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Chowdhury, S.M. [orcid.org/0000-0002-8386-9144](https://orcid.org/0000-0002-8386-9144), Kim, C. [orcid.org/0000-0001-8921-3288](https://orcid.org/0000-0001-8921-3288) and Kim, S. [orcid.org/0000-0001-6171-5382](https://orcid.org/0000-0001-6171-5382) (2021) Pre-planning and its effects on repeated dishonest behavior: an experiment. *Bulletin of Economic Research*, 73 (2). pp. 143-153. ISSN 0307-3378

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**ARTICLE**

# Pre-planning and its effects on repeated dishonest behavior: An experiment

Subhasish M. Chowdhury<sup>1</sup>  | Chulyoung Kim<sup>2</sup>  | Sang-Hyun Kim<sup>2</sup> <sup>1</sup>University of Bath<sup>2</sup>Yonsei University**Correspondence**

Subhasish M. Chowdhury, Department of Economics, University of Bath, Bath BA2 7AY, United Kingdom.

Email: s.m.chowdhury@bath.ac.uk

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**Abstract**

We investigate experimentally the effects of the opportunity to pre-plan one's action on dynamic (im)moral decision makings in two stages. In the experiment we either provided the subjects at the outset with the information that they might be able to tell lies to improve their payoff repeatedly (hence they could pre-plan accordingly), or provided such information at the beginning of each stage (and hence they could not pre-plan). Furthermore, we controlled whether they had the incentive to resort to telling a lie in the first stage or not. Our two main findings are: (i) when subjects were not informed about the second opportunity to lie at the outset, those who had an opportunity to lie in the first stage lied more often in the second stage compared to those who did not have such an opportunity; and (ii) pre-planning induced subjects to lie more often in the first stage. We conjecture that pre-planning invited a compensatory, instead of consistent, action, and thus induced more dishonest responses in the beginning and fewer later. We also discuss the extent of 'partial lying', i.e., lying in only one stage, across the treatments and its effect on the overall rate of lying.

**KEYWORDS**

conscience accounting, dishonesty, lying, moral licensing, pre-planning

**JEL CLASSIFICATION**

C91, D01, D91

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## 1 | INTRODUCTION

In day-to-day life, people often resort to dishonest behaviour. In specific, they tell lies in order to gain some benefit that may not be achieved otherwise. Such behaviours include inflating achievements in one's resumé, misreporting performance, and under-reporting ground reality to gain support – to name a few. Often such possibilities of telling a lie come as a surprise. It can come as a one-of-a-time event to tell such lies (e.g., inflating experience to gain a one-time contract) or an event in a new environment that the person concerned is not accustomed with (e.g., moving in from an ethical environment to a corrupt environment). However, it is also possible that people are involved in a repeated situation where it is possible for one to plan to tell (or not to tell) a lie. Examples of such cases may be joining a system which is well known to be vulnerable to corruption (e.g., running for a public office in developing countries – where it is possible to engage in profitable dishonest behaviour). Abstracting away from the issue of reputation building, it is not very clear on the outset which of the situations described above will result in a higher volume of lies. This is because whereas pre-planning may allow people to lie more efficiently, it may also bring in moral hindrance in repeating lies. In this study we investigate this particular aspect.

For traditional rational choice economic agents, one ethical decision does not influence another. Since their objectives are to maximize their material payoffs, they would lie always if it is in their interests to do so, and never lie otherwise. In contrast, studies in psychology and (more recently) behavioural economics have explored the dynamics of moral feelings and the subsequent behaviour. First, a stream of literature views ethical decisions as “complements” to each other: that is, someone who is prone to honest (dishonest) behaviour will continue to do so, thereby following consistency.<sup>1</sup> For example, using fMRI data, Garrett, Lazzaro, Ariely, and Sharot (2016) show that previous lying experience induce more lying behaviour in later rounds (see also, Abelson et al., 1968; Gawronski & Strack, 2012). Second, another literature finds that ethical decisions are “substitutes” and people often deliberately choose to be inconsistent: reminding an honest or moral behaviour in the past often leads to a dishonest or an immoral behaviour later. Such an inconsistent or compensatory pattern of behaviour, often termed as “moral licensing” (or “moral cleansing”, when moral acts follow immoral ones), has been reported in various domains. See Blanken, van de Ven, and Zeelenberg (2015) for a review.

