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# How do the consequences on others affect dishonest behavior? Evidence from an online experiment in Mexico

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**Abstract**

Dishonesty harms economic performance and growth. However, the literature on dishonesty has used almost exclusively samples from developed countries. In addition, previous studies present non-conclusive results on how concerns for others affect lying behavior. In view of this gap in the evidence, the present study explores how the decision to be dishonest changes when it affects a charity. In an experiment involving 555 participants in Mexico, subjects could lie about the result of a dice roll without any possibility of detection. We contrast a situation without incentives to three conditions that differ in how dishonesty affected the charity. Deceitful behavior increased when participants could benefit from it. Also, participants lied less when they received benefits at the expense of the charity, but they did not lie more when they could help it. Our results suggest that making salient how dishonesty harms others might help reduce its negative effects in society.

**Keywords:** Lying, Moral costs, Mind game, Charity.

**JEL:** C91, D64, D73.

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# 1. Introduction

Civic honesty is a key determinant of economic performance and development (Bjørnskov, 2021; Gächter and Schulz, 2016). However, civic honesty levels vary significantly across the world (Cohn et al., 2019) and are strongly correlated with measures of public sector dishonesty and corruption (Sulitzeanu-Kenan et al., 2022). In developing countries, particularly in Latin America, problems related to dishonesty—such as corruption and fraud—help explain why economic development has lagged behind recent improvements in macroeconomic policies and democratization (Kaufmann, 2015; Martins et al., 2020).

The economics literature that focuses on understanding dishonesty is broad and rapidly expanding (Jacobsen et al., 2018). Over the past decade, researchers have developed simple tasks to experimentally study dishonesty in controlled settings (Gerlach and Teodorescu, 2022). Evidence shows that behavior in these laboratory experiments correlates with differences in rule violations observed in the field and across countries (Gächter and Schulz, 2016; Schild et al., 2021). However, these experiments often focus on individual lies and their consequences for the liar alone. Moreover, studies examining how the consequences for others affect dishonest behavior yield inconclusive results (Cartwright et al., 2020). Lastly, only a few experiments include samples from outside developed countries, which limits the generalizability of their findings and reduces the effectiveness of their public policy implications (Gerlach et al., 2019).

In this study, we answer the question: how do consequences for others, specifically a charity, influence an individual's decision to engage in dishonest behavior? We conducted an experiment with a sample of 555 participants in Mexico. In the experiment, participants could lie about the outcome of a dice roll without any possibility of detection. Since most lies in natural contexts are extrinsically motivated, we focus on contrasting a situation without incentives with three conditions that vary in how dishonesty impacts others. In one condition, participants received monetary benefits from lying without affecting anyone else; in another, they benefited themselves at the expense of a charity; and in the final condition, the benefits for the participants were matched by a donation to the charity. This design allows us to examine the effects of private monetary incentives and concerns for others on deceitful behavior.

Our results show that individuals lie for monetary incentives but incur moral costs when their actions harm others. First, we observe that in the absence of monetary incentives, participants did not lie. Additionally, consistent with previous literature, we find that some individuals lie when they can benefit without harming others. Nonetheless, our results suggest an asymmetry in the effects of the consequences on others' deceitful behavior. In line with the intuition that individuals face moral costs when negatively affecting others, we observe a reduction in dishonest behavior when participants knew their benefits came at a charity's expense. However, dishonesty did not increase when individuals could benefit both themselves and the charity. Our findings contribute to debates in experimental economics and suggest interventions that could be tested in the field to reduce the harmful effects of dishonesty in society.

The rest of the paper is organized as follows: Section 2 reviews the literature on (dis)honest behavior, with a focus on experimental studies similar to ours. Section 3 presents a simple theoretical framework, from which, along with insights from previous studies, we derive predictions for the experiment. Section 4 provides a detailed description of the experimental design, implementation, and participant characteristics. Section 5 presents the results of the experiment, and Section 6 concludes with implications for public policy.

# 2. Related literature

Traditional models in economics explain moral behavior as the result of a cost-benefit analysis (Becker, 1968). According to this theory, individuals will be dishonest whenever the benefits of lying exceed the expected monetary costs (Yaniv and Siniver, 2016). However, experiments in economics and psychology have found that people lie much less than this theory predicts (Jacobsen et al., 2018; Kaushik et al., 2022). The evidence suggests that individuals have an intrinsic aversion to lying (Abeler et al., 2019; Gneezy et al., 2018), a desire to be perceived by others as honest (Fischbacher and Föllmi-Heusi, 2013; Khalmetski and Sliwka, 2019), and a need to protect a self-image of honesty (Mazar et al., 2008).

A less explored aspect of dishonesty is how the moral cost of lying changes when it impacts others. In an initial study, Gneezy (2005) categorized lies based on how they affect both the liar and others. For example, a lie may be classified as black or white depending on whether it decreases or increases the earnings of others, and as selfish or altruistic depending on its impact on the liar's gains or losses. The underlying intuition is that if individuals care about others, the moral cost of lying increases when it harms them. Studies using this framework show mixed results, particularly when analyzing white lies. Most find that when a lie negatively affects others, moral costs rise, leading to less dishonest behavior (Gerlach et al., 2019). However, the findings regarding lies that benefit others (white lies) are much less consistent (Cartwright et al., 2020). While Wiltermuth (2011) and Klein et al. (2017) find that white lies increase dishonesty by providing a reason or moral wiggle room to act in that way, others observed null results on this (Chua et al., 2022; Maggian, 2019).

One reason for the conflicting results is the diversity of methods used to analyze dishonesty in laboratory settings (Gerlach and Teodorescu, 2022). Most studies on the effects of the consequences of dishonesty have relied on interactions between participants in the sender-receiver game. This experimental paradigm allows a participant, known as the sender, to deceive another participant, known as the receiver, about an outcome that could either increase or decrease their earnings. In this experimental paradigm, a participant—the sender—is given the opportunity to deceive another participant—the receiver—about an outcome that either increases or reduces their earnings. The initial results of these experiments reveal a tension between selfish and altruistic motives (Gneezy, 2005). However, a methodological challenge of this paradigm is that it depends on the sender's beliefs about how much the receiver trusts their message. Other studies have employed variations of the 'dice in the cup' game developed by Fischbacher and Föllmi-Heusi (2013). Although this design avoids the issue of message credibility, it does not always eliminate the possibility of participants being observed by researchers, which may explain why participants sometimes do not respond to incentives. In particular, participants must trust that the dice is fair. In online settings like ours, participants may not fully trust this, since the dice is provided directly by the researcher. If they believe the dice is unfair, they may fear being observed for dishonest behavior and adjust their responses due to image concerns or fear of punishment (Fries et al., 2021; Hermann and Brenig, 2022). An alternative approach that isolates the effects of observability and beliefs is the Mind Game paradigm (Kajackaite and Gneezy, 2017). However, the literature has not yet used this paradigm to investigate how the decision to lie changes when there are consequences for others.

Moreover, only a handful of experimental studies on dishonesty have been conducted in the Latin American region. This lack of representation in the dishonesty literature may limit the generalizability of its findings (Gerlach et al., 2019). Previous studies by Guerrero-Dib et al. (2020) and Ayala-Gaytán and Quintanilla-Domínguez (2014) analyzed academic and professional integrity in Mexico; however, they did not use incentivized experiments. Rather than focusing directly on dishonesty, other researchers in Latin America have examined the effects of corruption, a behavior closely associated with dishonesty, on other behaviors. For example, Campos-Vazquez and Mejia (2016) studied how past experiences of corruption influence cooperative

behavior. Similarly, Chong et al. (2015) explored the impact of knowledge about political corruption levels on individuals' willingness to engage in political activities. Finally, Agüí et al. (2023) found that information about rising perceptions of corruption in Mexico reduced trust in the government's response to the Covid-19 pandemic. These findings underscore the harmful societal effects of corruption. Furthermore, since dishonesty is a central component of corrupt behavior, these studies highlight the need to investigate the factors influencing dishonest behavior using Latin American samples.

