

Experimental Evidence on the Transmission of Honesty and Dishonesty: *A Stairway to Heaven and a Highway to Hell*

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Abstract

Various theories of social behavior propose that individuals condition actions that involve a moral value by following each other's behavior. The theoretical and experimental instruments employed to evaluate this conditioning often focus only on the diffusion of actions with negative moral value (e.g., dishonesty, norm violation, tax evasion). In this paper, we develop and execute a laboratory experiment to study the diffusion of actions with both, positive and negative moral values. We use a lying paradigm and introduce a novel methodology operationalizing beliefs as intention proxies to study the switch between honesty and dishonesty in simultaneous and sequential move sequences. The results indicate asymmetries; while lying is strongly contagious, truth-telling is weakly so.

JEL classification: C90, C91, C92, D90

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1. Introduction

Theories of imitation, conformity, or social convergence, suggest that we tend to follow examples set by others, especially in matters of moral behavior (conditional morality). However, these others might be setting multiple examples which often challenge each other. When so, is it possible that certain examples transmit more than others? In this paper, we employ a laboratory experiment to study whether examples of both, lying and truth-telling are comparably transmittable. Our evidence suggest that both transmit but the effect of observing honesty is weaker and smaller compared to the stronger effect of observing dishonesty.

We are building upon the experimental economics literature studying related matters of morality. An earlier strand of that literature demonstrated that, contrary to economic intuition, individuals exhibit preferences for honesty. Even in situations where lying means higher payoffs without externalities, a non-negligible proportion would remain honest or, would lie, but not fully (Fischbacher and Föllmi-Heusi 2013) (Abeler, Becker and Falk 2014). One of the explanations put forward is that honesty, as a social norm, has been internalized, making individuals lying averse due to the psychological costs accruing with norm-deviance (Hurkens and Kartik 2009). Further, that individuals might engage in some partial lying to the extent they can justify this and maintain a positive self-view (Shalvi, Eldar and Bereby-Meyer 2012). Recent evidence suggests that these individual preferences might not be for honesty per se, but rather, for appearing honest. Following, that individuals entertain social image concerns which allow for a more flexible view of honesty. In contexts where lying cannot be precisely estimated, or liars cannot be identified, individuals are not as honest as models of pure preferences for honesty would predict (Gneezy, Kajackaite and Sobel 2018) (Abeler, Nosenzo and Raymond 2019).

The notion of conditional morality we study here, i.e., that people flexibly imitate others' lying or truth-telling, is consistent with social image concerns but also with the economic assumptions of self-interest. It works as follows; individuals are self-interested and have the conflicting desire to obtain higher payoffs through lying, but also, to maintain the image of an honest person. For low payoffs, social and self-image concerns are dominating payoff maximizing motivations and individuals behave honestly, as they *ought to* (Kajackaite and Gneezy 2017). This is true unless individuals expect or know others are lying. These expectations or knowledge, shift focus from

what *ought to be done* to what *is being done* and draw a moral wiggle room for individuals to behave dishonestly without suffering social image discomforts. Similar arguments can apply on the reverse. In cases where individuals expect or know others are honest, social and self-image concerns become more salient and reinforce what *ought to be done*.

Our contribution here is that we introduce a novel way to measure the transmission of honesty and dishonesty. We operationalize beliefs as intention proxies to study the switch between honesty and dishonesty at the individual level using a simultaneous and sequential move lying paradigm.

Closest to ours are lying experiments with peer information. Although such experiments exist, they either involve strategic interactions, or (dis)honesty is not observable on an individual level, or they only consider the diffusion of dishonesty. (Rilke, et al. 2021) report that the presence of a first mover decreases dishonesty in strategic, repeated interactions but not in one-shot settings. Our study differs; the context is non-strategic while image concerns are constant across treatments. The study closest to ours is (Diekmann, Przepiorka and Rauhut 2015) which also uses a non-strategic context; however, in that experiment lying is not precisely observed among peers and honesty transmission is not measured.

More studies examine moral conditionality in different ways. For example, (Apffelstaedt, Freundt and Oslislo 2022) show that when a rule is elected rather than intrinsically applied, it shifts individuals' perceptions about what is appropriate (actions previously judged socially inappropriate can become socially appropriate). Using narratives, (Hillenbrand, Adrian and Verrina 2022) show a different type of transmission asymmetry; positive narratives increase prosocial behavior while negative narratives have no effects.

2. Experimental Design

We employ a variation of the standard die-rolling paradigm by (Fischbacher and Föllmi-Heusi 2013), in which we manipulate the sequence of reporting. It is a computerized, one-shot, between-subjects design, consisting of two treatments: a simultaneous move, and a sequential move treatment. Instructions are common knowledge. For both treatments, participants are randomly matched into pairs. Every pair observes the outcome of a single, independent, randomly generated, electronic, 6-sided die-roll. Both subjects in the pair, A and B, know the rule is for each to report the commonly observed outcome of the die-roll and that, eventually, reports will be disclosed to

each other. Each subject's payoff depends on their own—and only on their own- report. That is, there are no payoff interdependencies. A report of 6 pays CHF 6, a report of 5 pays CHF 5, and so on. In the simultaneous treatment, the two subjects report independently but simultaneously. In the sequential treatment, A reports first, while B reports after observing A's report. Subjects' beliefs are also elicited by asking A and B to guess each other's report. A correct guess pays 1 CHF.