Hence, a natural question is whether moral licensing, instead of consistency, manifests in dynamic immoral decision making, and whether pre-planning has any effect on such manifestation. We approach to this question experimentally with a  $2 \times 2$  factorial design. In the two-stage experiment we either provided the subjects at the outset with the information that they might be able to tell lies to improve their payoff repeatedly (hence they could pre-plan accordingly), or we provided such information only at the beginning of each stage (and hence they could not pre-plan). Furthermore, we controlled whether they had the incentive to resort to telling a lie in the first place or not. In case they had such an incentive to start with, they might show later either a consistent behaviour (to tell a lie again) or a compensatory behaviour (not to tell a lie again). We find two main results: (i) when subjects could not anticipate a second opportunity to tell lie, those who were given a prior opportunity to tell a lie, lied more often in the second stage than those who did not have such an opportunity, getting more vulnerable to a temptation to behave dishonestly for profit, and (ii) pre-planning induced subjects to lie more often in the first stage, making moral cleansing (i.e., compensatory behaviour) salient.

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<sup>1</sup>To most economists, consistency would mean “non-contradiction”, i.e., *rational* agent like behaviour in the basic microeconomics sense. Instead, here we follow psychologists in using the term, moral consistency, to refer to continuing (dis)honesty that includes patterns of behaviour which may not be *rational*, e.g., escalating lies.

Although we introduce the idea of pre-planning for the first time in this setup, we are not the first to ask the general question of the relative prominence of consistent versus compensatory moral behaviour. Both behavioural economists and psychologists have investigated this question. Conway and Peetz (2012) ask the subjects to complete a moral identity questionnaire (*à la* Aquino & Reed, 2002) in one, and a questionnaire asking specific past moral acts in the other treatment. After filling in the questionnaire, the subjects indicated how many dollars from the show-up payment should be donated on their behalf to charity. The authors find that moral licensing manifested only in the act treatment. That is, those who completed an “immoral action” questionnaire, reminding one’s immoral actions in the past, donated significantly more than those who completed a “moral action” questionnaire. Such a difference is not observed in the “moral identity” treatments. The authors conclude that reminding one’s action and one’s trait have different effects on one’s moral behaviour.

Using the deception game developed by Gneezy (2005), Gneezy, Imas, and Madarasz (2014) show that those who made an unethical choice (i.e., deceiving the partner in the first stage) were more likely to behave nicely later (i.e., donate more to charity). More related to our paper, they also find that those who knew that a donation opportunity would be given, made more unethical decisions in the first stage. The authors succinctly explain these phenomena by developing a theory of “conscience accounting”, which predicts that when subjects are aware of a chance to behave nicely later, they are *less* reluctant to take an immoral action. A similar result is found by Cojoc and Stoian (2014).

The experiment by Garrett et al. (2016) provided subjects with repeated opportunities to tell lies, and thus is very close to our current investigation. Over time, the size of the lie increased, and fMRI shows that signals in the amygdala, an area related to emotions, became weaker. Hence, this study sheds light on the brain mechanism leading to consistency (or an escalation) in dishonest behaviour.

We contribute to the literature on consistent versus compensatory (dis)honest behaviour by incorporating the idea of pre-planning. Our results show that it may be possible to encourage people to resist to the temptation by providing information about the details of future events beforehand, though it may come at a cost; knowing of the coming opportunities to behave honestly, some people may behave more dishonestly when having a chance. And, this observation suggests that when designing policies to reduce dishonest behaviour in an organization, one should appreciate the subtle conditions under which moral licensing or consistency dominates the other, because otherwise, in discouraging current dishonest behaviours, one may end up inviting more misbehaviours in the future.

In static settings, numerous researchers have devised methods to measure the innate preference for truth-telling. Early such attempts include Gneezy (2005), Mazar, Amir, and Ariely (2008), and Erat and Gneezy (2012). Lying experiments after Fischbacher and Föllmi-Heusi (2013) try to make the environment completely anonymous, which is required to measure the truly innate preference. Abeler, Nosenzo, and Raymond (2019) and Gneezy, Kajackaite, and Sobel (2018), are two recent studies that show the state of the art in the literature on lying aversion. According to these studies, people are reluctant to lie even in a completely anonymous environment, and when they do lie for monetary profit, they often do not maximize their monetary payoff in order to avoid a “bigger” lie. We, instead of trying to measure the lying cost accurately in a static setup, study the dynamic patterns of (dis)honest behaviour which is conditioned by the possibility of pre-planning. Our results suggest that the lying cost may be context-dependent and time-varying.