Our study contributes to the current literature in three ways. First, we use the Mind Game paradigm, a simple experimental design that isolates factors that, in other designs, might confound the effect of concerns for others on dishonesty. Second, we extend the observations of previous studies by applying them to a Latin American context. Finally, we compare instances where lies are monetarily incentivized to one where lying is inconsequential. This represents a methodological improvement since similar studies on dishonesty often compare dishonesty levels only to the expected values of the dice roll distribution. Only one previous study, by Charness et al. (2019), tested the effect of monetary gains on dishonesty by contrasting incentivized and unincentivized conditions, although not using the Mind Game task.

# 3. A simple theoretical framework of dishonesty and hypotheses

This section presents a theoretical framework of dishonesty to generate testable hypotheses. We simplify ideas present in other models to reflect the context of our experiment and research question[1]. We include two key motives that affect dishonesty identified in the experimental literature: selfishness (Kaushik et al., 2022) and an intrinsic aversion to lying (Abeler et al., 2019; Hilbig and Hessler, 2013; López-Pérez and Spiegelman, 2013). Also, concerns are included about the consequences of lying on others (Cartwright et al., 2020; Erat and Gneezy, 2012) as an additional moral cost to the individual's utility function.

Consider an individual who participates in a lottery. With probability $p \in (0, 1)$, they observe a winning outcome $Lost = 0$, and with probability $1 - p$ they observe a losing outcome ($Lost = 1$). They get to report the outcome from the lottery and may receive a monetary reward of size $y \geq 0$ if they report the winning outcome ($Report = 1$) but nothing if they report the losing outcome ($Report = 0$). Suppose that, even when the probability of getting a winning outcome is common knowledge, the actual outcome cannot be verified in any way. Thus, the participant has an opportunity of lying without possible detection.

In addition, assume that individuals in this situation have two types of moral considerations. First, they have an intrinsic aversion to lying for gain. That is, they pay a moral cost of $\beta \geq 0$ if they falsely report winning. Second, they care about the effect of their report on others, either positive or negative. We represent the monetary value of those consequences as $C(Report)$ reflecting that the consequences for others depend on the individuals' report. If $\alpha \geq 0$ represents a measurement of how much the individual cares about these monetary consequences, the moral cost or benefit they take is $\alpha C(Report)$. In other words, $\alpha$ is a measure of altruistic or prosocial preferences. Taking altogether, a person's utility function can be expressed as:

$$U(Report, Lost) = yReport - \beta \cdot (Report \times Lost) + \alpha C(Report) \tag{1}$$

Based on this and previous literature, we formulate four hypotheses. We provide a step-by-step derivation

[1] Gneezy et al. (2018), Khalmetski and Sliwka (2019), and others have developed general theoretical frameworks of dishonesty that consider its effects on others. Our framework is much simpler, but consistent with the ideas on those models.

of our hypothesis using our framework in Appendix C.

**H1.** Individuals do not lie when being dishonest has no consequences at all.

If lying is costly, individuals will not lie without monetary incentives. Charness and other researchers have proposed theoretical models that incorporate the effects of dishonesty on others. Our framework is simple but consistent with those models.

**H2.** Some people lie when they can benefit from it, and no one else is affected.

In contrast with the situation without incentives, if $y > 0$ and $C(Report) = 0$, some participants will misreport winning. This will be the case for those whose intrinsic moral costs for lying are less than the incentive for reporting the winning outcome (i.e., if $y \geq \beta$). In addition, as in H1, in this case, participants will have no incentives to falsely say they lost. Consequently, we expect to observe evidence that some participants lie for money.

**H3.** People lie more when their lie benefits both them and others.

If the winning report benefits others, we expect to observe more self-serving dishonesty. Intuitively, there are two potential causes for this. First, if the individual values donating to the charity, $\alpha C(Report) > 0$, the incentive for being dishonest increases independently of the moral costs. Second, donating to the charity opens a potential moral justification for being dishonest, reducing the moral costs of doing it (making $\beta$ decrease). Though our experiment cannot disentangle these motives, both suggest that it is easier to do an immoral action, in this case, to lie for money when there is a pro-social justification. Therefore, we expect to see more individuals reporting winning in this situation.

However, it is important to notice that this scenario, when both the charity and the participant benefit from the lie, is morally ambiguous. On the one hand, helping the charity is a good action; on the other, lying is often considered morally wrong. Nevertheless, if the person is incentivized to lie for selfish reasons, helping the charity provides a narrative that might justify the immoral action (Gino et al., 2013; Shalvi et al., 2015). Nonetheless, the literature presents contradictory results. For example, Wiltermuth (2011) and Klein et al. (2017) report results consistent with our hypothesis. In contrast, Chua et al. (2022) and Maggian (2019) observed that participants do not lie more when they benefit both the charity and themselves.

**H4.** People lie less when they benefit at the expense of others.

Contrary to H3, if reporting they won hurts others, we expect to observe proportionally less dishonest reports for private gain. Two mechanisms affect dishonesty in this condition: one related to wanting to maximize private gains and the other to wanting to minimize losses for the charity. For the first, if the participant cares about the charity, lying implies higher moral costs ($\alpha C(Report = 1) < 0$) independently of the intrinsic aversion to lie, $\beta$. From the second mechanism, we expect some altruistic lies in terms of people observing the winning outcome but reporting the losing one. Intuitively, the reason is that some individuals might value avoiding the elimination of the donation to charity more than the money they won. In our simple model, this implies that for them:

$$\alpha \geq \frac{y}{C(Report = 1)}$$

# 4. Description of the experiment

Online experiments are a common alternative for studying dishonesty. First, social desirability bias affects studies relying on self-reports because dishonesty often violates social norms. Second, since dishonesty is

typically punished, liars tend to conceal their actions, making it difficult to use field data or observational designs. Additionally, previous research has shown that dishonest behavior in laboratory experiments correlates with unethical behavior in the field (Dai et al., 2018; Schild et al., 2021). Furthermore, Prissé and Jorrat (2022) demonstrated that participants behave similarly in online and face-to-face settings. Similarly, using a sample from Mexico, Rojas-Iturria et al. (2022) provided suggestive evidence that participants behave comparably in online and face-to-face experiments, at least in a learning task.

Our experiment followed the Mind Game paradigm developed by Kajackaite and Gneezy (2017). In this experimental setup, participants engaged in a 'guessing game.' First, they were asked to predict the outcome of a roll of a virtual six-sided die in private, with the promise of a potential monetary reward if their prediction matched the actual result. After making their prediction, participants rolled the die and observed the outcome. We assured them that the die was fair and that we could not observe its result. This was accurate, as the random number generated was not recorded in our database. Finally, we asked participants to report the number they observed and if they had won. The supplementary material provides detailed instructions for the experiment.

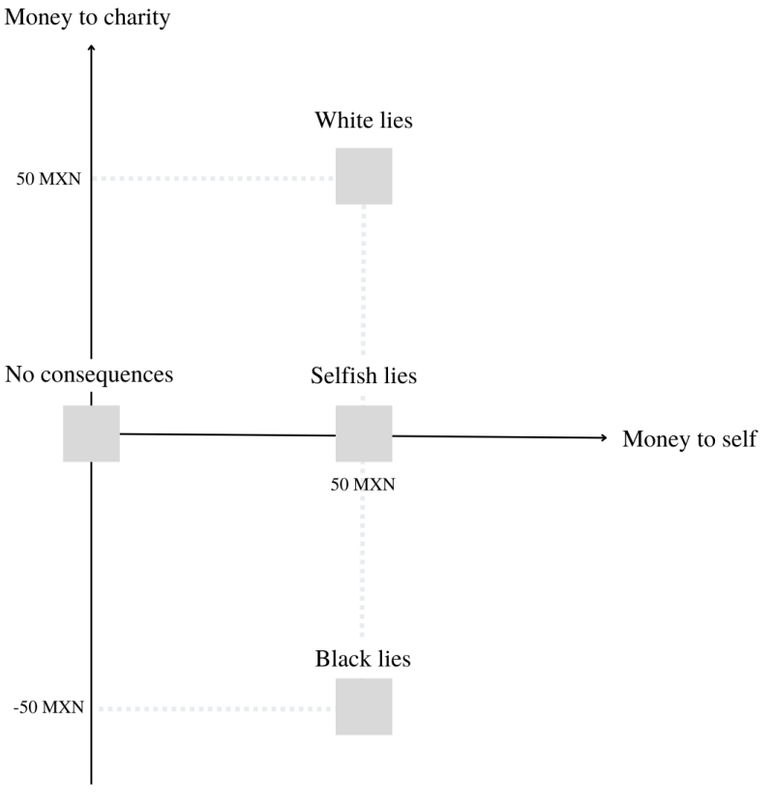
Participants' predictions were always private. The main advantage of using the Mind Game over other paradigms to study dishonesty is that participants can be certain their misreports cannot be detected. Consequently, the decision to lie is not influenced by the fear of being caught but solely by the effects of their report and the intrinsic moral costs of dishonesty.

