Model

(Not a theory; just to organize our thoughts.)

- Recall Econ101 consumer choice problem: $x(p, m) = \arg\max U(x)$ s.t. $p \cdot x \leq m$. The more x, the better, but the monetary constraint binds.
- A decision maker, facing a realized value of interest, r_t, decides what to report, $r \in R$. $U(r)$ monotone increases in r.
- The moral capacity as a constraint: $r - r_t \leq v(L, E, \rho_i)$, where L and E are the histories of luck-based and effort-based outcomes, and ρ_i captures individual heterogeneity.
- $r^*(r_t, L, E, \rho_i) = \arg\max_{r \in R} U(r)$ s.t. $r - r_t \leq v(L, E, \rho_i)$.
- We do not know the shape of $v(L, E, \rho_i)$. We conduct experiments with varying L and E.

A Cute Model: Summary

- Just like a consumer chooses consumption bundles to maximize her payoffs up to the point where the monetary capacity binds,
- a decision maker (DM) would choose what to report (=whether and to what extent to lie) to maximize her payoffs up to the point where the moral capacity binds.
- We do not know how the "moral capacity" function responds to the exogenous variations of her (perceptions of) luck and effort.

Research Question

How does luck affect the willingness to lie?

- When an income-related bad luck hits, do people lie more to counterbalance? (Income effect)
- When the luck outcomes are perceived as the results of their own actions, do people lie more? That is, do they lie more because they deserve to be treated better than the luck-driven outcomes? (Entitlement effect)
- When consecutively receiving bad luck outcomes, although that does not affect the current income, do people lie more? (Accumulation effect)