The rest of the paper continues as follows. Section 2 describes the experimental design and hypotheses. Section 3 reports the results, and Section 4 concludes.



**FIGURE 1** “Head” and “Tail” sides of the coin [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

## 2 | EXPERIMENTAL DESIGN AND HYPOTHESES

To study the dynamics of dishonest behaviour and the effects of planning, we conducted a simple two-stage experiment. In each stage, a subject observed a picture of a coin. Observing the picture of the coin, subjects completed a sentence “side is up” by choosing “Head” or “Tail”. Regardless of whether the head or the tail appeared on the screen, in each stage the subject could earn more money if he/she reported “Head” instead of reporting “Tail”.<sup>2</sup>

The monetary stake differed across the stages. The first stage was the high stake stage. A subject could earn South Korean Won (KRW) 5,000 (= about USD 4.57 with an exchange rate of 1 USD = 1094.5 KRW) by reporting “Head”, but nothing at all for reporting “Tail”. Thus, the marginal gain from reporting ‘Head’ (irrespective of the picture shown) was KRW 5,000. In the second stage, on the other hand, KRW 2,000 (= USD 1.83) was given when reporting “Head”, and KRW 1,000 (= USD 0.91) was given when reporting “Tail”. So, the marginal gain from a possible dishonest behaviour was KRW 1,000. This design allows to examine whether a subject becomes more vulnerable to even a smaller monetary temptation once he/she has given in (or got succumbed) to a larger temptation.<sup>3</sup> Figure 1 shows the picture of the coin used.

All participants had a monetary incentive to tell a lie in the second stage, but not all had the incentive in the first stage. In specific, in the second stage, everybody observed the picture of the tail side of the coin (although ex-ante they did not know that it would be the case), about which they all had a monetary incentive to be dishonest. In the first stage, on the other hand, about half of the subjects observed the picture of the head side, while the other half observed the tail side. Beforehand, they did not know which side they would observe, thus did not know whether they would have to tell a lie to earn more money.

Given this basic structure, we implemented a  $2 \times 2$  factorial design. First, the instruction given at the beginning of the experiment differed across the treatments. Either the subjects were given the description of the whole experiment at the beginning, or were given only the description of the imminent stage. Second, subjects either observed the head in the first stage, or the tail in the first stage.

Those who were assigned to the “Myopic-decision” treatments (treatment M) were told that they would make two decisions in two subsequent stages, but were not told what the second decision making

<sup>2</sup>To avoid confusion about which side is the head, the subjects were shown the pictures of the coin with labels. Also, we did not tell the subjects how the face of the coin is chosen – and hence did not implement deception.

<sup>3</sup>Mazar and Zhong (2010) used a similar design to test if those who bought “green” products behave more honestly. The participants observed dots on the vertically divided computer screen, and answered on which side there were more dots. Regardless of the number of dots on the screen, they were paid 0.5 cents if they indicated there were more dots on the left, and 5 cents if they indicated the right. The analysis shows that those who bought green products tended to lie more for monetary profit in the dot-counting game.

**TABLE 1** Treatment description

<b>2 × 2 Factorial Design</b>		<b>Observation in the first stage</b>	
		<b>Head</b>	<b>Tail</b>
Decision making procedure	Myopic	MH	MT
	Planned	PH	PT

would be. Thus, the subjects in treatment M did not have a chance to make a plan or form an internal criterion. On the contrary, the subjects in the “Planned-decision” treatments (treatment P) were told at the beginning the details of both the first and the second stage decision making problems, and thus were given a chance to make a plan. Furthermore, they were invited to think about how he/she would report when the picture of the head or the tail showed up. The treatments in which subjects observed Head (Tail) in the first stage is called treatment H (T). To sum up, we consider the following four treatments in Table 1.

This design serves two purposes. First, by comparing MT to MH, we will be able to investigate whether the present environment and the past decision have a lasting effect on honesty. Moral licensing or cleansing theory (see for example, Merritt, Effron, & Monin, 2010 and Blanken, van de Ven, Zeelenberg, & Meijers, 2014) predicts that those who lied in the past tend to behave more honestly to maintain a good self-image. In contrast, the finding of Garrett et al. (2016) suggests that those who lied in the first stage would lie more often in the second, because “the brain adapts to dishonesty.”