Following the framework developed by Erat and Gneezy (2012), participants were randomly assigned to one of four experimental conditions, each differing in how lying affected others. We focus on situations where the liar gains a private benefit from misreporting. In other words, we do not examine cases where the liar incurs a cost for being dishonest, whether for altruistic reasons or to harm others. This focus is motivated by the fact that most dishonest behaviors, such as corruption, are driven by the pursuit of monetary gain.

In our experiment, participants' reports affected both their own payments and the payments to a charity. The instructions did not mention the charity's name or objectives. Previous research on willingness to tell white lies has yielded mixed results, which may be attributed to differences in experimental designs (Cartwright et al., 2020). For instance, Wiltermuth (2011) and Klein et al. (2017) examined scenarios where the affected third party was an unknown participant in the experiment. In contrast, Chua et al. (2022) allowed participants to choose the charity, while in Maggian (2019), the third party was a known charity from a predefined list. We chose to include an unnamed charity in our design to prevent any influence of participants' social preferences or prior knowledge about the charity on their behavior, which could have affected the outcomes in previous studies. While we recognize that social preferences play an important role in dishonest behavior, testing their influence in a simple task like ours should be the focus of future research.

In addition, we included one group to analyze behavior without any incentives, serving as a control. We motivate the selection of this control for two reasons. First, previous literature on antisocial behavior has observed that some participants act immorally even when doing so has neither positive nor negative consequences for them (Abbink and Sadrieh, 2009; Abbink and Herrmann, 2011). However, to the best of our knowledge, the literature on dishonesty has not explored this scenario. Second, we consider that if our objective is to analyze how consequences for others and oneself influence moral behavior, the comparison should be to a situation without such consequences, not, as most of the literature does, to a theoretical scenario without dishonesty. The four conditions we analyzed were:

Figure 1: *Characterization of lies with respect to their consequences*




**Condition 1:** No consequences. Reporting winning would not change the earnings of the participant or of anybody else.

**Condition 2:** Selfish lies. Reporting winning would give the participant 50 MXN with no consequences for anybody else.

**Condition 3:** White lies. Reporting winning would give the participant 50 MXN and, in addition, give 50 MXN to a charity.

**Condition 4:** Black lies. Reporting winning would give the participant 50 MXN, but it would reduce 50 MXN from a donation to a charity.

Figure 1 shows the four conditions according to how winning affects both the participants' and the charity's earnings. In our design, individual dishonesty is not observable because participants can always lie about the number they predicted. However, we can observe dishonesty at the group level. No matter the participants' predictions, the probability that a participant truly won is always one-sixth. Therefore, one-sixth of partici-

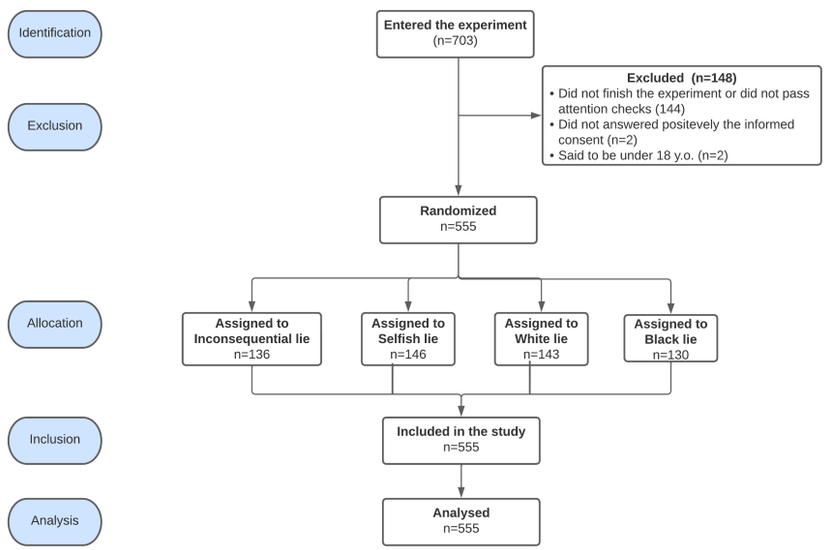
pants is expected to truly have won across conditions. Any proportion of reported winners higher than that reveals dishonest behavior at the group level. Moreover, the randomization allows us to interpret differences across conditions in the proportions of reported winners as variations in the proportion of honest participants.

# 5. Materials and participants

This experiment was one of four studies in an online instrument distributed to a sample of Mexican residents between April and May 2022. We send the study link through institutional channels to student communities in two universities in Mexico City. In addition, we asked participants to share the link to the study with their peers. The experiment was implemented using Qualtrics under a "play all pay one" incentive scheme[2].

The experimental link received 705 interactions. We eliminated four observations because the participants did not provide an affirmative response to the informed consent letter. In addition, we eliminated two observations because participants reported being underage. Finally, we eliminated 144 observations because subjects did not finish the experiments or did not pass the attention checks distributed across the instrument. In total, we collected 555 valid answers. In Figure 2, we present the process for the sample's selection. On average, participants received 88.67 MXN (approx. 4.4 USD), including their participation fee. This experiment resulted in a donation of 2,550 MXN (approx. 125 USD) to a charity that prioritizes the welfare of children in marginalized communities.

Figure 2: *Characterization of lies with respect to their consequences*




[2]Individuals participated in all four experiments but were paid for the performance of one chosen randomly. Participants knew this from the beginning. According to Charness et al. (2016) this scheme can help to avoid wealth or hedging effects. The IRB at the Norwegian School of Economics approved the study with the number NHH-IRB 31/21.

Table 1: *Participant's characteristics*

| | Treatment | | | | |
|---|---|---|---|---|---|
| | **Black lie** | **Selfish lie** | **White lie** | **Inconsequential** | **Total** |
| **N** | 130 | 146 | 143 | 136 | 555 |
| **Percent** | 23.423% | 26.306% | 25.766% | 24.505% | 100% |
| **Female** | 0.577 | 0.575 | 0.580 | 0.596 | 0.582 |
| 1: Yes, 0: No | (0.496) | (0.496) | (0.495) | (0.493) | (0.494) |
| **Age** | 27.838 | 26.849 | 26.336 | 27.000 | 26.986 |
| In years | (11.571) | (9.781) | (9.945) | (9.786) | (10.256) |
| **It's a student** | 0.708 | 0.705 | 0.727 | 0.647 | 0.697 |
| 1: Yes, 0: No | (0.457) | (0.457) | (0.447) | (0.480) | (0.460) |
| **Level of education** | 0.369 | 0.425 | 0.364 | 0.478 | 0.409 |
| 1: finished ¿ Bachelor | (0.484) | (0.496) | (0.483) | (0.501) | (0.492) |
| **Receives scholarship** | 0.423 | 0.397 | 0.427 | 0.353 | 0.400 |
| 1: Yes, 0: No | (0.496) | (0.491) | (0.496) | (0.480) | (0.490) |

SDs in parentheses. Female=0, "Male" (n=221), "Non-binary" (n=7), and "Preferer not to say" (n=4).

