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BE CLOSE TO ME AND I WILL BE HONEST – HOW SOCIAL DISTANCE INFLUENCES HONESTY

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How social distance influences honesty

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Abstract

We conducted a laboratory experiment to examine how honesty depends on social distance. Participants cast dice and reported the outcomes to allocate money between themselves and fellow students or the socially distant experimenter. They could lie about outcomes to earn more money. We found that dishonesty increases with social distance. However, responsiveness to social distance depends on personal preferences about inequity and honesty as a moral value. We observed selfish 'black lies' but not altruistic 'white lies' (outcomes were not understated to reduce inequality). Our results suggest that the reduction of social distance can promote honesty in social interactions.

Keywords: Cheating, honesty, social distance, experiment.

JEL Codes: C91, D63, D64.

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1. Introduction

Dishonesty is common in social interaction. However, does it matter for honesty how close interaction partners are to each other? Dishonesty is costly because it reduces the value of the interaction and may even preclude it. Social distance is a likely influence on honesty and it is under the control of the interaction partners. It is therefore important to understand the role of social distance, which has largely eluded attention in prior research. We show, in a laboratory experiment, that dishonesty increases with social distance. Furthermore, we find that the effect of social distance depends on personal preferences about honesty and fairness. This study contributes to the growing literature that examines drivers of honesty, both on the personal and the situational level. It argues for the reduction of social distance to promote honesty in social interactions but also shows the contingency of this approach on personal preferences.

Honesty is, to a large extent, a matter of personal preferences (Gibson et al., 2013). Experimental research has consistently found individuals that did not lie despite strong economic incentives for dishonesty, whereas others lied readily. Motivated by pure aversion to lying, some even disregard potential favorable consequences of lying for themselves or others (López-Pérez and Spiegelman, 2013). In economic terms, there is an intrinsic cost to lying, which is prohibitively high for some (Arbel et al., 2014; Kajackaite and Gneezy, 2017). Refuting the idea of a simple distinction between economic and ethical types, Gibson et al. (2013) traced honesty back to heterogeneous preferences. Specifically, they showed that the concept of protected values explains variation in honesty. People differ in how much they consider honesty a protected value, which they are reluctant to trade off for other values.

Although individual preferences matter, lying depends heavily on the situation. People lie to others in the context of social interactions, and most respond to situational factors. In particular, Erat and Gneezy (2012) showed that people, on average, consider the consequences of their lies for themselves and others. Their taxonomy of lies includes 'selfish black lies,' which benefit the liar at the expense of others, but also 'altruistic white lies,' which help others at the expense of the liar. A host of economic studies have shed light on social influences on honesty other than the consequences of lying (Rosenbaum et al., 2014). Important findings include that people lie more readily in groups than alone (Kocher et al., 2018) and that lying is responsive to the magnitude of incentives for dishonesty (Kajackaite and Gneezy, 2017). Hence, while few people never lie, most are ready to lie when it pays off.

Social distance—i.e., how close agents are to each other (Akerlof, 1997)—has barely been considered as a potential influence on honesty. By contrast, several studies have documented the effect of social distance on the outcome of social interactions. For instance, Buchan et al. (2006) showed that other-regarding preferences, such as trust, reciprocity, or altruism, are more pronounced with a lower degree of social distance. Eckel and Grossman (1996) found that altruism in dictator games varied with the distance between the dictator and the recipient, who were either anonymous students or reputable charities. Charness and Gneezy (2008) found that dictators are more willing to give to recipients as social distance decreases. Similarly, Zultan (2012) reported more cooperation in the ultimatum game after pre-game face-to-face communication, which apparently reduces social distance.

While these results suggest an interaction between social distance and other-regarding preferences, evidence for a potential interaction between social distance and honesty is limited. Related experiments use the sender–receiver game, where the sender has private information about two options and sends the receiver a potentially dishonest message about which option to choose (e.g., Erat and Gneezy, 2012; Lundquist et al., 2009; Sutter, 2009). Thus, van Zant and Kray (2014) found that pre-game face-to-face communication increases senders' honesty. However, the sender–receiver game involves strategic considerations and leaves the final decision to the receiver. In die-rolling experiments, in turn, participants always lie to the socially distant experimenter. Kajackaite and Gneezy (2017) and Meub et al. (2016) had participants interact either with the experimenter or other participants, but had them make binary choices and did not observe lies on the individual level.

To explore the effect of social distance on honesty and, at the same time, account for the potential interaction with preferences about fairness, we combined a dictator game with the task of rolling a die and reporting the outcome to earn money (Fischbacher and Föllmi-Heusi, 2013). The outcome of the die roll can be seen as a 'suggestion' for the dictator of how to allocate money between herself and someone else. The dictator could override this suggestion to earn more (or less) money, but needed then to misstate the outcome—i.e., lie about it. Participants' reports depended therefore on their preferences for honesty and fairness. To manipulate social distance, we had them allocate money either between themselves and other participants or between themselves and the experimenter (Kajackaite and Gneezy, 2017). Like Kocher et al. (2018), we had them perform this task on the computer, which allowed us to observe honesty on the individual level.

Our findings contribute to prior research in several ways. First, we establish that honesty depends on social distance. Exploiting variation in outcomes, we do not find, in turn, that dishonesty is driven by inequality. Second, we tie honesty to heterogeneity in personal preferences about fairness and honesty. In particular, our data indicate that fairness concerns and social distance interact to influence honesty. This observation is in line with the finding that social distance affects altruism and cooperative behavior (Charness and Gneezy, 2008; Eckel and Grossman, 1996; Hoffman et al., 1996). Third, the observation of lies on the individual level enables us to identify 'altruistic white lies,' which reduce inequality at the expense of the liar (Erat and Gneezy, 2012). Such lies have been observed in sender–receiver games, but not in other settings, such as the die-rolling task.

