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Gender differences in honesty: Groups versus individuals

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HIGHLIGHTS

- We analyze gender effects in the lying behavior of groups and individuals.
- We extend the die-rolling experiment of Fischbacher and Föllmi-Heusi (2013).
- There are no pronounced gender effects under individual decision-making.
- Strong gender effects emerge under joint decision-making in groups.
- There is more lying in male groups and mixed groups than in female groups.

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ABSTRACT

Extending the die rolling experiment of Fischbacher and Föllmi-Heusi (2013), we compare gender effects with respect to unethical behavior by individuals and by two-person groups. In contrast to individual decisions, gender matters strongly under group decisions. We find more lying in male groups and mixed groups than in female groups.

1. Introduction

Unethical behavior is a ubiquitous feature in many economic contexts, and a number of recent experimental studies have analyzed lying as one prominent type of unethical behavior. For example, in Fischbacher and Föllmi-Heusi (2013) individuals are asked to report the (privately observed) realization of a die roll that determines their payoff. Evidence for lying (on the aggregate level) is then obtained by comparing the actual payoff distribution with the uniform distribution, which would result under truth-telling. Other studies have analyzed lying using the sender–receiver setup of Gneezy (2005). All in all, there is strong evidence for lying, but often not to the maximal extent possible; suggesting that there are private costs associated with such unethical behavior (Gneezy, 2005; Charness and Dufwenberg, 2006; Erat and Gneezy, 2012; Gibson et al., 2013).

With respect to gender differences, it seems that males are somewhat more prone to lying than females, but often the effect is small or not statistically significant (Dreber and Johannesson,

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2008; Childs, 2012; Erat and Gneezy, 2012; Houser et al., 2012; Conrads et al., 2013, 2014; Abeler et al., 2014).[1]

So far, the literature on lying behavior has mainly analyzed decisions by *individuals*; possibly in strategic interaction with other individuals as in tournaments (see e.g., Conrads et al., 2014). However, in many settings, a *group* of individuals must reach a decision *jointly*, e.g., decision-making by committees in economic, social, or political organizations. In fact, there is growing evidence from contexts other than lying that groups often decide markedly different than individuals (for surveys, see Charness and Sutter, 2012; Kugler et al., 2012). On the one hand, groups are better at solving cognitive tasks and act more selfishly (see e.g., Maciejovsky et al., 2013; Bornstein et al., 2004; Falk and Szech, 2013). That suggests that groups might be more willing to realize the potential monetary gains from lying. On the other hand, there is evidence that "moral reminders" reduce dishonesty (Pruckner and Sausgruber, 2013). Hence, discussions within groups might lead them to lie less. Taken together, it seems a priori unclear whether lying is more prevalent in groups compared to individuals. Moreover, for the lying behavior of groups their gender composition might matter (see e.g., Dufwenberg and Muren, 2006, where gender composition affects groups' giving in a dictator game). Consequently, this paper aims at providing insights on the unethical behavior of groups and individuals, and the role of gender in this context. Gender composition is found to be particularly important under group decision-making. In our view, this has interesting implications for the design of decision-making (and monitoring) processes in organizations.

2. Experimental design

We extend the simple and widely used die rolling experiment of Fischbacher and Föllmi-Heusi (2013), where subjects decide autonomously and anonymously about their (lying) behavior, to a setting where decisions are made jointly in groups. We consider a treatment *G* where randomly formed groups of two subjects need to coordinate on both who rolls the die and on which realization to declare. As a control treatment *I*, we replicate the setup of decision-making by individuals as in Fischbacher and Föllmi-Heusi (2013). Subjects were randomly assigned to treatments (and in treatment *G*, to groups).

The experiment was conducted at the University of Regensburg in June 2014. Participants were recruited through an introductory undergraduate course in economics (economics majors and minors and business majors).[2] Subjects were first asked to complete an unrelated questionnaire inside the lecture hall. They were instructed (i) that their payoff for filling out the questionnaire would be either 0, 1, 2, 3, 4, or 5 Euros, and (ii) that the exact amount would be determined in a second phase of the experiment outside the lecture hall, where they would receive further instructions. We made it clear that payoffs would be completely independent from their answers in the questionnaire, and that their behavior in the experiment would remain anonymous.