# 6. Results

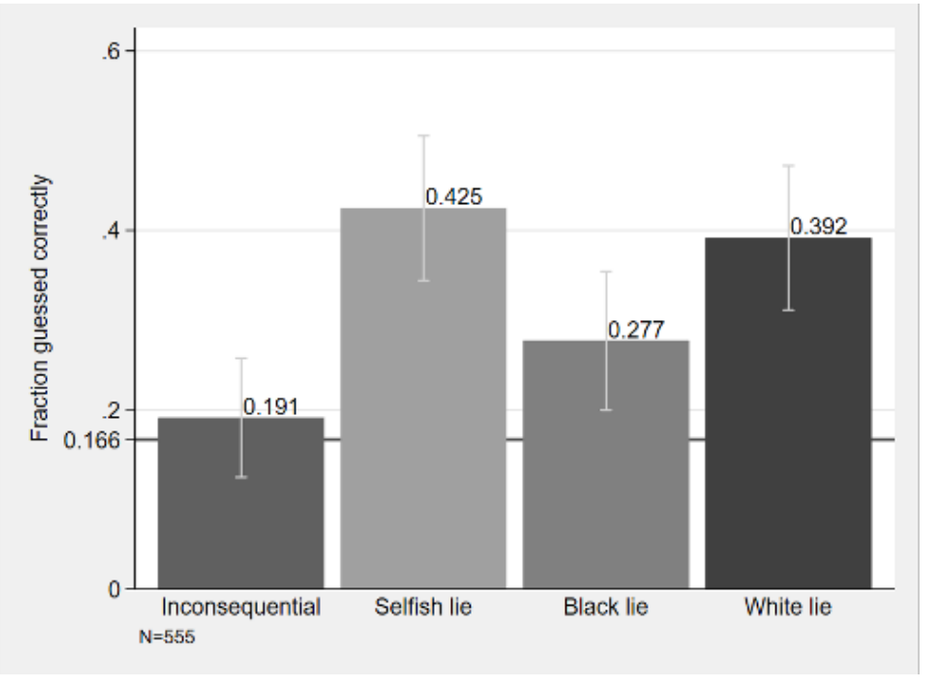
In Figure 3, we present the proportion of participants who reported winning by experimental condition and their 95% confidence intervals. The dashed line at 0.166 is the expected fraction of participants who truly won. Consequently, we interpret levels statistically significantly above that line as evidence of self-serving dishonesty. In Appendix B, we present proportion tests for the various comparisons between the experimental conditions[3].

Figure 3 Proportion of participants who reported winning by experimental condition Appendix C presents the results obtained using OLS. The coefficients related to each experimental group represent the effect of each treatment with respect to the condition without incentives. We do not observe relations between dishonesty levels and any control variable or their interactions, such as student status, age, or gender. Below, we provide further detail on the results of these analyses and their interpretation in relation to our hypotheses and previous studies.

As a robustness check, we apply the method developed by Hugh-Jones (2019) in Appendix D to estimate lying rates in binary dishonesty experiments. This method employs Bayesian estimation rather than the frequentist approach commonly used in the literature. Unlike the frequentist approach, Bayesian estimation provides insights into the possible distribution of lying rates and can be more precise with small samples. We demonstrate that the results obtained using this technique are similar to those derived from the traditional approach outlined in this section.

[3]The number of participants in each condition naturally varied throughout the randomization process. Nonetheless, our sample is big enough to achieve the statistical power necessary to detect the effect sizes we observe in our results. Using GPower 3.1, we calculated in a sensitivity analysis that with the smallest two groups in the experiment (Black Lies, N=130, and Inconsequential Lies, N=136), we could observe a proportion difference of 0.11 with a power, 1-, of 80% and a significance level, , of 0.1.

Figure 3: *Characterization of lies with respect to their consequences*




Note: We include 95% CIs. The reference line is the expected fraction of participants who would report winning under full honesty.

*Result 1:* Individuals do not lie when dishonesty is not monetarily motivated.

As predicted in our hypotheses, when dishonesty was not monetarily incentivized, participants' reports were consistent with the theoretical expectations under full honesty. In the inconsequential lie treatment, 19.1% reported winning. This is not statistically significantly different than the theoretical prediction of 16.66% (z-value=0.767, p-value=0.44). This result implies an expected proportion of liars of 3.1%.

Previous studies have found that some individuals are willing to do anti-social acts, like eliminating other players' earnings in laboratory settings, even when they do not win anything from it (Abbink and Sadrieh, 2009; Abbink and Herrmann, 2011). We interpret our result as a lack of evidence of a similar phenomenon in dishonesty. That is, individuals do not get any intrinsic gain in utility for lying. This shows that either a false report of winning gives no utility to the individual at all or that telling a small lie is too big a psychological cost to pay to reap the small gain of falsely claiming to be a winner (Hilbig and Hessler, 2013).

*Result 2:* Some individuals lie when they benefit without affecting someone else.

Consistent with our second hypothesis, some but not all participants lied when they could get money from it. As shown in Figure 3, significantly more participants reported winning in all three incentivized conditions compared to the prediction under full honesty. Moreover, in the selfish lie condition, 42.5% reported winning. The implicit condition of liars in this condition is 25.8%, which is larger than in the inconsequential lie condition (Diff.=0.233, SE=0.053, one sided proportion test, $p<0.001$).

Consistent with previous literature, our observations imply that dishonesty increases in the presence of

monetary incentives. For example, (Yaniv and Siniver, 2016) noted that participants lie about their performance in a simple task when they are not observed and can benefit from it. Also, (Balasubramanian et al., 2017) found, using a task where participants reported the results of a series of flip coins, that dishonesty responds positively to incentives but only to a certain point, declining when the rewards for lying are very high. This result adds to the existing literature by replicating those results in the Mind Game paradigm, where observability is null and with a relatively small incentive. Moreover, our results entail that 69.04% of participants who saw a losing outcome in the selfish lie condition were honest about it. This result contradicts the prediction of traditional models that with a positive incentive to lie and no risk of detection, all participants would lie. In fact, it confirms the finding in the literature that people have both selfish and moral motivations.

*Result 3:* People do not lie more when they can benefit a charity and themselves.

In the white lie condition, 39.2% reported winning. This proportion implies a 22.54% expected percentage of liars. Our observations entail that, contrary to the prediction, the selfish lie group did not report winning proportionally less often than the white lie group (Diff.=0.033, SE=0.059, one-sided proportion test, $p<0.716$).

From this result, we interpret that the possibility of helping the charity was not enough to motivate Pareto-improving dishonesty. Using the theoretical framework presented before, we would conclude that either participants did not value helping the charity enough or did not find that it offered enough justification to lie. Another explanation, though not mutually exclusive, is that some participants could perceive lies as something unethical regardless of the consequences (Jacobsen et al., 2018). Notice that 72.95% of participants who saw a losing outcome were honest about it. This implies that for these participants, the aggregate motivation to lie for private and charity gains was not enough to misreport the result of a dice even when observability was impossible.

*Result 4:* People lie less when they benefit at the expense of a charity.

In Figure 3, we observe that in the black lie condition, more participants declared having won than the expected proportion of true winners. In fact, 27.7% reported winning in this condition. This implies a proportion of liars of 11.1%. When compared to those in the inconsequential lie group, a larger proportion of participants who could benefit at the expense of the charity reported that they won the guessing game (Diff.=0.086, SE=0.051, one sided proportion test, $p<0.049$). However, the proportion of self-claimed winners in the black lie condition is lower than in the selfish lie condition (Diff.=0.147, SE=0.057, one sided proportion test, $p<0.005$). That is, knowing that the amount earned by reporting winning came from an account that otherwise would be donated to the charity reduced the winning reports by 34.79% (14.773 percentage points) compared to when only the liar is affected. This difference, though slightly smaller, is also observed when comparing to those in the white-lie condition (Diff.=0.115, SE=0.056, one sided test, p=0.0226).

Our theoretical framework offers two potential reasons for our observations. The first is a reduction in selfish lies. That is, for some participants, the cost of affecting the charity added to the intrinsic aversion to lying surpassed the utility gained from the monetary incentive. The second reason is an increase in altruistic lies. That is, some participants who saw a winning outcome may have falsely claimed they lost to avoid hurting the charity.