The influence of social distance on honesty is interesting because it relates to most interactions that involve honesty. For example, public authorities usually appear as a distant and impersonal interaction partner to people, and honesty is indeed a major concern in tax collection. In this and other areas, people often interact through intermediaries, who increase social distance between the interaction partners. More generally speaking, the wide use of the internet has profoundly simplified but also depersonalized communication. Our findings suggest the reduction of social distance as an option to consider when honesty is an issue. In particular, this may be a worthwhile alternative to control mechanisms, which have been found to crowd out trust and social behaviors (Falk and Kosfeld, 2006).

2. Theoretical framework and hypotheses

Starting from a die-rolling task, we derive a simple utility function to model the agent's reporting choices (Kajackaite and Gneezy, 2017). We enhance the model by incorporating social distance. In the die-rolling task, the agent observes and reports a state of nature t (i.e., the outcome 1, 2, 3, 4, 5, or 6 of rolling the die), where different states are associated with different monetary payoffs. The agent's payoff m depends on whether she reports truthfully the state that she observes ($t' = t$), resulting in payoff m_t, or a different state ($t' \neq t$), resulting in payoff $m_{t'}$. If the agent misreports the state of nature by claiming it is more favorable for her than it actually is, lying earns her a monetary surplus of $m_{t'} - m_t$. At the same time, however, lying also has a psychological cost C_i.[3] Depending on how much the agent minds lying, this cost can be anywhere between zero and prohibitively high ($C_i \in [0, \infty]$). Taking into account both the benefits and costs of lying, the agent lies if her utility from lying is greater than from being honest.

[3] Kajackaite and Gneezy (2017) distinguish intrinsic costs C_i and extrinsic costs γ_i of lying, where the latter arise from being exposed as a liar. Our experimental framework keeps γ_i constant.

That is, she lies if

$$m_{t'} - C_i > m_t. \quad (1)$$

While lying depends on personal preferences for honesty, it often also affects others in some way (Erat and Gneezy, 2012). For example, a lie to increase an agent's payoff might reduce another agent's payoff. Relating the agent's report of t or t' to the maximum outcome k, so that t and t' are within [0, k], individual j's outcome is then m_{k-t} if i is honest, and $m_{k-t'}$ if she is dishonest. As j's outcome depends on i's report, questions arise about how i's preference for honesty interacts with her social distance to j. Based on the observations of the effect of social distance on altruistic behavior (Buchan et al., 2006; Eckel and Grossman, 1996) and the effect of pre-game face-to-face communication on honesty in sender–receiver games (van Zant and Kray, 2014), we assume that the intrinsic cost of lying is a function of social distance. That is, people are more reluctant to lie to others who are closer to them. The individual psychological cost of lying can then be modeled as the sum of some basic cost of lying BC_i, which does not depend on social distance, and some additional cost, which is a function of social distance. Hence, we refine our notion of C_i in equation (1) to be calculated as:

$$C_i = BC_i + f(SD_i). \quad (2)$$

Drawing on the aforementioned evidence, we propose the following hypothesis regarding the effect of social distance on honesty:

H1: Dishonesty increases with social distance.

Given the cost of lying, people would typically lie to earn monetary benefits that compensate this cost. Die-rolling experiments offer little empirical evidence, in turn, that people lie to reduce their payoff (Gneezy et al., 2018; Kocher et al., 2018). The only exception is a study by Utikal and Fischbacher (2013), whose data suggest that nuns told 'disadvantageous lies' in their experiment. It seems that the nuns in Utikal and Fischbacher's experiment paradoxically lied to dodge the suspicion of lying, which truthfully high reports of their honesty might have raised. It should be noted, though, that regular die-rolling experiments do not allow us to observe lying on the individual level. Hence, there might be disadvantageous lies that are masked by a higher rate of advantageous lies.

Moreover, these experiments did not manipulate social distance. Instead, social distance between the participant and the experimenter was uniformly large. Kajackaite and Gneezy (2017) manipulated social distance in the sense that they had participants either interact with other participants or the experimenter. However, they did not observe lies on the individual level because they wanted to exclude that participants believed they could possibly be exposed as liars. There is evidence, though, that people lie for altruistic reasons from other experiments, where participants, unlike in die-rolling experiments, interact with each other rather than the socially distant experimenter. Specifically, Erat and Gneezy (2012) observed that senders lied to increase receivers' payoffs, even when this reduced their own payoffs in the sender–receiver game. They named these lies, which were told by 33 percent of their sample, 'altruistic white lies.' Recollecting the evidence for disadvantageous and altruistic white lies, we derive two hypotheses to predict how social distance and favorable inequality combine to affect honesty:

H2a: Under a high degree of social distance, agents do not lie to reduce their own outcome for the benefit of others.

H2b: Under a low degree of social distance, agents lie to reduce their own outcome for altruistic reasons.

3. Experimental design

We conducted our experiment with two treatment conditions in the laboratory. The experiment was programmed in z-Tree (Fischbacher, 2007). We collected data from 120 participants (60 in either condition), whom we recruited with ORSEE (Greiner, 2015). One condition required an additional 60 'passive' participants, from whom we did not collect any data. To describe the experimental design, we first explain the die-rolling task to test participants' preferences for honesty. We then depict our manipulation of social distance. Finally, we provide a brief overview of the additional tasks that we implemented as part of our post-treatment questions.