Experimental Design - General

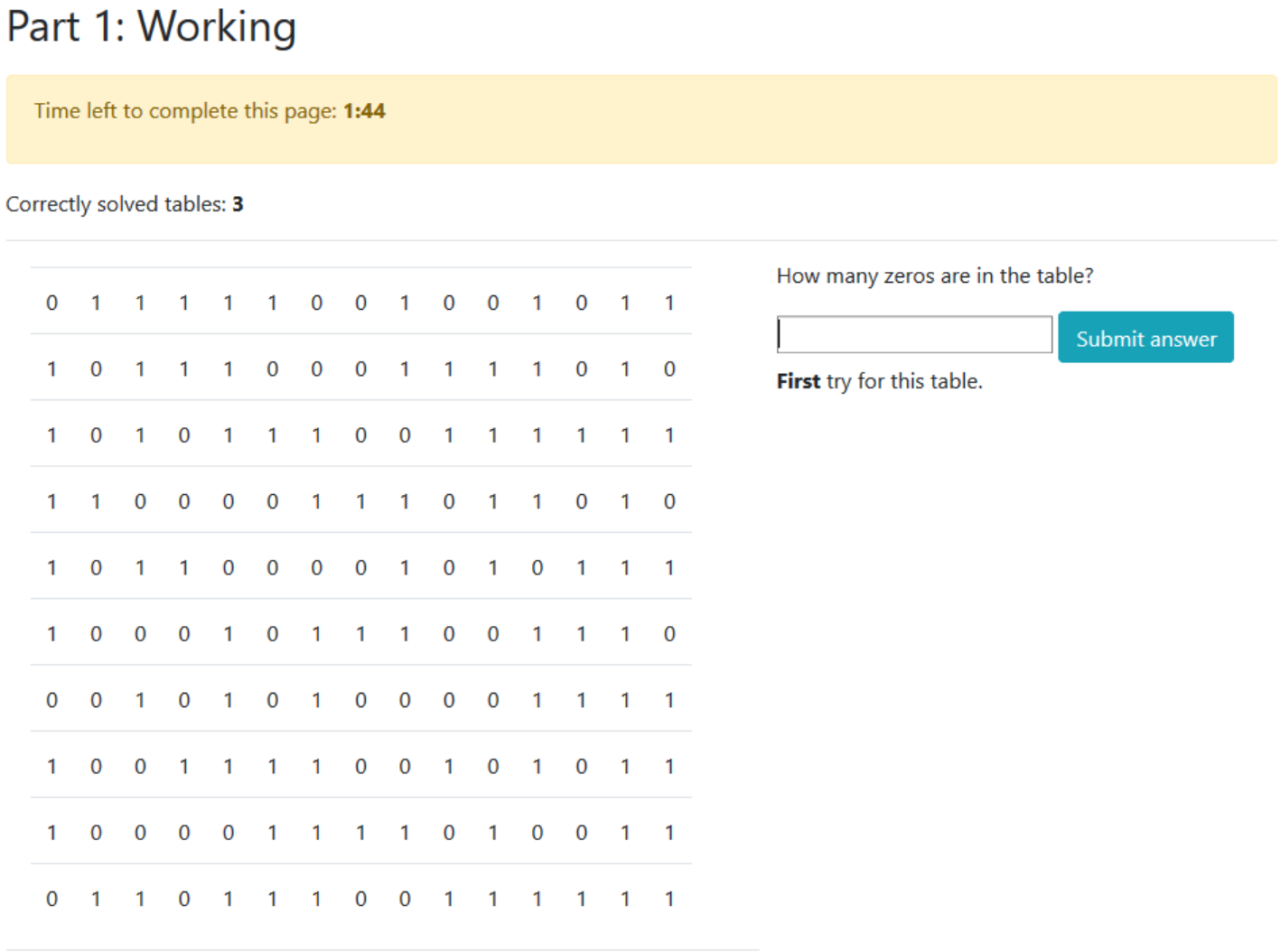
What we had in mind

- Two income sources: (1) Luck earnings and (2) Performance earnings of which self-reported piece rate can be dishonest.
- Controls for the perceived level of agency regarding the same probabilistic outcomes: Chosen luck and Given luck.
- Separation of the income effect and the accumulation effect

We consider three treatments: Exogeneous luck (EXO), Endogeneous luck (ENDO), and control (CON).

Experimental Design - EXO

- Subjects are informed the experiment consists of two parts.
- Part 1: Counting zeros (Abeler et al., 2011) for 4 mins. "The more correct answers you give, the more money you will earn."



Experimental Design - EXO, cont'd

- Part 2: The computer tosses a coin. With knowing the coin outcome, the participant privately rolls a (physical or online) dice and reports it. Repeat for 15 rounds.
- Earnings (in points) in each round:

$$\begin{cases} 80 + Perf * [diceReport + 3] & \text{if } Head \\ 20 + Perf * [diceReport + 3] & \text{if } Tail. \end{cases}$$

  Perf: #correct answers in Part 1,
  diceReport: the self-reported dice roll.
- One of the 15 rounds is randomly selected for payment. Previous outcomes are sunk.

(why dice+3? (1) to make the expected income from two sources similar, and (2) to guarantee the lowest expected income to be greater than 5 euros.)

Experimental Design - ENDO and CON

ENDO: EXO replacing the coin-related earnings in each round:

$$\begin{cases} 80 + Perf * [diceReport + 3] & \text{if } Win \\ 20 + Perf * [diceReport + 3] & \text{if } Lose. \end{cases}$$

- Before the coin toss, the participant chooses a winning side. 80 pts if the coin lands on the winning side, 20 pts otherwise.
- The probability of earning 80 from the coin toss is still 50%, but it increases the participants' perceived control over the uncertain outcome (Cappelen et al., 2020).

CON: EXO excluding coin-related earnings in each round:

$$20 + Perf * [diceReport + 3]$$

Hypotheses

For simplicity, we call it a winning round if the coin lands either on Head in EXO or on the winning side in ENDO.

Hypothesis (income effect)

The reported dice roll is higher in losing rounds.

Hypothesis (entitlement effect)

The reported dice roll in winning rounds is higher in the ENDO treatment than in the EXO treatment.