Though we cannot discern between the two potential reasons for this result, notice that the maximum proportion of such altruistic lies is 16.66% since that is the expected proportion of true winners. Therefore, if the reduction in winning reports was only explained by an increase in altruistic lies, we would say that 88.64% of participants who truthfully won acted this way. We consider that unlikely. Winning or losing is unrelated

to participants' characteristics, so it is safe to assume that participants who won have on average the same preferences for others as those who lost. Therefore, if such a strong proportion of winning participants were willing to give up their earned prize in favor of the charity, we would have observed a similar proportion of participants unwilling to unfairly claim themselves as winners when they actually lost. Hence, the proportion of winning reports would have been much lower. Consequently, we interpret from our results that the information about the harm to the charity decreased lies.

An alternative explanation for our observations, though not included in our theoretical framework, is that individuals may experience loss aversion when benefiting or harming others through dishonesty (Kahneman and Tversky, 1979). Previous research provides suggestive evidence that loss aversion influences lying behavior (Grolleau et al., 2016; Schindler and Pfattheicher, 2017), particularly when potential losses follow a real-effort task (Ortiz et al., 2023). If this is the case, it is plausible that participants may lose more utility from causing the charity to lose a donation than they gain from helping it win. While we acknowledge this as a potential explanation for our results, our experimental design does not allow us to conclusively determine its validity. We therefore propose this mechanism as a possible extension for future research.

# 7. Conclusions and discussion

People often lie to benefit themselves, but lies can negatively affect others by undermining social trust and facilitating corruption and fraud. For instance, a corrupt public contractor may profit from bribes while defrauding the government and taxpayers. Similarly, false insurance claims may benefit those who file them, but they harm insurance companies and other customers through higher premiums. Despite this, people often seek justifications for their dishonesty by emphasizing potential benefits to others. For example, employers who lie to employees about social security contributions might justify their actions by claiming that, although workers' final earnings are reduced, jobs are created. A teacher who helps a student commit academic fraud might rationalize it by believing the student's future career will benefit without harming others. Therefore, it is crucial to understand how perceived consequences for others influence dishonest behavior.

In this study, participants chose whether to lie in a guessing game where dishonesty was impossible to detect at the individual level. To examine how dishonest behavior changes when it has consequences for others, we varied how lying about winning affected both the participants and an unnamed charity. We observed that participants did not lie when dishonesty offered no incentives. However, some participants lied when personal benefits were at stake, though not as much as models only based on monetary cost-benefit models would predict. Additionally, we found an asymmetry when dishonesty also affected the charity: participants lied less when they knew that reporting a win would harm the charity, but they did not lie more to benefit it. These results align with the intuition that both selfish and moral concerns drive individual behavior. While individuals seek private gains, lying incurs moral costs, particularly when it harms others.

This study contributes to the growing body of research on how concern for others' earnings influences individual dishonest actions. We replicate and extend previous findings in the literature using a simpler task, the Mind Game, and apply it to a sample in Mexico—a context not traditionally explored in this field—thus enhancing the ecological validity of the results. Our results in the selfish lie condition are consistent with findings from similar experimental designs in other countries. For instance, (Kajackaite and Gneezy, 2017), introducing the mind game paradigm, found that 16% to 33% of participants lied, depending on the incentives. Similarly, (Abeler et al., 2019), after analyzing results from 90 experimental studies on dishonesty, observed that participants forgo three-quarters of potential gains. In our setting, this would correspond to a lying rate

of approximately 25%.

Additionally, we argue that when studying the effect of incentives, the appropriate comparison should be with an unincentivized scenario, rather than the theoretical prediction of true winners. Finally, our findings contribute to the ongoing debate on whether people lie more when helping others—so-called white lies—compared to when they only benefit themselves. As observed, even in cases where participants could gain personal benefits and support a charity with no risk of detection, most chose to remain honest. Future research could employ similar designs with non-traditional samples to explore whether this behavior is due to the relatively low incentives in our experiment or reflects a broader tendency for individuals to make moral choices regardless of incentives. Additionally, future research could vary the information provided about the affected third party, which in our study was an unnamed charity, to evaluate how this information might influence honest behavior.

While our results advance the literature, they should be considered within the limits of the external validity of online experiments. They provide support for general principles that can be tested in the field to inform public policy. According to a recent review by (Hertwig and Mazar, 2022), empirical evidence on successful interventions to reduce dishonesty remains scarce, with most studies focusing on individual factors, such as moral reminders and commitments. Our findings underscore the importance of highlighting how dishonesty negatively affects others. Future research could test interventions based on this idea in field settings, ideally in a Mexican context as well.

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# A. Step-by-step theoretical derivation of our hypotheses

Recall that we have modelled the individual's utility function as:

$$U(Report, Lost) = y \cdot Report - \beta \cdot (Report \times Lost) + \alpha C(Report) \tag{1}$$

In this equation, $Report$ takes the value of 1 when the individual reports winning and 0 if the opposite is true. $Lost$ takes the value of 1 when the individual actually lost and 0 if the opposite is true. Therefore, if $Report = 1$ and $Lost = 1$, the individual lies about winning, while if $Report = 0$ and $Lost = 0$, the individual lies about losing. Also, $Report$ may have positive or negative consequences for a charity represented by $C(Report)$. $y$ is a monetary prize for reporting winning, $\beta$ is a moral cost for lying about winning, and $\alpha$ is a weight that captures how much the individual cares about the consequences for the charity.

*Hypothesis 1:* Individuals do not lie when being dishonest has no consequences at all.

A situation without incentives means that, in Equation (1), $y = 0$ and that $C(Report) = 0$. So, we can write this equation as:

$$U(Report, Lost) = -\beta \cdot (Report \times Lost)$$

So, people will lie about winning ($Report = 1$ & $Lost = 1$) if:

$$-\beta > 0$$

And people will lie about losing ($Report = 0$ & $Lost = 0$) if:

$$0 > 0$$

Both things do not happen for $\beta > 0$, so we predict no dishonesty.

*Hypothesis 2:* Some people lie when they can benefit from it and no one else is affected.

If $y > 0$ and $C(Report) = 0$, we can write (1) as:

$$U(Report, Lost) = y \cdot Report - \beta \cdot (Report \times Lost)$$

So, people will lie about winning ($Report = 1$ & $Lost = 1$) if:

$$y > \beta$$

And people will lie about losing ($Report = 0$ & $Lost = 0$) if:

$$0 > y$$

Since it is likely that, for some people, the moral cost of lying is not that high ($y > \beta$), we will observe some dishonesty. No one will misreport losing because $y > 0$.

*Hypothesis 3:* People lie more when their lie benefits both them and others.

If $y > 0$ and $C(Report) > 0$, we can write (1) as:

$$U(Report, Lost) = y \cdot Report - \beta \cdot (Report \times Lost) + \alpha C(Report)$$

So, people will lie about winning ($Report = 1$ & $Lost = 1$) if:

$$y + \alpha C(Report) > \beta$$

And people will lie about losing ($Report = 0$ & $Lost = 0$) if:

$$0 > y + \alpha C(Report)$$

Since it is likely that, for some, the moral cost for lying, $\beta$, is not as high as the sum of the selfish incentive, $y$, and the altruistic incentive, $\alpha C(Report)$, we will observe some dishonesty. Furthermore, because of the randomization, there will be more dishonesty in this situation (White lie) in contrast to the selfish lie situation because the incentives to lie are higher while the moral cost is the same ($y + \alpha C(Report) > y > \beta$). Finally, no one will misreport losing because $y + \alpha C(Report) > 0$.

*Hypothesis 4:* People lie less when they benefit at the expense of others.

If $y > 0$ and $C(Report) < 0$, we can write (1) as:

$$U(Report, Lost) = y \cdot Report - \beta \cdot (Report \times Lost) - \alpha C(Report)$$

So, people will lie about winning ($Report = 1$ & $Lost = 1$) if:

$$y > \beta + \alpha C(Report)$$

And people will lie about losing ($Report = 0$ & $Lost = 0$) if:

$$\alpha C(Report) > y$$

Therefore, since it is likely that, for some people, the moral cost for lying, $\beta$, is not as high as the sum of the selfish incentive, $y$, even after the moral cost of hurting the charity, $\alpha C(Report)$, we will observe some dishonesty. However, it is also possible that, for some, the moral cost of hurting the charity when truly winning is larger than the monetary incentive. As a result, we can anticipate some false reports about losing. Nonetheless, notice that the maximum proportion of this second type of lie is bound by the proportion of true winners: $\frac{1}{6}$.