Note that in Garrett et al. (2016), subjects were asked to do a similar task (i.e., sending a message to the matched partner) repeatedly, whereas in most of moral licensing experiments subjects performed two different tasks sequentially (e.g., filling in a questionnaire and then donating money to charity). In this respect, our design is closer to that of Garrett et al. (2016).

Second, according to the theory of conscience accounting (Gneezy et al., 2014), when subjects know that they will have a chance to behave nicely later (i.e., when pre-planning is possible), subjects are less reluctant to take an immoral action in the early stage. This pattern of behaviour was found in Gneezy et al. (2014), where subjects were given a chance to tell a lie to their partner and then a chance to donate money to charity. Our design allows us to test if this prediction remains valid when subjects are given repeated opportunities to tell a lie rather than two different tasks sequentially. In particular, if the lying cost is fixed, then the total cost of lying depends only on the number of lies. Hence, the subjects in PT may plan to make a “big” lie in the first stage, avoiding a “small” lie in the second stage, thereby lying more often in the first stage in PT than in MT.

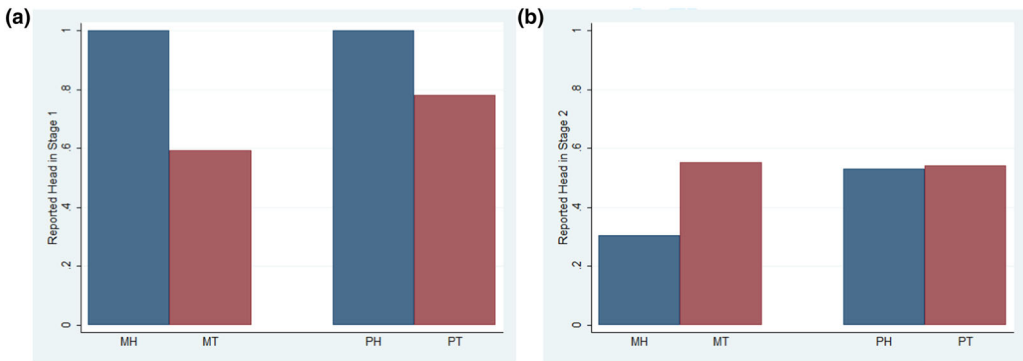
Hence, to summarize, whereas a set of existing studies allowed repeated lying, they did not allow pre-planning; another set of studies allowed pre-planning, but the opportunity to tell a lie was restricted to one stage as the tasks differ across stages.<sup>4</sup> In this study we incorporate a design where the opportunity to tell a lie is repeated as well as pre-planning might be possible. We also control for the incentive to tell a lie to start with (treatments H vs. T). This helps us focus on testing the effects of pre-planning on consistent versus compensatory behaviour.

The experiment was conducted at the laboratory managed by the Center for Research in Experimental and Theoretical Economics (CREATE) at Yonsei University, South Korea. We invited 194 undergraduate and graduate students (all South Koreans) by email. The subject interface was built by Google survey. The instructions were in Korean, and a translated version of the instruction is in the

<sup>4</sup>A very recent study by Ruffle and Wilson (2018), who run M-Turk experiment to investigate the correlation between tattoo and dishonesty, uses possible repeated lying with pre-planning. Opposite to ours, they use low stake first followed by a high stake decision making.

**TABLE 2** Descriptive statistics of proportion of subjects reporting “Head”

	MH		MT		PH		PT	
	Stage 1	Stage 2	Stage 1	Stage 2	Stage 1	Stage 2	Stage 1	Stage 2
Average	1	0.3043	0.5918	0.5510	1	0.5306	0.78	0.54
Std Dev	0	0.4652	0.4965	0.5025	0	0.5042	0.4184	0.5034
N	46		49		49		50	

**FIGURE 2** (a) Proportion reported “Head” in Stage 1; (b) Proportion reported “Head” in Stage 2  
[Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

Appendix. Immediately after the experiment the subjects answered a demographic survey regarding their age, major, gender, and religion, and then went to another room one by one. There they were paid the earned money and a show-up payment (KRW 3,000 = USD 2.74). Each subject was assigned to a single treatment (i.e., between-subject design), and did not participate in any economics experiment before. The experiment took about 30 minutes and the average payment was KRW 8,685 (= USD 7.93).