3.1. Die-rolling task

Participants' primary task consisted of rolling a die and reporting the outcome, which earned them money. Participants could usually earn more money by misreporting the outcome than by reporting it truthfully, which created an incentive for them to lie. This design was adopted from Kocher et al. (2018), who computerized Fischbacher and Föllmi-Heusi's (2013) classical die-rolling task.

Participants first read the instructions (Appendices A.1 and A.2) and then answered comprehension questions to make sure that they understood their task (Appendix A.3). Next, they launched a short video of a six-sided die being rolled on their computer screen, resulting in one of six possible outcomes (⚀, ⚁, ⚂, ⚃, ⚄, or ⚅). To mimic a real die roll, we created a random mechanism to ensure that each outcome was equally likely to occur, and participants were informed of this. They also knew that the dice were rolled independently for each of them so that they could not infer the others' outcomes from their own. After each die was rolled, the video was frozen so that the outcome remained visible for about 12 seconds. Participants then typed the outcome that they wanted to report into a field and submitted it. Regardless of the actual outcome, they could report any number—'1,' '2,' '3,' '4,' '5,' or '6'—, which allowed them to be honest as much as to be dishonest.

Participants' payoff ultimately depended on their reported outcome and not the actual outcome of their die roll. Technically speaking, our experiment resembled therefore a dictator game, where the proposer or dictator splits some amount between herself and someone else. Unlike in the dictator game, however, where she splits the amount at her own discretion, the die-rolling task can be taken to suggest a random split. The participant could always neglect this suggestion and, like a dictator, implement any split by just reporting a different number than the outcome. This, however, required her to misstate the outcome—i.e., to lie about it. We told participants specifically that their report determined their share of a fixed amount of €10. Table 1 shows how reports translated into payoffs. Clearly, a payoff maximizer would always report '5,' regardless of the actual outcome, to earn the maximum payoff of €10.

Table 1: Payoff structure of die-rolling task

Report	Participant's share	Remainder
'1'	€2	€8
'2'	€4	€6
'3'	€6	€4
'4'	€8	€2
'5'	€10	€0
'6'	€0	€10

Unlike in Fischbacher and Föllmi-Heusi's (2013) original experiment, in which lying could not be observed on the individual level, Kocher et al.'s (2018) computerized version provided us with richer data, as we recorded both the actual and the reported outcomes. However, knowing that the outcome in the video was determined by the software, participants could easily infer that their lies could be detected by the experimenter, and instructions did not claim or suggest that the experimenter would not know the actual in addition to the reported outcomes. Of course, participation was anonymous so that lies could only be traced back to participants' working stations but never to any individual person. Kocher et al. (2018, p. 3) acknowledge that the observability of dishonesty might reduce the level of lying. That said, prior evidence suggests that complete observability and complete privacy have only marginal effects on the absolute extent of lying (Bäker and Mechtel, 2015; Gneezy et al., 2018; Houser et al., 2016).[4] Nonetheless, we confined our analysis to relative comparisons.

3.2. Manipulation of Social Distance

We implemented a between-subject design with two treatment conditions. In the Low Degree of Social Distance condition, participants reported or misreported their outcomes to split €10 between themselves and 'passive' participants, who served as recipients. The recipients were other participants from the same pool of students.[5] In the High Degree of Social Distance condition, they split €10 between themselves and the experimenter.

In the Low Degree of Social Distance sessions, participants were randomly assigned to one of two rooms when entering the laboratory. The participants in one room rolled dice and reported outcomes just like the participants in the High Degree of Social Distance treatment, as described in the previous section. The recipients in the other room were told about the participants' task while they waited for them to roll dice and submit reports. After receiving their instructions, the only task of the recipients consisted of drawing numbers that assigned a random participant who split the €10 to each of them. We had twice as many participants in the Low Degree of Social Distance sessions as to the High Degree of Social Distance sessions—one half of them participants, the other half recipients—and assigned one recipient to each participant. Hence, the number of participants who split the €10 were held constant across conditions. Participants and recipients were randomly matched and interacted anonymously.

The participants were told that their report would determine how a sum of €10 would be split between themselves and a recipient. Specifically, the 'participant in the other room' would receive the remainder of the €10. In the High Degree of Social Distance treatment, there were no recipients and the remainder of the €10 went to the experimenter instead. Clearly, social distance between fellow students is lower than between students and the experimenter. That said, anonymity saved participants from having to justify their decisions to recipients in the Low Social Distance condition. Table 2 summarizes the differences between the conditions.

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[4] It should also be noted that any effect of observability works against H1, which predicts that dishonesty increases with social distance. Our estimate of dishonesty in the High Degree of Social Distance condition is therefore best seen as a lower bound.

[5] We use the term 'recipient' for convenience in the paper. The instructions refer to all participants just as 'participants' and, to distinguish participants in one room from those in the other room, 'participants in the other room' (see Appendices A.1 and A.2).

Table 2: Comparison of the two treatments

	Treatment	
	High Degree of Social Distance	Low Degree of Social Distance
Participants per session	10	20
Reporting participants	10	10
Passive participants	0	10
Remainder (Table 1)	Remains with the experimenter	Goes to a passive participant

3.3. Additional experimental tasks

After rolling the dice and reporting the outcomes, participants answered post-treatment questions. These questions included an incentivized multiple price list task, which we adopted from Blanco et al. (2011) to measure the participants' compassion parameter β (Appendix A.4). Participants were told only after completing the dice game and before starting the post-treatment questions that their answers to these questions could earn them additional money.