Three points to note with regards to our design. First, all subjects know their reports will be observed by their pair and the experimenter. This ensures equal social image considerations across subjects in all treatments. Second, we made each subject in a pair observe the *same* die roll to eliminate any inequity concerns that might be a confound for measuring the transmission of honesty and dishonesty. Third, we made returns from accurate guessing rather low. This is because in the sequential treatment, B would observe A's report before he decided his own, and thus would discover whether his guess was accurate. We were concerned wrong guesses might induce lying for loss compensation -even if returns from guessing were low- and as a design check, we compare average lying among Bs who guessed wrongly (1.74) and those who guessed correctly (1.14), and a two-sided t-test suggests subjects were not lying for loss compensation ($p=0.11$).

3. Procedures

Sessions were conducted at LABEX (University of Lausanne). We recruited through ORSEE and used zTree. Instructions (oral and in writing) were in French. Subjects' understanding was tested prior to the task, and demographic characteristics were collected in a post-task questionnaire. 100 subjects participated in the simultaneous treatment (half As -half Bs), mean age was 21.6 years, and 55% identified as males. 166 subjects participated in the sequential treatment, mean age was 21.7 years, and 44.5% identified as males (the gender ratios are marginally different between treatments; a test of proportions yields a $p=0.099$). Sessions lasted on average 30' and show up fee was 10 CHF. It was a deception free experiment with full anonymity. Ethics approval from the University of Lausanne and an IRB from NYUAD (#0742018) were obtained. Timing of reporting and guessing tasks across treatments as well as full instructions are in the appendix.

4. Results

In the analysis below, we use the following variables.

Variable	Meaning	Range
Lying	The distance between a subject's report and the observed die-roll.	Lying= -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5
Honest/ Dishonest	Whether a subject's report is equal or different from the observed die-roll	Honesty (0): Report=Observation Dishonesty (1): Report \neq Observation
Beliefs	A subject's guess about their pair's report	Belief=1,2,3,4,5,6
Beliefs about Honesty/ Dishonesty	Whether a subject's belief is that their pair's report is equal or different from the observed die-roll	Anticipated Honesty (0): Belief=Observation Anticipated Dishonesty (1): Belief \neq Observation

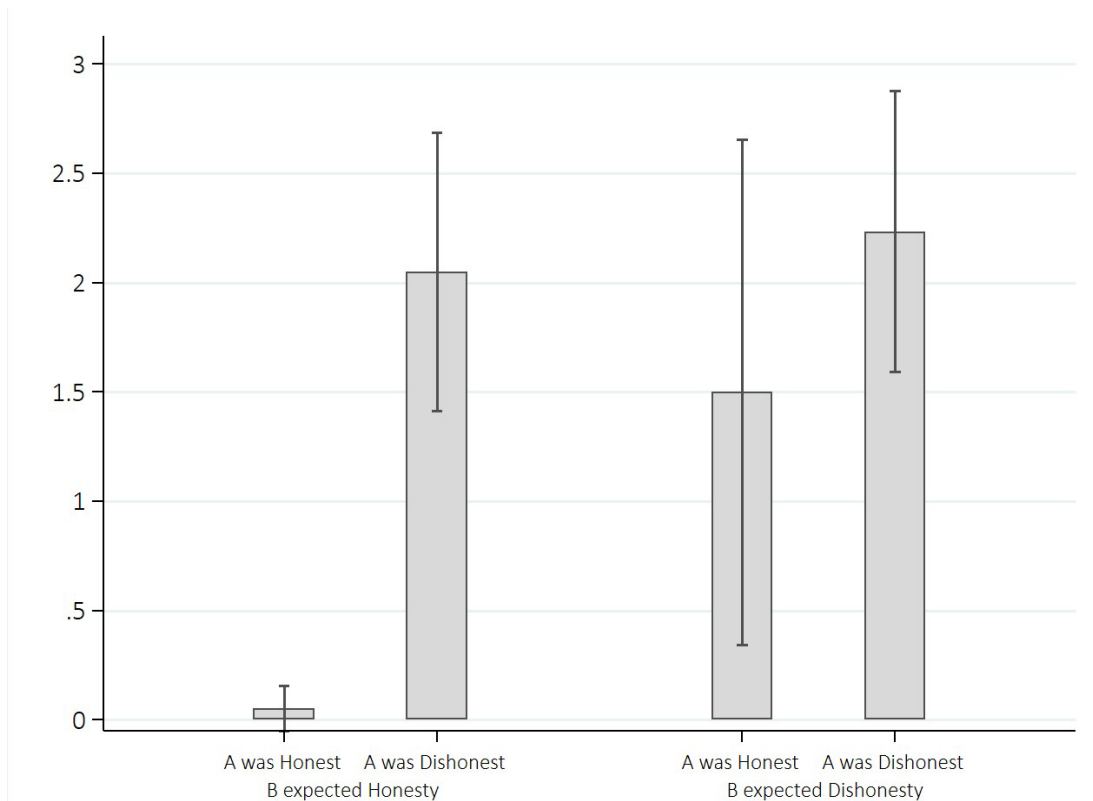
First, we look at the beliefs (guesses) of subjects about their pair's report and how these relate to their own behavior. This is an important exercise because we will instrumentalize these beliefs as a proxy of intended behavior. In particular, what we are studying in this paper is whether honesty and dishonesty transmit similarly among individuals – yet, the way we define transmission is rather important. We do not define transmission solely as the act of following the choice of the first reporter, but as the act of diverging from the choice one intended to pursue, *and switching* to the choice of the first reporter. To establish this switching, we will instrument the relationship between beliefs and choices in the simultaneous treatment. If beliefs and choices overlap (i.e., those who believe others lie, lie, and those who believe others are honest, are honest) then we have a good proxy for Bs intended choice in the sequential treatment. Then, if we can infer Bs intended choice via their beliefs and study their actual choice after they observe As, we will be able to evaluate whether switching occurs. Note that no claims about causality are made here. Behavior might be driving beliefs or vice versa. For our proxy correlation between beliefs and behavior suffices. However, it is important to note that beliefs might be strategically distorted in order to create a moral wiggle room for lying (Bicchieri, Dimant and Sonderegger 2023).