It may be noteworthy that we do not follow the double-blind protocol proposed by Fischbacher and Föllmi-Heusi (2013), which ensures the anonymity of subjects so as to measure the purely internal preference for truth telling. This is because our interest, unlike theirs, is not to measure the preference accurately but in documenting the dynamic responses of dishonesty to temptations through treatment effects. The double-blind protocol does not serve our purpose since it does not allow us to manipulate (or observe) the initial condition, i.e., H vs. T dimension would be lost. Probably for this reason, none of our benchmark studies e.g., Gneezy et al. (2014) and Garrett et al. (2016) followed the double-blind protocol either.

### 3 | RESULTS

#### 3.1 | Descriptions and observations

We start with presenting the descriptive statistics of the experimental data. Table 2 below reports the proportion of subjects reporting “Head”, the corresponding standard deviation, and the number of subjects per treatment – divided by per stage within treatment. The corresponding diagrammatic representations are in Figure 2.



Table 2, and Figures 2.a and 2.b show the proportion of subjects who reported “Head”, in the order of MH, MT, PH and PT from left to right. Since a response is a binary (i.e., Bernoulli) variable, the usual confidence interval could be misleading, and is thus omitted. Those in MH and PH observed the head side in Stage 1, so all of them reported “Head” in that stage.

**Observation 1. (Effect of prior opportunity)** In the second stage, subjects lied more often in MT than in MH.

Only 14 subjects out of 46 (30.4 per cent) lied in the second stage in MH, whereas 27 subjects out of 49 (55.1 per cent) did so in MT. This shows that the past actions indeed have a spillover effect on the subsequent behaviour. Hence, the present environment and the past decision do have a lasting effect on honesty ( $p$ -value = 0.015).<sup>5</sup>

Since not everybody in MT lied in the first stage, one may wish to control for income effect by focusing on those who reported “Head” (thus got KRW 5,000) in Stage 1, which unfortunately invites a selection bias. Now, in order to control for the selection bias, we first eliminate the ones who were *reluctant to lie*, and compare the rest in MH and MT. We can calculate the proportion of subjects who were reluctant to lie using the MT sample: since 20 of them never told a lie, the proportion is  $20/49 = 40.8$  per cent. This means that approximately 19 subjects in MH would have not lied at all if assigned to the MT treatment. Eliminating 19 subjects who reported (Head, Tail) from the sample of MH, we are left with 27 subjects in MH, among whom 14 subjects (51.8%) lied in the second stage. In contrast, 27 subjects out of 29 (93.1 per cent) in MT earned KRW 5,000 in the first stage, and kept lying in the second to earn the additional KRW 1,000. It turns out that conditional on the earning in the first stage, a greater proportion of subjects lied in the MT treatment ( $p$ -value < 0.001). This result echoes that of Garrett et al. (2016), and in sharp contrast to the studies on moral licensing. Once subjects choose to be dishonest, they seem to become vulnerable to even a smaller temptation.

Interestingly, we do not observe this inertia effect in P treatments. That is, when given a chance to make a plan, 26 out of 49 (53.1 per cent) in PH and 27 out of 50 (54 per cent) in PT lied in the second stage ( $p$ -value = 0.926). This may be natural since the impact of history would not exist if one made his/her decision at the outset as in PH and PT. This type of behaviour resembles the static decision making, and thus we would likely observe “partial lying” that has been emphasized in recent studies (e.g., Abeler et al., 2019; Gneezy et al., 2018).

**Observation 2. (Effect of pre-planning)** In the first stage, subjects lied more often in PT than in MT.

Subjects lie more in PT than in MT in the first stage, because they know that they will have a chance to be honest later. A t-test rejects the null hypothesis that the proportion of subjects who lied in Stage 1 is the same in MT and in PT ( $p$ -value = 0.044). However, to fully understand the first stage decision, we need to consider it together with the second stage.