# B. Proportion tests (one sided) per experimental group

Table 2: *Proportion tests (one-sided) per experimental group*

| **Hypothesis** | **Mean 1** | **Mean 2** | **Diff. (SE)** | **zval** | **One-sided p-value** |
|---|---|---|---|---|---|
| *Inconsequential* < *Selfish* | 0.191 | 0.425 | -0.2335 (0.053) | -4.2284 | p<0.001 |
| | (0.034) | (0.04) | (0.053) | | |
| *Inconsequential* < *Black Lie* | 0.191 | 0.277 | -0.086 (0.051) | -1.6534 | 0.0491 |
| | (0.034) | (0.039) | (0.051) | | |
| *Inconsequential* < *White Lie* | 0.191 | 0.392 | -0.200 (0.052) | -3.6734 | p<0.001 |
| | (0.034) | (0.041) | (0.052) | | |
| *Black Lie* < *Selfish* | 0.277 | 0.425 | -0.148 (0.056) | 2.5601 | 0.0052 |
| | (0.039) | (0.04) | (0.056) | | |
| *Black Lie* < *White Lie* | 0.277 | 0.392 | -0.115 (0.056) | -2.0021 | 0.0226 |
| | (0.039) | (0.041) | (0.056) | | |
| *Selfish* < *White Lie* | 0.425 | 0.392 | 0.033 (0.057) | 0.5715 | 0.7162 |
| | (0.04) | (0.041) | (0.057) | | |

**Note:** The hypotheses correspond to the ones mentioned in Section 3. Mean 1 makes reference to the first condition mentioned in each hypothesis, while Mean 2 corresponds to the second.

# C. Main results regression table

The following table presents the results obtained using regression analysis of the treatments on a binary variable that takes the value of one when the participant reported winning. Column 1 shows a simple regression with no controls, in which the intercept represents the condition with no incentives. Column 2 includes socioeconomic controls to improve the precision of our estimates. As the majority of participants in the experiment were students at three universities in Mexico City, column 3 includes dummy variables to control for any differences across those universities. Column 4 includes gender interactions.

Table 3: *Main results*

| | (1) **win** b/se | (2) **win** b/se | (3) **win** b/se | (4) **win** b/se |
|---|---|---|---|---|
| Black lie | 0.086* | 0.074 | 0.075 | 0.109 |
| | (0.052) | (0.053) | (0.054) | (0.077) |
| Selfish | 0.233*** | 0.224*** | 0.230*** | 0.249*** |
| | (0.053) | (0.053) | (0.053) | (0.081) |
| White lie | 0.200*** | 0.183*** | 0.190*** | 0.281*** |
| | (0.053) | (0.052) | (0.053) | (0.082) |
| Female | -0.006 | -0.006 | -0.056 | -0.067 |
| | (0.039) | (0.039) | (0.068) | (0.068) |
| Age | -0.001 | -0.001 | -0.001 | -0.002 |
| | (0.002) | (0.002) | (0.002) | (0.002) |
| It's a student | 0.108* | 0.104* | 0.103 | 0.105 |
| | (0.063) | (0.070) | (0.070) | (0.071) |
| Level of education | -0.065 | -0.086 | -0.086 | -0.087 |
| | (0.064) | (0.075) | (0.075) | (0.075) |
| Receives scholarship | 0.011 | 0.021 | 0.019 | 0.020 |
| | (0.050) | (0.052) | (0.052) | (0.052) |
| Reported dice result | 0.018 | 0.017 | 0.018 | 0.019 |
| | (0.011) | (0.011) | (0.011) | (0.011) |
| Black lie × Female | | | -0.058 | |
| | | | (0.104) | |
| Selfish × Female | | | -0.030 | |
| | | | (0.107) | |
| White lie × Female | | | -0.154 | |
| | | | (0.107) | |
| Constant | 0.191*** | 0.117 | 0.104 | 0.062 |
| | (0.034) | (0.099) | (0.100) | (0.103) |
| School FEs | NO | NO | YES | YES |
| $R^2$ | 0.034 | 0.064 | 0.060 | 0.059 |
| N | 555 | 555 | 555 | 555 |

**Note:** SEs in parentheses. * p¡0.1, ** p¡0.05, *** p¡0.01.

# D. Robustness using Hugh-Jones (2019) method

Hugh-Jones (2019) suggests the Bayesian approach in this appendix, which provides estimates of the proportion of dishonest participants in the experiment. The method involves estimating the excess number of winning reports compared to what one would expect under full honesty. The advantage compared to the frequentist approach is that it allows one to present confidence intervals. In all estimations, we impose a uniform prior distribution. The following figure presents the distribution of the estimated proportions of liars in each treatment.

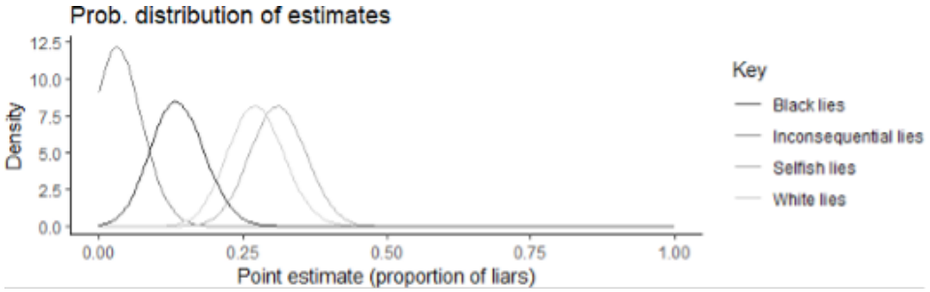


Table 4: *Proportion of Liars by Treatment Group*

| | N | Won | Prop. Liars (Estimated) | 95% CI | |
|---|---|---|---|---|---|
| | | | | Low | High |
| **Inconsequential** | 136 | 26 | 0.049 | 0.000 | 0.110 |
| **Selfish lie** | 146 | 62 | 0.311 | 0.213 | 0.410 |
| **White lie** | 143 | 56 | 0.272 | 0.175 | 0.370 |
| **Black lie** | 130 | 36 | 0.137 | 0.046 | 0.230 |

Using this approach, we can achieve similar results to those obtained using the most common method of comparison, as presented in the main text of the paper.

# E. Supplementary material: instructions of the experiment

*Informed consent letter – Spanish*

**CARTA DE CONSENTIMIENTO INFORMADO**

**Gracias por tener interés en participar**

Esta es una carta sobre tu participación en un proyecto de investigación cuyo propósito principales llevar a cabo estudios experimentales en ciencias sociales. En este texto te vamos a dar información sobre el propósito del proyecto y lo que implica tu participación.

**Propósito del proyecto**

Este es un proyecto de investigación cuyo propósito es entender cómo las personas toman decisiones morales y financieras. Con esto buscamos desarrollar artículos de investigación académica.

**¿Quién es la persona responsable del proyecto?**

Las personas responsables del proyecto son Adrian Vargas-López (Investigador Postdoctoral en el Tecnológico de Monterrey), Giuliana Triberti (Estudiante de Licenciatura de Economía y Finanzas en el Tecnológico de Monterrey), Pablo Soto-Mota (Ph.D. Research Scholar en la Escuela Noruega de Economía) y Arne Nasgowitz (Ph.D. Research Scholar en la Escuela Noruega de Economía).

**¿Por qué te estamos invitando a participar?**

Estamos buscando la participación de 700 personas mayores de 18 años en México. Una vez llegado a ese número cerraremos este enlace. Es importante que contestes solo una vez. Si contestas más de una vez, no te podremos enviar una tarjeta de regalo.