In addition, we had participants indicate their agreement with several statements adopted from Gibson et al. (2013) to measure the extent to which honesty was a 'protected value' for them. A value is 'protected' when an individual is reluctant to trade it for other values. In particular, someone who considers honesty a protected value would refrain from lying to earn money. By contrast, values that are not protected can readily be traded for each other (Appendix A.5). Finally, we gathered demographics as potential controls.

4. Results

4.1. Summary statistics

Our main interest was participants' honesty in reporting their outcomes. Figure 1 depicts the actual outcomes as well as the reported outcomes for each participant under both conditions. The figure shows that many participants reported their outcomes truthfully, placing them on the main diagonal. Under both conditions, there were, however, 'liars' who misstated their outcomes. In particular, lying was more frequent in the High Degree of Social Distance condition. It is striking that, whenever participants misreported their outcomes, they overstated rather than understated their outcome to earn more rather than give up any money.

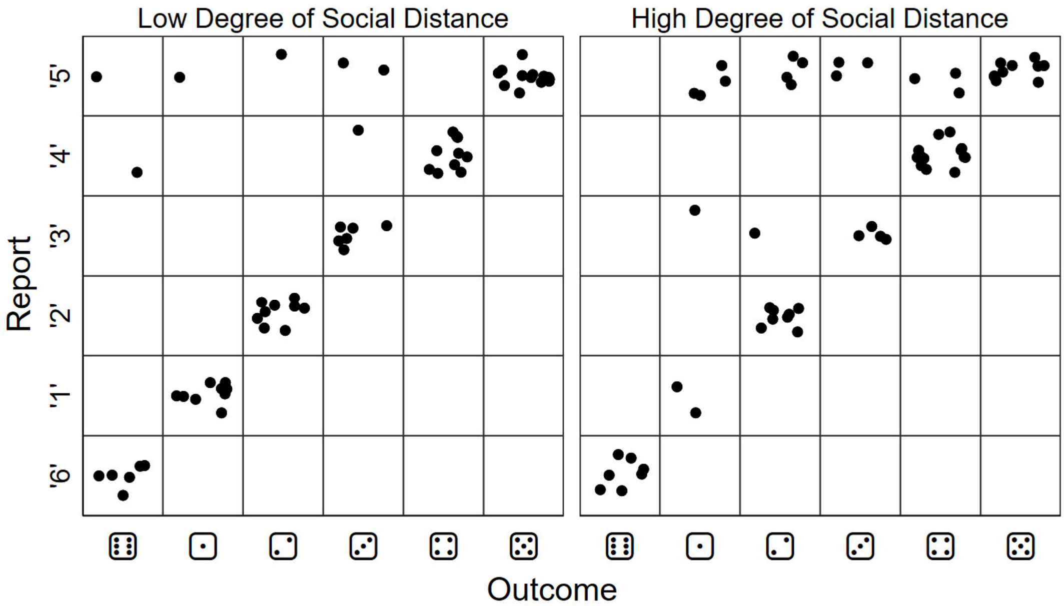

Figure 1: Outcomes and reports.
Regardless of the outcome, a report of ‘1’ earned the participant €2, a report of ‘2’ earned €4, and so forth. A report of ‘6,’ however, resulted in zero payoff.

As a measure of dishonesty, we related the additional payoff that a participant created by overstating her outcome to the maximum additional payoff that she could have possibly created. For example, the participant in the left panel of Figure 1, who reported a ‘3’ for an outcome of ⚀ under the High Degree of Social Distance condition created a relative additional payoff of .5 = (3 − 1) ÷ (5 − 1). While the range of the (absolute) additional payoff depends on the actual outcome (e.g., it is 5 with an outcome of ⚅ and a report of ‘5’; 4 with an outcome of ⚀ and a report of ‘5,’ etc.), the relative difference is restricted to range from 0 to 1. Obviously, the relative difference is 0 for participants whose outcome is ⚄ and who therefore cannot lie, unless they understate their outcome (which none of them did according to Figure 1).

The relative additional payoff averaged .11 (SD .30) in the Low Degree of Social Distance condition and .25 (SD .43) in the High Degree of Social Distance condition. Similarly, the average proportion of liars was .12 (SD .32) in the former condition and .27 (SD .45) in the latter. The numbers are necessarily similar since most liars reported an outcome of ‘5’ in order to maximize their payoff rather than choosing a value somewhere between their actual outcome and the maximum outcome. Figure 1 shows exactly two participants in each condition who overstated their outcomes but reported a value less than ‘5.’

4.2. Hypothesis tests

H1 states that honesty increases when social distance decreases and vice versa. Figure 1 suggests that this is indeed the case because there were more participants above the main diagonal in the High Degree of Social Distance than in the Low Degree of Social Distance condition. In line with this observation, the Mann–Whitney reveals that the relative difference between reports and outcomes is higher in under a high than under a low degree of social distance on average and thus confirms H1 (.25 > .11, $p = .033$). Likewise, Fisher's exact test reveals that the proportion of liars was significantly larger in the former than in the latter condition (.27 > .12, $p = .062$).[6] Hence, there are more liars and there is more lying under a high degree of social distance compared to a low degree of social distance.[7]

Note that these two effects—the increase in lying and the increase in the proportion of liars—cannot be distinguished statistically. Besides the aforementioned two people in each condition who overstated their outcomes but reported something below '5,' all other participants claimed the maximum payoff once they decided to lie. Therefore, while there were certainly more liars under a high degree of social distance, we did not find that these liars also felt encouraged to tell more extreme lies as social distance increased and vice versa.[8] This observation is in line with related research, which shows that people care about how they are perceived by others when they are caught lying (Gneezy et al., 2018; Kocher et al., 2018). Knowing that lies could always be detected by the experimenter, participants either refrained from lying or, once they had decided to lie, did not bother reporting anything below '5' to increase the probability of being perceived as an honest person despite lying.

