Economics Letters 158 (2017) 54–57

Contents lists available at ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/ecolet

Does the truth come naturally? Time pressure increases honesty in one-shot deception games

Valerio Capraro

Middlesex University, London, United Kingdom

HIGHLIGHTS

- Many interactions require people to act quickly and are characterized by asymmetric information.
- Asymmetric information makes people tempted to misreport their private information for their own benefit.
- Thus understanding whether time pressure interferes with honesty is of fundamental importance.
- A large study ($N = 1,013$) demonstrates that time pressure increases honest behavior.
- This result is consistent with the Social Heuristics Hypothesis.

ARTICLE INFO

Article history:
Received 4 May 2017
Received in revised form 26 May 2017
Accepted 9 June 2017
Available online 28 June 2017

Keywords:
Lying aversion
Honesty
Time pressure
Deception game

ABSTRACT

Many situations require people to act quickly and are characterized by asymmetric information. Since asymmetric information makes people tempted to misreport their private information for their own benefit, it is of primary importance to understand whether time pressure affects honest behavior. A theory of social heuristics (the Social Heuristics Hypothesis, SHH), predicts that, in case of one-shot interactions, such an effect exists and it is positive. The SHH proposes that when people have no time to evaluate all available alternatives, they tend to rely on heuristics, choices that are optimal in everyday, repeated interactions and that have been internalized over time; and then, after deliberation, people shift their behavior towards the one that is optimal in the given interaction. Thus, the SHH predicts that time pressure increases honesty in one-shot interactions (because honesty may be optimal in repeated interactions, while dishonesty is always optimal in the short run). However, to the best of our knowledge, no experimental studies have tested this prediction. Here, I report a large ($N = 1013$) study aimed at filling this gap. In this study, participants were given a private information and were asked to report it within 5 s vs after 30 s. The interaction was one-shot, and payoffs were such that subjects had an incentive to lie. As predicted by the SHH, I find that time pressure *increases* honest behavior. In doing so, these results provide new insights on the role of time pressure on honesty, and provide one more piece of evidence in support of the Social Heuristics Hypothesis.

1. Introduction

Lying is pervasive in human societies and has enormous undesired economic consequences. For example, tax evasion costs about $100 million to the U.S. government every year (Gravelle, 2009), and, according to the FBI, insurance fraud costs more than $40 million to insurance companies every year.[1]

The fact that some people lie when that is beneficial to themselves is not surprising: the standard theory of Homo Economicus assumes that no negative outcomes are associated with the act of lying and thus it explicitly predicts that people would lie, whenever telling a lie would increase their material payoff. However, in contrast to the theory of Homo Economicus, previous research has shown that some people do act honestly and they do so even when lying would be beneficial to all parties involved (Erat and Gneezy, 2012; Cappelen et al., 2013; Biziou-van Pol et al., 2015; Capraro). These results are particularly interesting, because, in their setting, lying would not only maximize the liar's payoff, but it would also maximize social welfare and minimize inequity. Thus, not only the theory of Homo Economicus predicts that subjects would lie, but also theories assuming that subjects have social preferences for minimizing economic inequalities (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000) or for maximizing social welfare (Charness and Rabin, 2002; Capraro, 2013) do so. For this reason, these

E-mail address: V.Capraro@mdx.ac.uk.

[1] See https://www.fbi.gov/stats-services/publications/insurance-fraud/insurance_fraud.

http://dx.doi.org/10.1016/j.econlet.2017.06.015
0165-1765/

results have been taken as compelling evidence for the fact that individuals have an intrinsic cost of lying. Of course, this cost may be zero for a proportion of "consequentialist" subjects, who, in their decision process, weighs only the economic consequences of their actions and not the actions themselves; but, importantly, the aforementioned findings demonstrate the existence of subjects for whom the cost of lying is not zero: these subjects would lie only if the consequences of deception were "good enough" and, in principle, some of them may even never lie, if they have an infinite cost of lying (deontological subjects).

Understanding which factors influence dishonest behavior is thus important for designing institutions to encourage honest behavior and discourage dishonest behavior. Here, I focus on the role of time pressure, which is a particularly relevant factor to be investigated in terms of both practical and theoretical applications. In practice, because people often have very little time to think through their decisions. This may happen both in social interactions, in which people have an incentive to decide quickly because thinking carefully about the available choices signals self-regarding motivations (Capraro and Kuilder, 2015; Hoffman et al., 2015; Jordan et al., 2016), and in economic interactions, in which acting fast may be crucial to overcome competitors. For example, traders are required to make decisions within seconds after new information is obtained (Busse and Green, 2002; Kocher et al., 2013; Roth and Ockenfels, 2002). In theory, because one recent framework (the Social Heuristics Hypothesis, SHH, Rand et al. (2012, 2014, 2016)) makes clear predictions about what we should expect when forcing people to decide between honesty and dishonesty under time pressure vs time delay. The SHH argues that people internalize strategies that are optimal in their everyday interactions and tend to use them as default strategies in new and atypical situations when they have no time (or, more generally, no cognitive resources) to find out which choice maximizes their payoff. Then, after deliberation, people may override their heuristics and shift their behavior towards the one that is individually optimal in the given interaction. What does the SHH predict in terms of deceptive behavior in one-shot interactions? Of course, the optimal strategy in the given, one-shot interaction is to lie (in this paper, I focus on black lies, that is, lies that benefit the liar at the expenses of another person). Thus, the SHH predicts that deliberation favors deception. On the other hand, time pressure may prevent subjects from calculating their payoff-maximizing strategy. Thus, the SHH predicts that time pressure favors social heuristics that are optimal in everyday interactions. Since most daily interactions are repeated (e.g., with friends, family members, co-workers), truth-telling, although costly in the short term, may be optimal in the long run (through numerous channels, including the social stigma that accompanies liars). Thus, the SHH predicts that time pressure should favor truth-telling.