Hypothesis (accumulation effect)

The reported dice roll in round t increases in the number of losing rounds $\tau \leq t$.

Procedures

- May and June 2021, subjects from Mannheim Lab pool.
- Online (maintaining anonymity in several aspects: no profile photos, anonymous display names)
- Asked to use an available dice. Provide a link for an online dice, mentioning alternatives are fine and we don't track.
- 4 sessions per treatment. 158 (54 in EXO, 52 in ENDO, and 52 in CON) subjects in total.
- Average payment about 8.5€. $\leq$ 30mins.

Results

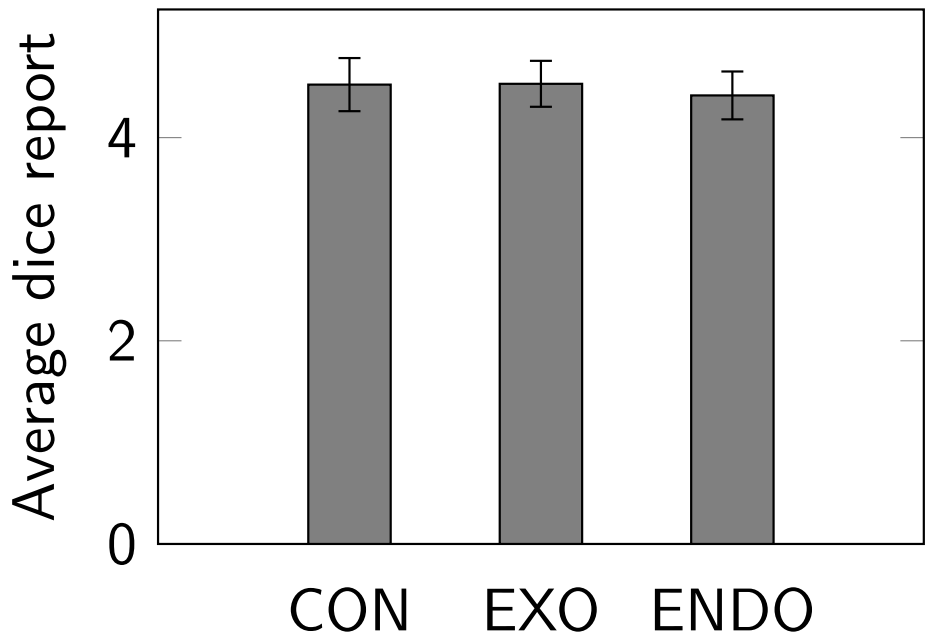
No unintended effects on effort choices and random outcomes.

- Participants solved 5.684 (sd 1.792) matrices on average, and the performance did not differ significantly among treatments (Kruskal-Wallis test, p=0.952).
- #Wins in ENDO is not different from #Heads in EXO (Mann-Whitney U test, p=0.478).

Results

In aggregate, similar level of lying is observed across treatments. (All are significantly larger than 3.5 and smaller than 6.)

Figure 1: Dice, by treatment



Note: Error bars indicate 95% confidence intervals.

Results

We reject Hypothesis 1, the income effect.
The reported dice roll is **not** higher in losing rounds.

Table 1: Dice Reports in Winning and Losing Rounds

	Winning mean (sd)	Losing mean (sd)	Difference in means
EXO	4.735 (0.977)	4.336 (0.927)	0.399***
ENDO	4.484 (1.110)	4.343 (0.885)	0.141
Pooled	4.612 (1.047)	4.339 (0.902)	0.273***

*** indicates statistical significance at the 1% level.

Results

We reject Hypothesis 2, the entitlement effect. The reported dice in winning rounds is **not** higher in ENDO than in EXO (MW, p=0.232).
This is not due to weak treatment effects.