One might expect that reduced social distance leads to lies that balance outcomes as fairness preferences are more pronounced for peers (López-Pérez, 2012). However, we found no evidence that fairness considerations in a classical sense (Fehr and Schmidt, 1999) mediate the effect of social distance on honesty. Figure 2, which depicts the percentage of liars for each outcome both under a low and high degree of social distance, illustrates this result. It shows that the percentage of liars declined in both conditions as the outcome approached ⚂, which paid the participant more than the recipient or experimenter. This trend is eclipsed, however, by a large number of participants who overstated the outcome ⚂ in the Low Degree of Social Distance condition. Moreover, all participants reported the outcome ⚅ honestly in

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[6] In the following we use Mann–Whitney test to compare relative additional payoffs and the Fisher's exact test to compare the proportion of liars.

[7] Regression estimates confirm these results, both with and without covariates (see Table A.2 in Appendix A.6).

[8] The relative additional payoff created by lying is slightly higher for the high degree of social distance treatment. However, a Mann–Whitney test for the subsample of liars does not show this difference to be statistically significant ($p = 0.448$).

the High Degree of Social Distance condition, earning them zero payoff. Hence, we did not find that honesty hinges on outcome inequality.

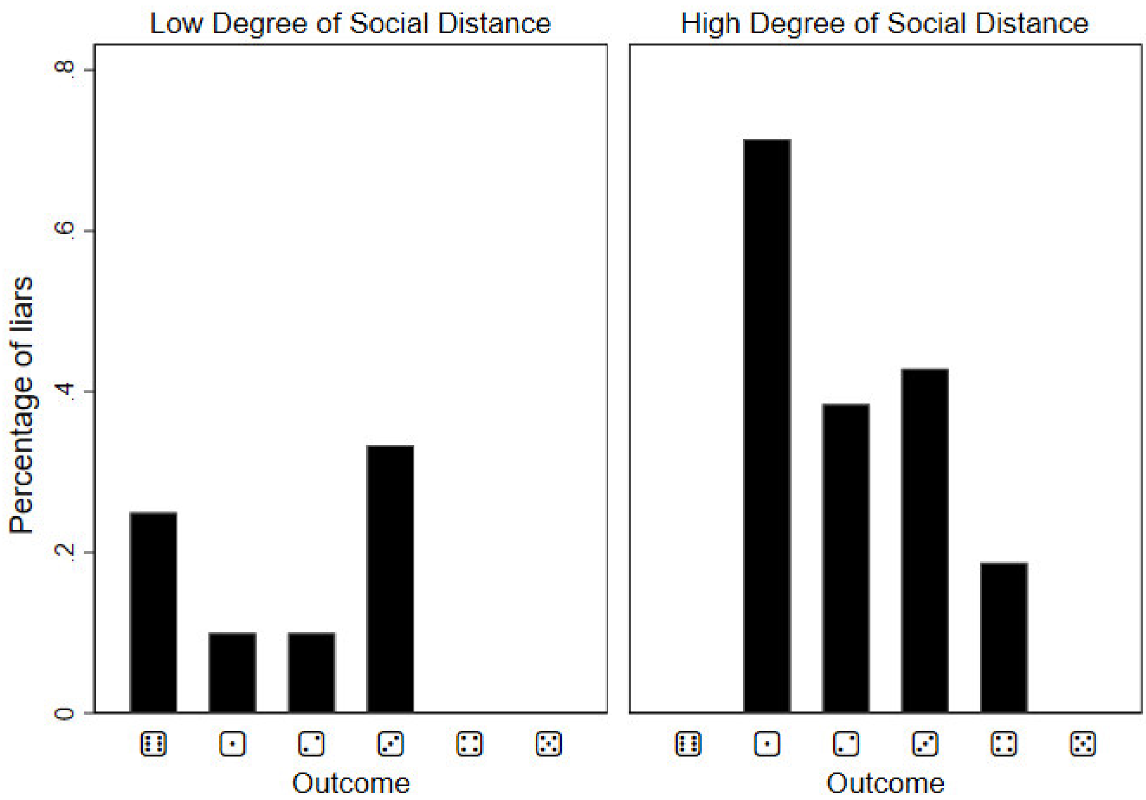

Figure 2: Outcomes and lying.
Percentage of lying participants for each outcome and condition. A report of ‘1’ earned the participant €2, a report of ‘2’ earned €4, and so forth. A report of ‘6,’ however, resulted in zero payoff.

H2a and H2b refer specifically to favorable ($t > k - t$) as opposed to unfavorable inequality ($t < k - t$)—i.e., the situation in which the actual outcome favors the participant over the recipient or experimenter. While these predictions do not allow for a direct statistical test, Figure 1 readily confirms H2a and refutes H2b. The figure shows that participants never lied to reduce favorable inequality, which would require them to understate their outcomes. There was no participant who understated her outcome, neither under a high nor low degree of social distance. This result is in line with H2a, but contradicts H2b.

Given that participants did not lie to reduce favorable inequality, we examine whether they lied more under unfavorable than under favorable inequality depending on social distance. Specifically, while participants can always increase their payoffs by overstating their outcomes, lying is arguably easier to justify when it reduces unfavorable inequality rather than increases favorable inequality (i.e., envy is supposed to be more substantial than compassion). Figure 1 shows that more participants lied across conditions when their outcomes were

⚅, ⚀, or ⚁ than when they were ⚂, ⚃, or ⚄, leaving them with less than half of the €10 in the former case. However, neither the difference in the percentage of liars (.25 > .14) nor the relative increase in payoffs because of lying (.23 > .13) was significant. That said, the difference in the percentage of liars in the High Degree of Social Distance condition comes close to being significant (.37 > .18, $p = .144$).