Hypothesis. Time pressure favors honesty in one-shot interactions.

In this paper, I present a large study in support of this hypothesis. To the best of my knowledge, this is the first study exploring this question. Two earlier studies have investigated the role of time pressure on honesty (Gunia et al., 2012; Shalvi et al., 2012); however, neither of them can be applied to our case, because participants in these experiments were communicated their payoff maximizing choice *before* the time manipulation[2]. Thus, time pressure did not limit participants' ability to compute their payoff maximizing choice, which is the underlying requirement to apply the logic of the SHH.

2. Measure of honesty

To measure honest behavior, I use the Deception Game introduced by Biziou-van Pol et al. (2015), which is a variant of the standard Deception Game (Gneezy, 2005; Erat and Gneezy, 2012). In this variant, participants are told that they *will* be randomly assigned to either Group 1 or Group 2, and that they *will* have to choose between two possible strategies: "telling the number of the group they are assigned to" or "telling the number of the other group". If they report the true number of the group they are assigned to, then both themselves and a randomly selected participant will get \$0.10; otherwise they will get \$0.20 and the other participant will get \$0.09.

I have deliberately chosen to conduct the experiment with small stakes because previous research has shown that stakes have no effect on participants' behavior, as long as they are positive and not "too high". Specifically, it has been suggested that participants' behavior changes when passing from no-stakes to small stakes (Forsythe et al., 1994; Amir et al., 2012), then it is stake-independent at intermediate stakes, and then changes again when stakes approach one month of salary (Andersen et al., 2011; Kocher et al., 2008), although the existence of the latter discontinuity is still under debate, since other studies have found that stakes do not matter even when they grow very large (Cameron, 1999).

3. Method

American subjects were recruited using the online platform Amazon Mechanical Turk (AMT). They earned \$0.30 for completing the survey, plus an additional bonus depending on the choice they made in the Deception Game. Although AMT experiments are easy and cheap to implement and experimenters have much less control on participant's behavior during the experiment, several studies have shown that data gathered using AMT are of no less quality than those collected using the standard physical laboratory (Horton et al., 2011; Paolacci and Chandler, 2014).

After reading the instructions, all subjects faced the same set of comprehension questions. Subjects failing any comprehension question were automatically excluded from the survey. Subjects who passed the comprehension questions were randomly assigned to play a one-shot anonymous Deception Game either under *time pressure* condition or under *time delay*. Subjects under time pressure were asked to decide within 5 s; those under time delay were asked to stop and think for at least 30 s before deciding. Importantly, the number of the group a participant was assigned to was communicated directly in the decision screen. Thus, when the time manipulation started, participants knew that their optimal strategy was to deceive, but they did not know which choice corresponded to that strategy; in other words, time pressure worked as a limitation for participants' ability to compute their payoff maximizing choice. Decisions were collected using a blank text box in which subjects could to type their choice. Three sessions of the same study were conducted, one between Dec 15 and Dec 19, 2015, one between Feb 3 and Feb 8, 2016, and one on Nov 28, 2016. Each subject was allowed to participate in only one session. I refer the reader to the Appendix for full experimental instructions.

[2] In Shalvi et al. (2012) subjects were asked to report the outcome of a privately rolled die, knowing that they would be paid an amount of money equal to the reported outcome. The timer started after rolling the die. Thus, participants knew before the time manipulation that their payoff maximizing strategy was to report the number 6, regardless of the actual outcome of the dice. A conceptually similar design was implemented by Gunia et al. (2012), where participants were told that there were two available allocations of money, Option A and Option B; *senders* were informed that Option A would allocate \$10 to themselves and \$5 to the *receiver*, while Option B would allocate \$5 to themselves and \$10 to the receiver. Senders were then told they had to choose a message to send to the receiver, between "Option A earns you more money than Option B" and "Option B earns you more money than Option A". The role of the receiver was to guess which option would maximize their own payoff. After learning these pieces of information, senders moved to the decision screen, where some were asked to decide under time pressure and others were asked to decide under time delay. Also in this case, whatever their beliefs about the behavior of the receiver are, participants knew before the time manipulation their payoff maximizing strategy.