Table 2: Winning Rounds and Perceived Winning Rounds

	Perceived Wins mean (sd)	Actual Wins mean (sd)	Difference in means
EXO	7.519 (1.840)	7.370 (1.926)	0.149
ENDO	8.096 (1.973)	7.558 (1.754)	0.538***

*** indicates statistical significance at the 1% level.

Results

We reject Hypothesis 3, the accumulation effect.
The reported dice roll in round t does **not** increase in the number of losing rounds in $\tau \in \{t-3, t-2, t-1\}$.

Table 3: Distributed Lag Models

	EXO			ENDO		
Dice	(1)	(2)	(3)	(4)	(5)	(6)
win	0.4940***	0.4977***	0.4833***	0.1125	0.1042	0.0735
	(0.1265)	(0.1338)	(0.1466)	(0.1575)	(0.1592)	(0.1660)
Lwin	−0.0115	0.2795	−0.0171	−0.0570	−0.0502	−0.0359
	(0.1079)	(0.1139)	(0.1158)	(0.1247)	(0.1318)	(0.1280)
L^2win		−0.0691	−0.0988		0.1739	0.1361
		(0.0886)	(0.0921)		(0.1228)	(0.1210)
L^3win			0.1071			−0.1487
			(0.1132)			(0.1418)
R^2	0.0243	0.0253	0.0251	0.0015	0.0042	0.0047
N	756	702	648	728	676	624

Dep.var: the report of dice roll in the current round. Win: a dummy indicating the coin toss result. L: the lag operator. The SEs clustered at individual level are in parenthesis. *** indicates statistical significance at the 1% level.

Results

- The potential drivers affecting the moral justification—the income, entitlement, and accumulation effects—do show either insignificant or opposite impacts on the lying behaviors.
- These results may suggest that it is the individual, not the situation, that facilitates more lying.
- Along with this argument, we report one unexpected but interesting finding. 28.5% of the participants who claimed to use a physical dice significantly lie more (MW, p=0.042).

Is it a context making people lie?

Why are 'actual dice users' lying more than 'online dice users'?

1. Would the online dice users be worried about being tracked?
2. Do they lie even about the use of a physical dice?

We believe #2 is more convincing. Two reasons:

A. Unlikely that nearly 30% of them had a dice ready: In a survey with subjects from the same pool, less than 7% of them (6 out of 90) answered that they possess a dice within their reach.

B. Delays would have been observed for them to find the dice if not immediately available. No differences in time spending for instructions. Actual dice users completed the 15 rounds significantly faster than online dice users (MW, p=0.000).

Take-away messages

We

- examine whether (1) income-related bad luck erodes the moral value of honesty and (2) the perceived level of agency over luck affects honesty.
- hypothesize that people would lie more for profits when (1) bad luck comes with a lower income, (2) they believe that their choices lead to a good luck outcome, and (3) the bad luck outcomes are accumulated longer.
- reject all of our null hypotheses.
- argue that our findings suggest that individual heterogeneity matters; it is less obvious that situations that make the honest to lie more.
- find physical dice users lie about using the physical dice, and their dice reports are strictly higher than others.

Literature

- Loss framing (Grolleau et al., 2016), time pressure (Capraro et al., 2019), the opportunity to make several dice rolls (Shalvi et al., 2011), and the possibility of pre-planning to lie (Chowdhury et al., 2020).
- Mixed evidence on stake size and dishonesty: Gerlach et al. (2019) find a $(-)$ relationship. Kajackaite and Gneezy (2017) and Gneezy et al. (2018) provide theoretical and empirical support on a $(+)$ relationship.
- Feeling unfairly treated (Houser et al., 2012), bad-luck induced anger (Zitek and Jordan, 2021; Yip and Schweitzer, 2016), feeling deserved due to their effort (Fries and Parra, 2021)
- When people choose outcomes (as opposed to brute luck), they feel to be deserved more (Cappelen et al., 2013; Mollerstrom et al., 2015; de Oliveira et al., 2017).

Two further thoughts

Thought 1: Changing someone's behavior is easier said than done.