The die rolling experiment was then played in paper–pencil style in fifteen booths outside the lecture hall that ensured complete privacy of decision-making. Subjects waited inside the lecture hall at their seats, and were only allowed to proceed outside when booths became vacant. Inside the booth, subjects found a fair, six-sided die, a pen, instructions, an anonymous answer sheet (on which the realization of the die roll was to be declared), and a receipt form for each subject. Translations of the instructions and the answer sheet are included in the Supplementary Material. As each booth contained one die and one answer sheet only, in treatment *G*, subjects had to make a joint declaration, and they were aware that *each* of them would receive the declared payoff.[3] Afterwards, subjects proceeded to the cashier desk. They handed in the anonymous questionnaire(s) and the anonymous answer sheet, where it was checked that the declared amounts coincided with those on the receipt form(s). Then each subject went to privately collect his/her payment. As in Fischbacher and Föllmi-Heusi (2013), subject *i*'s payment (in Euros) π_i, is related to the declared outcome of the die roll $r \in \{1, \ldots, 6\}$ as follows: $\pi_i = r$ for all $r \leq 5$ and $\pi_i = 0$ for $r = 6$. In total, there were 228 participants (124 female, 104 male) of which 108 (120) participated in treatment *I* (*G*). The whole experiment took about 2 hours.

3. Results

Table 1 summarizes the distribution of payoffs in the two treatments. In line with the previous literature, a sizeable amount of lying also occurs in our setting. First, the average payoffs in treatments *G* and *I* are 3.47 and 3.48, respectively. Hence, they virtually take the same value (3.51) as in the baseline (individualistic) treatment of Fischbacher and Föllmi-Heusi (2013). Both payoff distributions differ significantly from the uniform distribution that would result under truthful reporting leading to an average payoff of 2.50 ($p < 0.001$, two-sided one-sample Kolmogorov–Smirnov (KS) tests). These results are driven mainly by the high frequency of reported 4's and 5's. Comparing our two treatments reveals that – when considering all observations – their payoff distributions do not differ significantly at conventional levels according to a two-sided Mann–Whitney U (MWU) test.[4] However, as shown next, this result masks substantial gender differences. As displayed in Fig. 1(a), in treatment *I*, the average payoff is somewhat higher for male subjects (3.58) than for female subjects (3.40), and both gender-specific payoff distributions differ significantly from the uniform distribution ($p < 0.001$, two-sided one-sample KS tests). Hence, females are somewhat less prone to lying than men, but the difference is not statistically significant ($p = 0.477$, two-sided MWU test). Based on own calculations, this is again very similar to the baseline treatment of Fischbacher and Föllmi-Heusi (2013), where the respective gender-specific values are 3.60 and 3.37 with $p = 0.133$.

The (slight) tendency of females to lie less than males is, however, amplified in treatment *G*, where we observe groups that are either "female" (only females), "male" (only males), or "mixed" (one female, one male). As illustrated in Fig. 1(b), compared to treatment *I*, the average payoff of female groups decreases (to 2.74), while the average payoff of male and mixed groups increases (to 4.00 and 3.71, respectively). Payoffs of female groups are significantly lower than payoffs of male groups or mixed groups (pair-wise two-sided MWU tests with $p = 0.045$ and $p = 0.059$, respectively). The payoffs of male groups and mixed groups are not significantly different from each other (two-sided MWU test, $p = 0.497$). A Jonckheere–Terpstra test indicates that the extent of lying is lowest for female groups followed by female individuals, male individuals, and male groups ($p = 0.026$, two-sided). In fact, while the payoff distributions of both male groups and mixed groups differ significantly from the uniform distribution, which

[1] For surveys on gender differences in a variety of economic contexts, see e.g., Eckel and Grossman (2008) and Croson and Gneezy (2009).

[2] As a show-up fee, students who agreed to participate (which all did) received a small bonus towards their final exam.

[3] As participants still had to read the instructions in the booth, they did not need to worry that the time they spent there might be indicative of lying.

[4] Chytilova and Korbel (2014) conduct an artefactual field experiment on lying with children and adolescents at a high school, where participants were paid in sweets. Their three-person groups obtain a somewhat higher payoff than individuals (3.28 and 2.93, respectively).