In any treatment, there were four possible responses in (Stage 1, Stage 2): (Head, Head), (Head, Tail), (Tail, Head), and (Tail, Tail). The subjects in MH and PH observed the head side in the first stage, and by reporting ‘Head’ they could earn KRW 5,000. Naturally, no one lied in the first stage in such a situation, and we observe only two responses, (Head, Head) and (Head, Tail), in these two treatments. On the other hand, those who were assigned to MT and PT observed the tail side in the first stage, and had to decide whether to lie to earn an additional KRW 5,000 by telling a lie or not. But it would be unreasonable to resist a stronger temptation (the high stake in the first stage) and then to give in to a weaker one (the low stake in the second stage). Indeed, subjects behave consistently in

<sup>5</sup>The  $p$ -values reported in the text are t-test results with the standard errors are based on Normal approximation. We ran different standard errors, and found that all the significance results remain qualitatively the same.



**TABLE 3** Numbers of the subjects by responses

Report	MH	MT	PH	PT	Total
(Head, Head)	14	27	26	27	94
(Head, Tail)	32	2	23	12	69
(Tail, Head)	0	0	0	0	0
(Tail, Tail)	0	20	0	11	31
Total	46	49	49	50	194

this regard, and no one in our sample reported (Tail, Head). More detailed information is reported in Table 3.

It is interesting to observe that the extent of “partial lying” is quite larger in PT than in MT. In MT, only two subjects reported (Head, Tail). In other words, almost everybody always or never lied. In contrast, a sizable proportion of subjects (12 out of 50) in PT can be classified as “partial liars”, lying for the high stake but not for the small stake decision. The t-test rejects the null hypothesis that the extent of partial lying is not affected by the possibility of planning ( $p$ -value = 0.004). A subject could engage in partial lying in our dynamic setup only if one realized his/her own internal criterion (i.e., the lying cost) and stuck to the criterion. The opportunity to make a plan might facilitate this mental process. Using the data for partial lying in our sample, about 24% ( $= 12/50$ ) of the subjects had a (initial) lying cost between KRW 1,000 and 5,000.

Moreover, due to the presence of partial liars in PT, the overall rate of lying is higher in PT than in MT: i.e., there are more subjects “who lied at least once” in PT than in MT. In MT, those who did not lie for the high stake might have found that they should not lie for the low stake in order to be consistent. This is a finding comparable to the escalation result of Garrett et al. (2016). Not only dishonesty but honesty as well may have a lasting effect on the future behaviour. From the raw numbers, it seems that 9 or 10 subjects would have changed their behaviour in MT if they knew that there were subsequent opportunities to lie: they would have lied only in the first stage. In other words, once they saw that there was an opportunity to lie in the second stage, they might have wished they had lied in the first stage. Because they didn’t lie in both stages, they ended up with too much “social capital”. If they could go back in time, they would have traded some of this social capital for KRW 5,000 by lying in the first stage. This indeed suggests that pre-planning induces more lying.<sup>6</sup>

**Observation 3.** In the second stage, subjects lied more often in PH than in MH.

In contrast to that only 14 subjects (30.4 per cent) lied in MH, 26 subjects (53.1 per cent) lied in PH. This difference is statistically significant ( $p$ -value = 0.025). The response in PH is largely consistent with other observations: about 53~55 per cent of subjects always lied in MT and PT. What is not consistent with these observations is the fact that only 30.4 per cent subjects lied for the small stake in MH. This may be again a manifestation of the impact of the past experience.

### 3.2 | Regression analysis

Below we report the results of the regression analyses. We adopt the linear probability model to provide (i) direct causation effects and interpretability, and (ii) control for demographics that were not possible in the tests above. The qualitative results remain the same with a Probit model and we do not report those results here. All the results generated by the regression analyses are also in line with what we

<sup>6</sup>We appreciate the comments from an anonymous referee for this insight.

**TABLE 4** Regression Analysis of the Likelihood of Lying

Dep. var.	Lied in Stage1	Lied in Stage2		Reported (Head, Tail)	Lied at least once
<b>MT</b>	-0.2353* (0.0962)	0.2256* (0.0998)		-0.1654* (0.0707)	-0.2353* (0.0962)
<b>PH</b>			0.2329* (0.0970)		
<b>Age</b>	-0.0055 (0.0195)	-0.0294 (0.0229)	-0.0396* (0.0185)	0.0314* (0.0143)	-0.0055 (0.0195)
<b>Econ&amp;Biz</b>	0.1635 (0.1024)	0.1286 (0.1036)	0.1447 (0.1014)	0.0034 (0.0753)	0.1635 (0.1024)
<b>Male</b>	0.1147 (0.0975)	0.2100 (0.1118)	0.2579* (0.1023)	-0.0933 (0.0717)	0.1147 (0.0975)
<b>Religious</b>	-0.0820 (0.0954)	0.0373 (0.1037)	0.0593 (0.0982)	-0.0077 (0.0701)	-0.0820 (0.0954)
R <sup>2</sup>	0.0935	0.1222	0.1622	0.1319	0.0935
Sample	MT & PT	MH & MT	MH & PH	MT & PT	
N	99	95	95	99	

N.B.: Numbers in parenthesis are SEs. \* indicates statistical significance at 5%.

document above; but for some specifications the statistical significance changed marginally due to the changes in the standard errors.