**¿Qué es lo que implica participar?**

Si decides participar en el proyecto, vas a realizar tres actividades respondiendo un cuestionarioen línea. La duración de este cuestionario es de aproximadamente 15 minutos. Luego de finalizar, vas a recibir como agradecimiento una Tarjeta de Regalo de Amazon MX con un valorde entre 50 pesos mexicanos y 110 pesos mexicanos. El valor exacto de la tarjeta dependerá de tus decisiones y de las decisiones de los demás en las actividades que realicemos. Te invitaremos también a realizar dos actividades más con una duración de 5 minutos. Si aceptas participar en esas actividades adicionales, participarás en una rifa en la que podrás ganar una de seis tarjetas de regalo con valor de 1000 MXN. A lo largo del cuestionario hay tres preguntasmuy sencillas que controlan que estés leyendo y entendiendo las instrucciones. Debes contestarlas tres correctamente para recibir tu pago.

**La participación es voluntaria.**

La participación en este proyecto es voluntaria. Además, puedes eliminar tu consentimiento encualquier momento, sin tener que dar ninguna razón. Toda la información que hayamos recolectado se eliminará. No participar o dejar de participar en este proyecto no tendrá ningunaconsecuencia negativa para ti. Tu privacidad. ¿Cómo vamos a almacenar y usar tus datos personales? Usaremos tus respuestas solo para fines de investigación académica. Solo te pediremos los datos que nos permitan comunicarnos contigo para hacerte llegar la Tarjeta de Regalo como agradecimiento.

**¿Qué le va a pasar a tus datos personales?**

Inmediatamente después de confirmar que recibiste la tarjeta de regalo, tus datos de contacto seeliminarán y tus respuestas serán anónimas. Todas las respuestas se harán anónimas el 29 de abril y todos los datos de contacto se eliminarán. Luego de esa fecha analizaremos los

datos deforma anonimizada y los almacenaremos en repositorios abiertos (Open Science) para su uso en investigación académica.

**Tus derechos**

Antes de que tus datos se hagan anónimos, tienes derecho a:

- Saber qué datos tenemos sobre ti y cómo los procesaremos.
- Pedir que tus datos personales sean eliminados.
- Corregir o rectificar errores en tus datos personales.
- Recibir una copia de los datos personales que tenemos tuyos.

**¿Qué nos da derecho a procesar tus datos personales?**

Vamos a procesar tus datos personales basándonos en tu consentimiento.

**¿Dónde puedes saber más de este proyecto?**

Si tienes preguntas sobre este proyecto o quieres ejercer tus derechos, te puedes comunicar conAdrian Vargas-López al correo ….

**Consentimiento**

He recibido y entiendo la información que se me ha proporcionado sobre el proyecto "BEErtual Lab". Además, he tenido la oportunidad de aclarar cualquier duda. Doy mi consentimiento de participar en las sesiones de investigación y de que mis datos personales sean procesados paralos fines que me han mencionado hasta el 29 de abril del 2022.

[Sí, doy mi consentimiento] [No doy mi consentimiento.]

*Informed consent letter – English (translation)*

**INFORMED CONSENT LETTER**

**Thank you for your interest in participating in this study.**

This is a letter about your participation in a research project whose main purpose is to carry out experimental studies in the social sciences. In this text we are going to give you information about the purpose of the project and what your participation involves.

**Purpose of the project**

This is a research project whose purpose is to understand how people make moral and financialdecisions. With this we seek to develop academic research articles.

**Who is the person responsible for the project?**

The persons responsible for the project are Adrian Vargas-López (Postdoctoral Researcher at Tecnológico de Monterrey), Giuliana Triberti (Undergraduate student of Economics and Finance at Tecnológico de Monterrey), Pablo Soto-Mota (Ph.D. Research Scholar at the Norwegian School of Economics) and Arne Nasgowitz (Ph.D. Research Scholar at the Norwegian School of Economics).

**Why are we inviting you to participate?**

We are seeking the participation of 700 people over the age of 18 in Mexico. Once that number is reached, we will close this link. It is important that you answer only once. If you answer morethan once, we will not be able to send you a gift card.

**What does it mean to participate?**

If you decide to participate in the project, you will complete three activities by answering an online questionnaire. The duration of this questionnaire is approximately 15 minutes. After finishing, you will receive an Amazon MX Gift Card with a value of between 50 Mexican pesosand 110 Mexican pesos. The exact value of the card will depend on your decisions and the decisions of others in the activities we do. We will also invite you to participate in two

additional activities with a duration of 5 minutes. If you agree to participate in these additionalactivities, you will be entered into a raffle for a chance to win one of six gift cards worth 1000MXN. Throughout the quiz there are three very simple questions that check that you are readingand understanding the instructions. You must answer all three correctly to receive your payment.

**Participation is voluntary.**

Participation in this project is voluntary. In addition, you can withdraw your consent at any time, without having to give any reason. All information we have collected will be deleted. Not participating or ceasing to participate in this project will not have any negative consequences for you.

**Your privacy. How will we store and use your personal data?**

We will use your responses only for academic research purposes. We will only ask you for thedata that will allow us to contact you to send you the gift card as a thank you.

**What will happen to your personal data at the end of the research project?**

Immediately after you confirm receipt of the gift card, your contact information will be deleted,and your responses will be anonymized. All responses will be anonymized on April 29th, and all contact information will be deleted. After that date we will analyze the data in anonymized form and store it in open repositories (Open Science) for use in academic research.

**Your rights**

Before your data is anonymized, you have the right to:

- Know what data we hold about you and how we will process it.
- Ask for your personal data to be deleted.
- Correct or rectify errors in your personal data.
- Receive a copy of the personal data we hold about you.

**What gives us the right to process your personal data?**

We will process your personal data based on your consent.

**Where can you learn more about this project?**

If you have any questions about this project or want to exercise your rights, you can contactAdrian Vargas-Lopez at ….

**Consent**

I have received and understand the information provided to me about the "BEErtual Lab" project. In addition, I have had the opportunity to clarify any doubts. I give my consent to participate in the research sessions and to have my personal data processed for the purposes mentioned to me until April 29, 2022.

[Yes, I give my consent.] [I do not give my consent.]

*Compromiso de atención plena – español*

**COMPROMISO DE ATENCIÓN PLENA**

Te pedimos que te comprometas a otorgarnos tu completa atención a lo largo de este cuestionario. Esto quiere decir que debes procurar estar en una situación sin demasiadas distracciones o haciendo algo más durante aproximadamente 15 minutos. Debes leer con atención las instrucciones que te daremos y pensar en tus respuestas. Además, te pedimos que te comprometas a contestar este cuestionario solo una vez.

Tu compromiso nos ayuda a que obtengamos buenos resultados de investigación y que sea unaexperiencia enriquecedora para ti.

¿Te comprometes ?

[Sí, me comprometo.] [No me comprometo.]Contesta lo siguiente:

Entiendo que este cuestionario tiene tres partes incentivadas. En esas tres partes, tomaré decisiones que podrían aumentar el bono que recibiré además del pago inicial de 50 MXN. Comprendo que una de esas tres partes va a ser elegida al azar al final para ser implementada ypagada. Recuerdo que mi tarjeta de regalo puede tener un valor de entre 50 y 110 MXN y que esta se enviará algunos días después de mi participación.

[Sí, entiendo esto.] [No, no entiendo esto.]

*Attention check – Spanish*

Comprendo que a lo largo de este cuestionario hay tres preguntas que controlan si estoy leyendoy entendiendo las instrucciones. Entiendo que si no las contesto de forma correcta, no recibiré un pago. Sé que son preguntas fáciles. Esta es una de ellas. Señala la segunda opción.

[A] [B] [C]

*Commitment of full attention – English (translation)*

**FULL ATTENTION COMMITMENT**

We ask you to commit to giving us your full attention throughout this questionnaire. This means that you should try to be in a situation without too many distractions or doing anythingelse for approximately 15 minutes, read the instructions carefully, and think about your answers. In addition, we ask you to commit to answering this questionnaire only once. Your commitment helps us to get good research results and to make it an enriching experience for you.

**Do you commit?**

[Yes, I am committed.] [I do not commit.]Answer the following questions.