4.3. Preferences for honesty and compassion

To test for potential factors causing the main effect of social distance, we conducted further analyses. First, we examined how honesty depends on the extent to which participants consider it a protected value which they would not trade for other values. We split the sample at the median of the protected values scores, which we determined according to Gibson et al. (2013), to distinguish participants who are more and less reluctant to trade honesty for other values. Unsurprisingly, the relative increase in payoffs (.10 < .25, $p = .015$) because of dishonesty and the percentage of liars (.10 < .28, $p = .019$) were overall lower among participants with an above-median score. This said, participants who are more inclined to trade honesty should be particularly responsive to the effect of social distance. The increase in payoffs because of dishonesty (.12 < .41, $p = .006$) and the percentage of liars (.15 < .46, $p = .010$) were indeed significantly lower under a low as opposed to a high degree of social distance among these participants.

Second, to follow up on our analysis of outcome inequality, which we mentioned did not mediate the effect of social distance on honesty, we investigated the influence of fairness preferences. Specifically, we distinguished between participants with high and low levels of compassion, which quantifies the disutility of favorable inequality (Fehr and Schmidt, 1999). We used Blanco et al.'s (2011) multiple price list task to obtain the compassion parameter β for each participant and split our sample again at the median. We found that the relative additional payoff obtained by lying and the portion of liars differed between conditions for participants with above-median aversion to favorable inequality. Specifically, in the High Degree of Social Distance condition, the relative difference (.23 > .03, $p = .020$) and the proportion of liars (.25 > .03, $p = .028$) were significantly higher compared to the Low Degree of Social Distance condition. In contrast, neither the relative difference (.26 > .17, $p = .368$) nor the proportion of liars (.28 > .19, $p = .542$) differed significantly between conditions for participants with below-median levels of β.[9] This observation suggests that the effect of social distance on honesty at least partially interacts with fairness preferences.

[9] The same result holds for participants whose β exceeded the threshold of .5 from the literature (Blanco et al., 2011; Müller & Rau, 2016). The median of β was .53 in our sample and therefore close to this threshold.

Taken together, these results imply that the effect of social distance on honesty is driven by people with specific preferences about honesty and fairness—namely participants who are willing to trade honesty for other values (i.e., whose protected values score is low for honesty) and participants who have a strong aversion against favorable inequality (i.e., high levels of the compassion parameter *β*). As a final analysis, we examined whether the effect of social distance on honesty can be attributed, more specifically, to participants with a combination of these preferences. In support of this conjecture, the difference of the relative additional payoffs (.00 < .45, $p = .003$) and the percentage of liars (.00 < .50, $p = .005$) between the High Degree of Social Distance and the Low Degree of Social Distance condition turned out significantly higher among those participants who combined these preferences.[10] We retain therefore that social distance, which is a factor that arises from the situation, interacts with preferences that pertain to the person.

5. Conclusion

Honesty depends on both personal and situational factors. The primary focus of this study was on the situational factor of social distance. Specifically, we had participants in a laboratory experiment allocate money between themselves and someone else, who was either another participant or the experimenter. Consequently, the other participant (i.e., a fellow student), was socially closer to the participant than the experimenter. The allocation involved honesty because participants received a random 'suggestion' of how to allocate money and they had to lie in order to depart from this suggestion. Technically speaking, our experiment combined a dictator game with Fischbacher and Föllmi-Heusi's (2013) die-rolling task. The outcome of the die roll suggests how money should be allocated, but participants can misreport outcomes to achieve a different allocation.

We predicted and found that dishonesty increases with social distance. Specifically, participants were less willing to lie at the expense of fellow students than at the expense of the experimenter. Evidence for the effect of fairness is less conclusive. We did not see outcome inequality mediate the effect of social distance on honesty. That said, we found that participants lied more readily to increase their payoff when it was less than half of the available money, and they never lied to benefit others, irrespective of social distance. Hence, we observed what Erat and Gneezy (2012) call selfish 'black lies' but not altruistic 'white lies.' Beyond these results, which were related to the situation, participants' personal preferences about honesty and fairness offered further insights into the drivers of our findings.

[10] Again, regressions—without and with covariates—confirm this result (see Table A.2 in Appendix A.6).

Specifically, additional analyses revealed that social distance did not matter to participants who tended to consider honesty a protected value, which they would not trade for other values. The effect of social distance was therefore only significant among those participants who were inclined to trade honesty and who therefore responded to the different situations that arose from our manipulation. Likewise, the effect of social distance turned out to depend on participants' aversion to favorable inequality. Only participants who were sufficiently uneasy with inequality, even when it favored themselves over others, responded to our manipulation. These analyses reveal that the effect of social distance on honesty is mainly driven by the combination of personal preferences.

Taken together, our results offer evidence that social distance interacts with personal preferences about honesty and fairness to influence honesty. Further research is needed to improve our understanding of this interaction. In particular, future investigations may use tasks that offer participants a richer action space to allow them subtler choices. It might thus be possible to distinguish between different types of liars (Gneezy et al., 2013). Moreover, social distance can be manipulated in different ways. For example, participants might be put to cooperatively interact in order to reduce social distance before they perform the die-rolling task. The effect of social distance would also be interesting to investigate in the field, although this would make it harder to consider personal preferences.