- "The Drivers of Social Preferences: Evidence from a Nationwide Tipping Field Experiment" (Chandar et al., NBERwp.26380)
  : Do Uber drivers (and varying conditions) affect the tipping behavior and the amount of tips? No.
- "Reminders Work, but for Whom? Evidence from New York City Parking Ticket Recipients" (Heffetz et al. AEJ:EP 2022)
  : Parking violation ticket reminders work for people whose propensity to comply is higher. The most relevant target recipients respond the least.

Two further thoughts

(very speculative) Thought 2: How much are the reported impacts of "policy interventions" on dishonesty behaviors exposed to publication bias?

- Recent retraction of Shu et al. (PNAS, 2012) is scandalous.

Figure from a UK Department of Transportation Report on Distribution of Yearly Miles Driven in 2010
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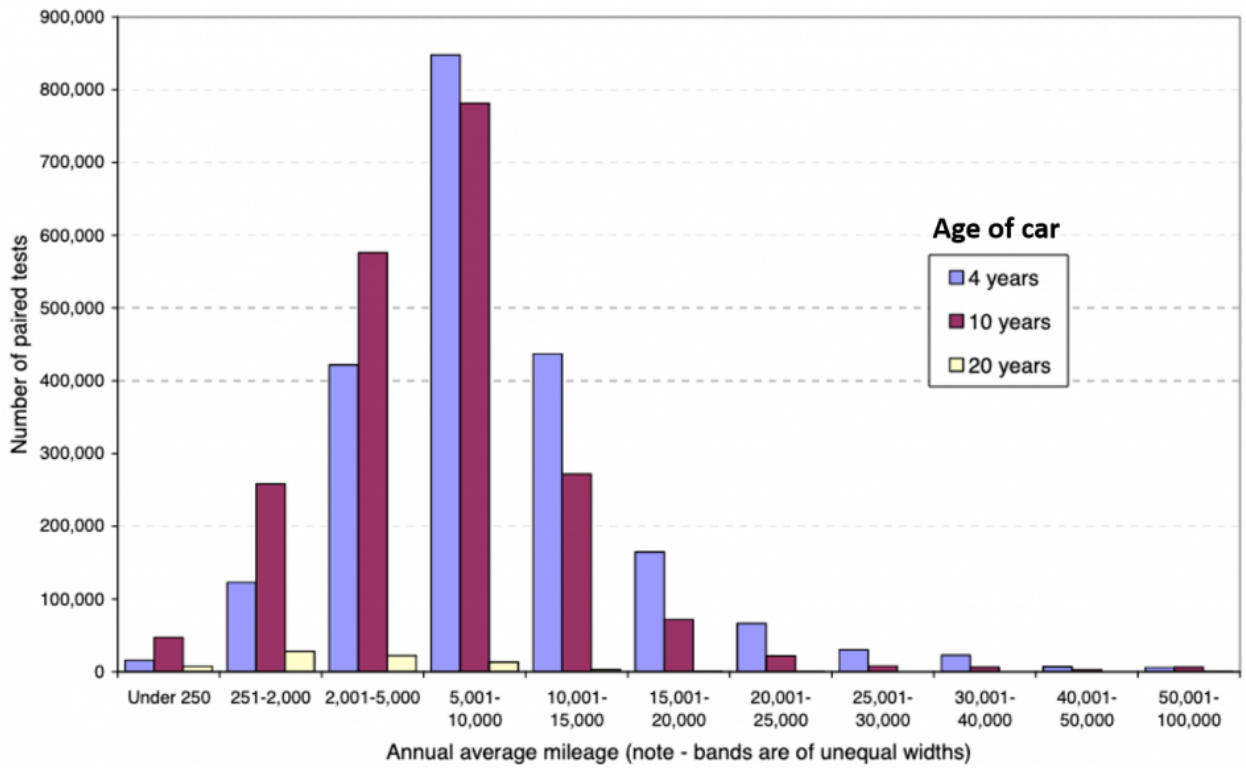

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