We start with regressing the dummy variables indicating whether a subject told a lie in the first or the second stage on the treatment dummies, subject’s age, and dummies for whether the subject studies Economics or Business administration, male, and self-reported religiosity (whether religious or not). Table 4 shows the estimated coefficients and the standard errors.

The first column shows that indeed subjects tended to lie more in PT compared to in MT, and this difference is statistically significant at 5 per cent level (p-value = 0.016). In the second column, the difference between MH and MT in the proportion of subjects who lied in the second stage is significant at 5 per cent level (p-value = 0.026). In other words, subjects lied significantly more often in Stage 2 if they were given a chance to lie in Stage 1.

The third column shows that the difference between MH and PH is also statistically significant. As observed above, this is because subjects were reluctant to lie in MH. Note also that relatively younger and male subjects lied more. These are in line with what have been found in lab experiments (e.g., Gneezy, Rockenbach, & Serra-Garcia, 2013) and field data (e.g., Bucciol, Landini, & Piovesan, 2013).<sup>7</sup> Since these are only controls and not our point of interest, we do not discuss these any further.

Next, we move on to the estimated effects of pre-planning. In the regressions reported in the fourth and the fifth columns, the independent variables remain the same, but the dependent variables are whether the subject reported (Head, Tail), or the subject lied at least once in the experiment – respectively. The fourth column shows that the extent of partial lying is larger in PT than in MT. The estimated effect of planning is statistically significant at 5 per cent level (p-value = 0.022). Finally, the fifth column shows that the overall lying rate is higher in PT than in MT, and the effect is significant at 5 per

<sup>7</sup>See also Childs (2013) who shows that religious people tell lies more to achieve financial gains.

cent level ( $p$ -value = 0.016). Note also that the numbers in the first and the fifth columns are identical because there was no one who did not lie in the first and then did lie in the second stage. Thus, the number of subjects who lied at least once is that of subjects who lied in the first stage.

## 4 | DISCUSSION

In this paper, we revisit an important question in the study of dishonest behaviour. In particular, we investigate (i) which of consistency and moral licensing can explain dishonest behaviour pattern more when people have the opportunity to tell lies repeatedly; and (ii) whether the possibility of pre-planning can interact with the consistency or the moral licensing factor. In our experiment, the subjects were either allowed to pre-plan their decision or not, and initially the opportunity for the possible dishonest behaviour was given only to half of the participants.

First, we find that more subjects lied in the second stage when given a chance to lie in the first stage. We also find that more subjects lied in the first stage when they had a chance to pre-plan their actions. This is an important result because it implies that if it is possible for agents to engage in dishonest behaviour in an organization, then revealing information about such future opportunities might stabilize such behaviour. However, we also observe that the extent of partial lying and the overall lying rate is larger when subjects had the opportunity to pre-plan. Hence, the overall effectiveness of such information revealing policy (including the dishonest behaviour in the initial stages) will remain an empirical question.

It is important to mention that our design is very specific and stylized. We have implemented a high stake decision making followed by a low stake one. While the results are significant, the robustness check of our results (that moral compensation effects prevail) may be warranted with a reverse design. Results coming out of such a design will also raise some very important queries. We have implemented a specific frame (that is, making an incorrect statement for monetary gain) of dishonest behaviour. It remains to see whether other frames – including that of white-lies – may cause the same results. The experiment focuses on comparing the two possible sources of continuation of dishonest behaviour, consistency and moral licensing, and frames the monetary incentives as gains. It will be interesting to investigate whether the results are robust when the lying task is in the loss frame (Grolleau, Kocher, & Sutan, 2016). Also, the issues of conformity or awareness (Fosgaard, Hansen, & Piovesan, 2013) may affect the results. The possibilities of reputation formation and punishment will allow further complications but stronger external validity. Finally, “negative behaviour” such as sabotage (Chowdhury and Gurtler, 2016) in competition and conflict has interesting interactions in repeated setting and with information disclosure. Traits such as cheating, telling lies etc. will also have implications in such frameworks. We leave these issues for possible future research.

