Games and Economic Behavior 102 (2017) 433–444

Contents lists available at ScienceDirect

Games and Economic Behavior

www.elsevier.com/locate/geb

Incentives and cheating

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ARTICLE INFO

Article history:
Received 22 July 2016
Available online 16 February 2017

JEL classification:
C91
D03
D63
D82

Keywords:
Cheating
Lying costs
Incentives
Laboratory experiment

ABSTRACT

We study how cheating behavior is affected by incentives. After replicating the finding in the cheating game literature that lying does not increase with incentives, we show that this insensitivity is not a characteristic of the intrinsic lying cost, but rather a result of concern about being exposed as a liar. In a modified "mind" game in which this concern is eliminated, we find that people lie more, and in particular lie more when the incentives to do so increase. Thus, our results show that for many participants, the decision to lie follows a simple cost–benefit analysis: they compare the intrinsic cost of lying with the incentives to lie; once the incentives are higher than the cost, they switch from telling the truth to lying.

1. Introduction

Much of the interaction in the marketplace is based on asymmetric information, which tempts some people to misreport to their advantage the private information they have. The economic consequences of cheating are large, and hence, understanding the factors that influence the decision to lie is important in order to understand many economic behaviors.

For some people, lying is intrinsically costly—they prefer an outcome if they reach it honestly over getting it by lying. Intrinsic costs of lying could result from a direct distaste of lying, or from reasons that are indirectly related to lying.[1] In principle, we can distinguish between three types of people according to their intrinsic cost of lying. Some people may be unwilling to tell a lie, regardless of their benefit from it ("ethical type"). Scholars such as St. Augustine (421) and Kant (1787) advocated such an uncompromising approach to lies. People who are not willing to lie could be described in our approach as having an infinite cost of lying. Other people may have a finite positive intrinsic cost of lying. These people will lie when the benefit of lying is higher than the associated cost ("finite positive cost type"); at the extreme are people with a zero cost of lying ("economic type").

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[1] Such indirect preferences may relate to interdependent preferences in which the agent's utility depends on the utility of others—because of payoffs (Rabin, 1993; Fehr and Gächter, 2000) or because of guilt aversion (Dufwenberg and Gneezy, 2000; Charness and Dufwenberg, 2006; Battigalli and Dufwenberg, 2007; Battigalli et al., 2013). They may also relate to maintaining a positive social and/or self-image (Bénabou and Tirole, 2006; Andreoni and Bernheim, 2009), to the nature of communication (Lundquist et al., 2009), or to aversion to violating social norms (Elster, 1989; Bicchieri, 2006).

http://dx.doi.org/10.1016/j.geb.2017.01.015

In this paper we use an experiment to better understand how the size of the incentives to lie affects behavior. We do so by manipulating the incentives associated with lying and observing the effect on people's tendency to lie. The size of the incentive would not affect the ethical type who never lies or the economic type who always lies when doing so benefits them. By contrast, if the intrinsic cost of lying is positive but finite and the incentives are increased enough, some people will switch from telling the truth to lying.

The experimental economics literature offers two main approaches to studying lying behavior, and their results differ regarding the effect of incentives. The first line of research uses the "deception game" in which a sender has private information regarding payoffs associated with each of the choices that a receiver faces. The sender sends a message to the receiver that could be true or false, and the receiver decides whether to follow the message, which determines the payoffs for both players. In the deception game, the sender's action (message) may affect the receiver's beliefs; hence, this is a strategic decision. As a two-player game, the deception game also includes social preferences. The results are that senders are more likely to lie when the incentives to do so are increased (e.g., Gneezy, 2005; Sutter, 2009; Dreber and Johannesson, 2008; Erat and Gneezy, 2012).

The second approach to studying lying in the lab uses some form of a non-strategic "cheating game" in which the participant receives private information about the state of the world and reports it to the experimenter; this report, in turn, determines the participant's payoff. This type of game involves no strategic element. Furthermore, no social preferences are involved (assuming the participant does not take the experimenter's payoff into account). In contrast to the finding in the deception game, the literature on cheating games reports that higher incentives do not result in a higher fraction of lies (see Mazar et al., 2008; Fischbacher and Föllmi-Heusi, 2013, and the discussion in the literature review below).

In our experiments, we focus on the non-strategic games, i.e. cheating games. We first replicate the result of the cheating games by testing a game in which a participant rolls a six-sided die in private and then reports the result to the experimenter. If the participant reports a 5, she receives \$X (\$X = \$1, \$5, \$20 and \$50, between participants), and zero otherwise. Cheating is detected by comparing the reported distribution of numbers with the theoretically predicted one. In line with the findings reported above, we find no increase in cheating as the incentives are raised.

Why is behavior affected by incentives in deception games but not in cheating games? One possibility is that in the deception game, lying is an option suggested in the rules of the game where the sender is asked to decide whether to send a true or false message. The consequence of each message is well defined in terms of the strategic outcome of the game. This is not the case in the cheating game, in which participants are asked to report the actual outcome without being told about the option to lie. Because the lying option is not explicitly mentioned in the rules of a cheating game, participants might be afraid of possible consequences of a lie. In addition, participants in the cheating game might question whether their die roll is really private, or whether the experimenter has a way to find out the outcome. When the incentives are raised, concerns may increase regarding the possible consequences of being exposed when lying (e.g., Ekman, 1985, 1988; Vrij, 2008).

To test the effect of this potential concern, we introduced a "mind game" in which we ask participants to think about a number in private, then roll the die in private, and report whether the number that came up is the same as the one they thought of (see Jiang, 2013; Shalvi and De Dreu, 2014, and Potters and Stoop, 2016, for a similar manipulation). If participants report it was the same number, they receive \$X as before, and zero otherwise. As predicted, the results of this "mind game" show an overall increase in participants' tendency to lie for every level of X. This result indicates that some participants in the cheating game chose not to lie because of the risk of being exposed, and not because of the intrinsic cost of lying. In addition, and in contrast to the cheating game, in the mind game, the fraction of participants who lied increases with X. That is, more participants lied when the incentives were increased. The mind game presents an extreme case of zero probability of being exposed. While it is hard to imagine such situations in daily life, the extreme case is helpful in testing and understanding the intrinsic cost of lying and its interaction with incentives.

Our results provide an explanation for findings in the literature on cheating games, and show that in a mind game the tendency to lie increases with incentives, indicating that some of our participants have positive and finite intrinsic costs of lying. In particular, the evidence suggests that lying is a "normal good" in which people compare the intrinsic cost and benefit of the lie, and when the benefit from lying is higher than the intrinsic cost of lying, they lie.

2. Literature review

As discussed in the introduction, the evidence from cheating games suggests that increasing the financial incentives does not increase lying. Mazar et al. (2008) asked participants to solve a set of 20 matrices in private and report their success to the experimenter later on. The participants received payment based on a piece rate per correctly solved matrix. Payments were increased, between participants, from \$.50 to \$2 (from a maximal payoff of \$10 to \$40). The results of this treatment were compared with a baseline test of ability, and show participants lie, but that there is no difference between the two levels of incentives.

Even stronger than this finding, Mazar et al. (2008) report the results of additional experiments in which they manipulated the amount of payment to each participant per correctly solved matrix (\$.10, \$.50, \$2.50, and \$5). They find, compared with the control, a "limited dishonesty" in the \$.10 and \$.50 treatments, but no lying in the \$2.50 and \$5 conditions. Mazar et al. (2008) conclude behavior is consistent with a convex cost function: the cost of lying increases faster than the benefits, such that when the incentives to cheat are increased, people are not more likely to lie.