Prior research has shed light on contextual factors related to ours. In particular, there is evidence that face-to-face as opposed to anonymous interaction (Holm and Kawagoe, 2010; van Zant and Kray, 2014) and personalized as opposed to standardized messages increase honesty (Cappelen et al., 2013). Participants in experiments have also been found to lie more often when they feel they are treated unfairly (Houser et al., 2012) and there is even evidence for people engaging in 'white lies' to benefit others (Erat and Gneezy, 2012) or to justify their dishonesty (Lewis et al., 2012). The effect of social distance, in turn, had not been directly examined yet. Social distance is arguably an important driver of honesty or dishonesty, though, since lying occurs in the context of social interactions. It is therefore interesting to see both that dishonesty depends on social distance and that this effect hinges on personal preferences for honesty and fairness.

Our findings have implications for the design of social interactions. In particular, there are many interactions that require honesty to a certain extent but that involve social distance. For example, citizens interact with 'anonymous' tax authorities—a case which has long created concerns about dishonesty. Measures to decrease social distance may be a worthwhile alternative to costly control, which is a common response to dishonesty. Likewise, intermediaries are often used in social interactions, such as transactions between firms. Although there are compelling reasons to rely on intermediaries, they also increase social distance and create room for dishonesty (Erat, 2013). While our results imply that social distance does not matter to some, it is an inexpensive means to elicit honesty from those who respond to it. Wherever honesty is important but hard to ensure, the reduction of social distance is worth considering as a way of promoting honesty.

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Appendix

A.1 Instructions for the experiment (Low Degree of Social Distance condition)

The following instructions were distributed in print. The task was completed on the computer.

General instructions

Welcome to today's experiment.

Please keep quiet throughout the experiment and follow the experimenter's instructions. Please don't talk unless asked to talk.

If you have any questions, raise your hand. The experimenter will come to you and answer your questions confidentially. Please turn off your mobile devices and stow them.

Participants who fail to comply with these instructions will have to leave the room and will only be paid €2.

Task

While entering the lab, all participants were randomly assigned to one of two rooms. There is the same number of participants in each room.

Every participant in this room will see a video which shows a six-sided die being rolled. Each outcome (⚀, ⚁, ⚂, ⚃, ⚄, and ⚅) is equally likely to occur.

The die is rolled for each participant independently of the others. That is, the die is *not* rolled once for all participants, but for each participant individually.

You must remember the outcome of your throw and enter it subsequently into a field on your computer screen.

The number that you enter determines your share of the €10. This share is your compensation for this experiment.

Number entered	Your share	Remainder
'1'	2 €	8 €
'2'	4 €	6 €
'3'	6 €	4 €
'4'	8 €	2 €
'5'	10 €	0 €
'6'	0 €	10 €

A participant in the other room will be randomly assigned to you. This participant receives the remainder of the €10 as compensation.

You won't meet the other participant. You won't learn this person's identity and the other participant won't learn your identity.

Payment

After the experiment, you will answer a number of questions. Your answers can earn you additional money.

You will receive your compensation at the end of the experiment in return for your numbered badge. In addition to your compensation from the task, you'll receive a fixed €4 payment.

You will be paid confidentially. Participants will be called out individually to go into the reception room.

A.2 Instructions for the experiment (High Degree of Social Distance condition)

The instructions for the High Degree of Social Distance condition were identical to those for the Low Degree of Social Distance condition except for the section ‘Task,’ which read as follows.

Task

Every participant in this room will see a video which shows a six-sided die being rolled. Each outcome (⚀, ⚁, ⚂, ⚃, ⚄, and ⚅) is equally likely to occur.

The die is rolled for each participant independently of the others. That is, the die is *not* rolled once for all participants, but for each participant individually.

You must remember the outcome of your throw and enter it subsequently into a field on your computer screen.

The number that you enter determines your share of €10. This share is your compensation from this experiment.

Number entered	Your share	Remainder
‘1’	2 €	8 €
‘2’	4 €	6 €
‘3’	6 €	4 €
‘4’	8 €	2 €
‘5’	10 €	0 €
‘6’	0 €	10 €

A.3 Comprehension questions

Participants cannot proceed until they have answered 1 – a, 2 – 6, 3 – 4, and 4 – 8.

1. What's your task?

a. To enter the displayed number that you have memorized
b. To enter a different number than the displayed number that you have memorized
c. To enter an arbitrary number

2. Suppose you see a ⚂ and you enter a '3.' How many euros do you earn?

___

3. Suppose you see a ⚂ and you enter a '2.' How many euros do you earn?

___

4. Suppose you see a ⚂ and you enter a '4.' How many euros do you earn?

___

A.4 Measurement of the compassion parameter

The multiple price list task to measure the compassion parameter β was adopted from Blanco et al. (2011). Participants were provided with a list of 22 choices, each between two allocations of payoffs between themselves and another participant ('left' and 'right').

First, all participants made 22 decisions in the role of Person A. Half of the participants were then randomly assigned to be Person B and type-A and type-B participants were matched. Finally, one of the 22 choices of the type-A participant was randomly selected and implemented.

Table A.4: Beta elicitation task

Person A's Payoff	Person B's Payoff	Decision	Person A's Payoff	Person B's Payoff
20	0	Left—Right	0	0
20	0	Left—Right	1	1
20	0	Left—Right	2	2
20	0	Left—Right	3	3
20	0	Left—Right	4	4
20	0	Left—Right	5	5
20	0	Left—Right	6	6
20	0	Left—Right	7	7
20	0	Left—Right	8	8
20	0	Left—Right	9	9
20	0	Left—Right	10	10
20	0	Left—Right	11	11
20	0	Left—Right	12	12
20	0	Left—Right	13	13
20	0	Left—Right	14	14
20	0	Left—Right	15	15
20	0	Left—Right	16	16
20	0	Left—Right	17	17
20	0	Left—Right	18	18
20	0	Left—Right	19	19
20	0	Left—Right	20	20
20	0	Left—Right	21	21

Note. The payoff is illustrated in units of 'thaler.' Each 'thaler' in the experimental task was remunerated with €0.15 at the end of the experiment.