## ORCID

Subhasish M. Chowdhury  <https://orcid.org/0000-0002-8386-9144>

Chulyoung Kim  <https://orcid.org/0000-0001-8921-3288>

Sang-Hyun Kim  <https://orcid.org/0000-0001-6171-5382>

## REFERENCES

- Abeler, J., Nosenzo, D., & Raymond, C. (2019). Preferences for truth-telling. *Econometrica*, 87, 1115–1153.
- Abelson, R. P., Aronson, E., McGuire, W. J., Newcomb, T. M., Rosenberg, M. J., & Tannenbaum, P. H. (1968). *Theories of cognitive consistency: A sourcebook*. Chicago, IL: Rand McNally.

- Arquino, K., & Reed, A. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology*, 83, 1423–1440.
- Blanken, I., van de Ven, N., & Zeelenberg, M. (2015). A meta-analytic review of moral licensing. *Personality and Social Psychology Bulletin*, 41, 540–558.
- Blanken, I., van de Ven, N., Zeelenberg, M., & Meijers, M. (2014). Three attempts to replicate the moral licensing effect. *Social Psychology*, 45, 232–238.
- Buccioli, A., Landini, F., & Piovesan, M. (2013). Unethical behavior in the field: Demographic characteristics and beliefs of the cheater. *Journal of Economic Behavior & Organization*, 93, 248–257.
- Childs, J. (2013). Personal characteristics and lying: An experimental investigation. *Economics Letters*, 121, 425–427.
- Chowdhury, S. M., & Gürtler, O. (2015). Sabotage in contests: A survey. *Public Choice*, 164, 135–155.
- Cojoc, D., & Stoian, A. (2014). Dishonesty and charitable behaviour. *Experimental Economics*, 17, 717–732.
- Conway, P., & Peetz, J. (2012). When does feeling moral actually make you a better person? Conceptual abstraction moderates whether past moral deeds motivate consistency or compensatory behavior. *Personality and Social Psychology Bulletin*, 38, 907–919.
- Erat, S., & Gneezy, U. (2012). White lies. *Management Science*, 58, 723–733.
- Fischbacher, U., & Föllmi-Heusi, F. (2013). Lies in disguise – An experimental study on cheating. *Journal of the European Economic Association*, 11, 525–547.
- Fosgaard, T. R., Hansen, L. G., & Piovesan, M. (2013). Separating Will from Grace: An experiment on conformity and awareness in cheating. *Journal of Economic Behavior & Organization*, 93, 279–284.
- Garrett, N., Lazzaro, S. C., Ariely, D., & Sharot, T. (2016). The brain adapts to dishonesty. *Nature Neuroscience*, 19, 1727–1732.
- Gawronski, B., & Strack, F. (2012). *Cognitive consistency: A fundamental principle in social cognition*. New York: Guilford Press.
- Gneezy, U. (2005). Deception: The role of consequences. *American Economic Review*, 95, 384–394.
- Gneezy, U., Imas, A., & Madarasz, K. (2014). Conscience accounting: Emotion dynamics and social behavior. *Management Science*, 60, 2645–2658.
- Gneezy, U., Kajackaite, A., & Sobel, J. (2017). Lying aversion and the size of the lie. *American Economic Review*, 108, 419–453.
- Gneezy, U., Rockenbach, B., & Serra-Garcia, M. (2013). Measuring lying aversion. *Journal of Economic Behavior & Organization*, 93, 293–300.
- Grolleau, G., Kocher, M. G., & Sutan, A. (2016). Cheating and loss aversion: Do people cheat more to avoid a loss? *Management Science*, 62, 3428–3438.
- Mazar, N., & Zhong, C.-B. (2010). Do green products make us better people? *Psychological Science*, 21, 494–498.
- Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, 45, 633–644.
- Merritt, A. C., Effron, D. A., & Monin, B. (2010). Moral self-licensing: When being good frees us to be bad. *Social and Personality Psychology Compass*, 4, 344–357.
- Ruffle, B. J., & Wilson, A. E. (2018). The truth about tattoos. *Economics Letters*, 172, 143–147.

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