I understand that this questionnaire has three incentivized parts. In those three parts, I will make decisions that could increase the bonus I will receive in addition to the initial payment of MXN 50. I understand that one of these three parts will be randomly selected at the end tobe implemented and paid. I remember that my gift card can have a value between 50 and 110MXN and that it will be sent a few days after my participation.

[Yes, I understand this.] [No, I do not understand this.]

*Attention check – English (Translation)*

I understand that throughout this questionnaire there are three questions that check if I am reading and understanding the instructions. I understand that if I do not answer them correctly, I will not receive a payment. I know they are easy questions. This is one of them. Check the second option.
[A] [B] [C]

*Instrucciones – Español*

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|---|
| Luego de la aleatorización, los participantes serán asignados a una de las siguientes variantes de las instrucciones: |
| *Mentira sin consecuencias (Inconsequential Lie)*<br>Esta actividad no afectará de ninguna manera tus pagos. |
| *Otros grupos experimentales*<br>Esta es la tercera de las tres actividades que podría ser implementada y pagada como bono adicional a tu pago inicial. **Esto significa que tus decisiones en esta actividad podrían determinar tus pagos.** Por esto, te pedimos que leas con cuidado las instrucciones. |

Además,

| |
|---|
| *Mentira egoísta (Selfish Lie)*<br>**Por participar en esta actividad puedes ganar hasta 50 MXN.** |
| *Mentira con consecuencias negativas (Black lie)*<br>**Por participar en esta actividad puedes ganar hasta 50 MXN.** |
| *Mentira con consecuencias positivas(White lie)*<br>**Por participar en esta actividad puedes ganar hasta 50 MXN.** |

Esta actividad consiste en predecir el resultado de un dado con 6 caras. Es decir, se trata de adivinarun número aleatorio del 1 al 6. Primero te pediremos que pienses en un número del 1 al 6. Luegote pediremos que tires un dado virtual y te aparecerá el resultado. Después, te preguntaremos siapareció el número que pensaste.

| |
|---|
| *Mentira sin consecuencias (Inconsequential Lie)*<br>[Sin información adicional] |
| *Mentira egoísta (Selfish Lie)*<br>Si ganas, te daremos 50 MXN. De otra forma no ganarás nada. |
| *Mentira con consecuencias negativas (Black lie)*<br>Si ganas, te daremos 50 MXN. De otra forma no ganarás nada.<br>Si ganas, los 50 MXN vendrán de una cuenta que de otro modo donaremos a la caridad. |
| *Mentira con consecuencias positivas(White lie)*<br>Si ganas, además de darte 50 MXN, donaremos 50 MXN a la caridad. |

¿Has leído y entendido estas instrucciones?[Sí] [No]

*Instructions – English (translation)*

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|---|
| After the randomisations, participants will be allocated to one of the following variations of the instructions. |
| *Inconsequential Lie*<br>This activity will not affect your payment. |
| *Other experimental conditions*<br>This is the third of the three activities that could be implemented and paid as an additional bonus to your initial payment. **This means that your decisions in this activity could determine your payments.** Therefore, we ask you to read the instructions carefully. |

Also,

| |
|---|
| *Selfish Lie*<br>**For participating in this activity, you can earn up to 50 MXN.** |
| *Black lie*<br>**For participating in this activity, you can earn up to 50 MXN.** |
| *White lie*<br>**For participating in this activity, you can earn up to 50 MXN.** |

This activity consists of predicting the outcome of a 6-sided die. In other words, you have to guess a random number from 1 to 6. First, we will ask you to think of a number from 1 to 6. Then we will ask you to roll a virtual die, and the result will appear. Afterwards, we will ask you if your guess was correct.

| |
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| *Inconsequential Lie*<br>[No additional information] |
| *Selfish Lie*<br>If you win, we will give you 50 MXN. If not, you will not win anything. |
| *Black lie*<br>If you win, we will give you 50 MXN. If not, you will not win anything.<br>If you win, the 50 MXN will come from an account that otherwise we would donate to charity. |
| *White lie*<br>If you win, we will give you 50 MXN. If not, you will not win anything.<br>If you win, in addition to giving you 50 MXN, we will donate 50 MXN to charity. |

Have you read and understood these instructions?[Yes] [No]
*Roll of the dice – Spanish*

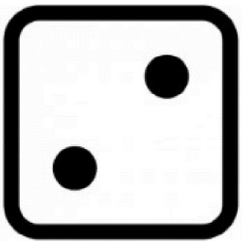
Por favor, piensa en un número del 1 al 6.
Luego, da clic en el botón de continuar para tirar el dado virtual.

Este dado es completamente aleatorio y nosotros no tenemos ninguna manera de saber elresultado que sacaste.

*Roll of the dice – English [Translation]*
Please **think of a number from 1 to 6.**
Then, click the continue button to roll the virtual die.

This die is completely random, and we have no way of knowing the result you rolled.
*Result (example) – Spanish*

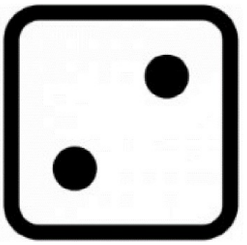
El resultado es



Da clic en el botón para continuar

*Result (example) – Spanish*

The result is,



Click the button to continue.

*Report– Spanish*

| |
|---|
| *Inconsequential Lie*<br>Recuerda que esta actividad no afectará tus pagos finales. |
| *Selfish Lie*<br>Recuerda que si adivinaste correctamente, ganaste 50 MXN. |
| *Black lie*<br>Recuerda que en caso de que hayas adivinado correctamente, los 50 MXN que ganaste vendrán de una cuenta que de otro modo donaremos a la caridad. |
| *White lie*<br>Recuerda que en caso de que hayas adivinado correctamente, además de darte los 50MXN, donaremos 50 MXN a la caridad. |

¿Qué número te salió?[1] [2] [3] [4] [5] [6]
¿Es el número que pensaste?[Sí. Gané.] [No. Perdí]
*Report – English (Translation)*

| |
|---|
| *Inconsequential Lie*<br>Remember that this activity will not affect your payments. |
| *Selfish Lie*<br>Remember that if you guessed correctly, you win 50 MXN. |
| *Black lie*<br>Remember that in case you guessed correctly, the 50 MXN you won will come from an account that we would otherwise donate to charity |
| *White lie*<br>Remember that in case you guessed correctly, in addition to giving you the 50 MXN you won, we will donate 50 MXN to charity. |

What number did you get?[1] [2] [3] [4] [5] [6]
Is it the number you thought of?[Yes, I won.] [No, I lost.]

*Socioeconomic questionnaire – Spanish*

Esta es una pregunta de control de atención. Entre los siguientes números, ¿cuál es el más chico?[1] [2] [3] [4]
¿Cuál es tu género?
[Masculino] [Femenino] [Tercero / No binario] [Prefiero no decirlo]
¿Qué edad tienes? En años cumplidos.[Espacio para respuesta]
¿A qué te dedicas?
[Estudio] [Trabajo] [Estudio y trabajo] [No estudio ni trabajo]
¿Cuál es el mayor nivel de estudios que terminaste?
[Primaria] [Secundaria] [Preparatoria o bachillerato] [Licenciatura] [Maestría o especialidad][Doctorado]
¿De qué universidad formas parte como estudiante o colaborador?
[Tec de Monterrey] [UNAM] [CIDE] [UNAM] [El Colegio de México] [Otra] [No formo partde ninguna universidad]

*Socioeconomic questionnaire – English (Translation)*

This is an attention control question. Among the following numbers, which is the smallest?
[1] [2] [3] [4]
What is your gender?
[Male] [Female] [Third / Non Binary] [I rather not say]
How are are you? In years completed[Space for numerical answer]
What is your occupation?
[Study] [Work] [Study and work] [Neither study nor work]What is the highest level of study you completed?
[Elementary] [High School] [High school or high school] [Bachelor's degree] [Master's degree or specialty] [Doctorate]
What university do you belong to as a student or collaborator?

[Tec de Monterrey] [UNAM] [CIDE] [El Colegio de México] [From another university] [Not part ofany university]