We establish a correlation between beliefs and behavior in two ways. First, we will hypothesize that if no correlation exists, then beliefs are formed randomly, i.e., half of honest/dishonest subjects believe their pair lied and the other half believes the opposite. However, these hypotheses are rejected. In the simultaneous treatment, 71.4% of honest subjects believed their pair was honest, and 90.9% of dishonest subjects believed their pair was dishonest. Each of these percentages are

significantly different from 50% ($p < 0.01$) according to two-sided tests of proportion. In a second way, we obtain a similar finding. Within the lying interval of 0 to 5, those who believed others were honest lied significantly less (0.27) than those who believe others were dishonest (2.05) according to a two-sided t-test ($p < 0.001$). Taken together, these two results allow us to use beliefs as a proxy for the intended actions of Bs in the sequential treatment.

Proceeding to examine whether switching occurs, we turn to Bs in the sequential treatment. We identify four categories of Bs. i) Bs who expected an honest A and A was honest, ii) Bs who expected an honest A and A was dishonest, iii) Bs who expected a dishonest A and A was dishonest, and iv) Bs who expected a dishonest A and A was honest. We depict average lying of Bs of each category in Figure 1.

Figure 1: Sequential Treatment: Average Lying



In Figure 1 the bars stand for average lying and the spikes represent 95% confidence intervals which we obtained by regressing lying of Bs on a dummy for Bs' beliefs about the honesty/dishonesty of As, a dummy for Bs witnessing an honest/dishonest A, and the interaction of these two. This provides a more formal test for dynamics of transmission. In the regression, all coefficients are significant; the beliefs dummy at a 5% ($p < 0.001$), the witnessing dummy at a 5% ($p = 0.015$), and the interaction at a 10% ($p = 0.092$).

The results in Figure 1 are quite revealing. Bs who anticipated As to tell the truth and whose expectations were confirmed, lied on average 0.05 (first bar), but Bs who anticipated As to tell the truth and whose expectations were not confirmed, lied on average 2.05 (second bar). This is a strongly significant difference ($p < 0.001$). Guided by the simultaneous treatment, we would expect that those who believe others to be honest lie very little, and somewhere in the level of 0.27. This holds in the cases where anticipations about honesty are confirmed, however, when anticipations are disproven, Bs are ready to follow the example of dishonesty set by As. It looks like those Bs were looking for an excuse to switch from what *ought to* be done to what *is done*.

The same does not apply when anticipations about dishonesty are disproven. Considering the last two bars, Bs who anticipated As to lie and whose expectations were confirmed, lied on average 2.23, while Bs who anticipated As to lie and whose expectations were not confirmed lied on average 1.5 but the difference is not significant. This suggests that honesty does not pass through as an example to those who anticipated their pairs to lie. At least not to the degree that dishonesty does, because it is important to note that, despite the insignificance of the difference, the direction of the effect is consistent with some transmission.

A more thorough and detailed analysis of lying behavior across treatments is in the appendix.

5. Conclusion

This study presented evidence that antisocial behaviors are more transmittable than prosocial behaviors. In particular, we evaluated whether honesty and dishonesty diffuse in a similar manner. That is, whether individuals condition their lying behavior on that of others, in situations where benefits from lying or truth-telling are independent but observable among individuals. The results point to important asymmetries. The effect of observing unexpected honesty is small compared to the strong effect of observing unexpected dishonesty.

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