A.5 Protected Values question

What is your opinion on lying for one's own benefit?

I find this …

Not at all praiseworthy	1–2–3–4–5–6–7	very praiseworthy
Not at all shameful	1–2–3–4–5–6–7	very shameful
Not at all acceptable	1–2–3–4–5–6–7	very acceptable
Not at all outrageous	1–2–3–4–5–6–7	very outrageous
Not at all blameworthy	1–2–3–4–5–6–7	very blameworthy
Very immoral	1–2–3–4–5–6–7	very moral

Honesty is something …

… that one should not sacrifice, no matter what the (material or other) benefits.
Strongly disagree 1–2–3–4–5–6–7 strongly agree

… that cannot be measured in monetary terms.
Strongly disagree 1–2–3–4–5–6–7 strongly agree

… for which I think it is right to make a cost–benefit analysis.
Strongly disagree 1–2–3–4–5–6–7 strongly agree

… about which I can be flexible if the situation demands it.
Strongly disagree 1–2–3–4–5–6–7 strongly agree

… which is about things or values that are sacrosanct.
Strongly disagree 1–2–3–4–5–6–7 strongly agree

A.6 Regressions results

Table A.6.1: Effect of social distance on honesty

	Relative additional payoff[a]		**Liar**[b]	
	(1)	(2)	(3)	(4)
High Degree of Social Distance	1.029***	1.462**	1.013**	1.502**
Outcome[c]		−.422**		−.460**
Protected value score[d]		−.773***		−.860***
Compassion[e]		−2.535**		−2.536**
Age		.003		−.010
Female		−.545		−.484
Income		.000		.000
Number of siblings		.334		.331
Math grade[f]		.024		.013
Constant	−2.142**	1.884	−2.024***	2.825
Observations	120		120	

Notes. The table reports coefficients of GLM and logit regressions of relative additional payoff and liar on the degree of social distance.
[a] (Report − Outcome) ÷ (5 – Outcome) if Outcome ≠ 5; 0 otherwise.
[b] 1 if Report ≠ Outcome; 0 otherwise.
[c] Outcome of the die roll; possible values ranging from 0 to 6 (where ⚅ corresponds to '0'; ⚀, to '1'; …; ⚄, to '5' under truthful reporting).
[d] Protected value score for honesty according to Gibson et al. (2013); possible values ranging from 0 to 6.
[e] Compassion β according to Blanco et al. (2011); possible values ranging from −.075 to 1.
[f] Possible values ranging from 0 to 15, where 15 is best.
* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table A.6.2: Effect of social distance and social preferences on honesty

Panel A: Effects of social distance, compassion, and protected values score on honesty

	Relative additional payoff[a]		**Liar**[b]	
	(1)	(2)	(3)	(4)
HD[c]–HP[d]–HC[e]	−.090	−.133	−.811	−1.716
HD[c]–LP[d]–HC[e]	.224	.188	1.030	.927
HD[c]–HP[d]–LC[e]	−.143	−.214	−1.368	−2.220*
HD[c]–LP[d]–LC[e]	.170	.174	.778	.994
LD[c]–HP[d]–HC[e]	−.155	−.186	−1.535	−2.191*
LD[c]–LP[d]–HC[e]	−.226*	−.218*	—[f]	—[f]
LD[c]–HP[d]–LC[e]	−.143	−.232*	−1.368	−2.313
LD[c]–LP[d]–LC[e]	—[g]	—[g]	—[g]	—[g]
Outcome[h]		−.052**		−.548**
Age		.003		.023
Female		−.072		−.548
Income		.000		.000
Number siblings		.037		.339
Math grade[i]		.006		.069
Constant	.226	.232	−1.030	−1.169
Observations	120		120	

Panel B: Wald tests for differences (*F*-statistics in parentheses)

	HD[c]–HP[d]–HC[e]	**HD[c]–LP[d]–HC[e]**	**HD[c]–HP[d]–LC[e]**	**LD[c]–LP[d]–LC[e]**
LD[c]–HP[d]–HC[e]	.659 (0.20)			
LD[c]–LP[d]–HC[e]		**.005** (8.16)		
LD[c]–HP[d]–LC[e]			.900 (0.02)	
LD[c]–LP[d]–LC[e]				.152 (2.08)

Notes. Panel A table reports coefficients of GLM and logit regressions of relative additional payoff and liar on the degree of social distance. Panel B reports the *p*-values and, in parenthesis, *F*-statistics, of Wald tests for differences between subgroups under a high and low degree of social distance for Model 2 in Panel A.

[a] (Report − Outcome) ÷ (5 – Outcome) if Outcome ≠ 5; 0 otherwise.
[b] 1 if Report ≠ Outcome; 0 otherwise.
[c] HD versus LD: High versus Low Degree of Social Distance.
[d] HP versus LP: High versus Low Protected Values Score for Honesty.
[e] HC versus LC: High versus Low Compassion β.
[f] There are no liars in this cell. Coefficients and standard errors therefore cannot be calculated.
[g] Baseline.
[h] Outcome of the die roll; possible values ranging from 0 to 6 (where ⚅ corresponds to '0'; ⚀, to '1'; …; ⚄, to '5' under truthful reporting).
[i] Possible values ranging from 0 to 15, where 15 is best.
* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.