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Gender differences in lying: The role of stakes

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ABSTRACT

Using an amended Gneezy's cheap-talk game with multiple decisions, we test whether gender differences in lying depend on the magnitude of gains, as hypothesized in the literature. We find that women may have a greater aversion to lying for small monetary gains; this effect disappears with increased gains.

1. Introduction

Deviations from the theoretical assumption that people are entirely self-interested are ample (e.g. Fehr and Gachter, 2000; Fehr et al., 2002). For example, a substantial proportion of people prefer not to lie, even when lying might lead to higher payoffs and there are no consequences or retaliation (Gneezy, 2005). Nevertheless, some people do lie. The determinants of lying are, however, still not fully understood.

In studying when and why people lie, some researchers have focused on the effects of social preferences (e.g. Biziou-van Pol et al., 2015) or the role of incentives (e.g. Gneezy, 2005). Others have searched for patterns in lying, for example across genders (e.g. Capraro, 2018). Gender differences have been observed in many behaviors (see Niederle (2016) for an overview). For example, women have been found to offer more than men in dictator games and public-good games (Eckel and Grossman, 1998). Perhaps more relevant for this study, women have generally been found to be more trustworthy than men (e.g. Abeler et al., 2019; Buchan et al., 2008; Dreber and Johannesson, 2008; Grosch and Rau, 2017; Kleinknecht, 2019). However, this observation is not without exceptions (e.g. Charness et al., 2019; Childs, 2012; Ezquerra et al., 2018; Gylfason et al., 2013; Vranceanu and Dubart, 2019).

Given these mixed findings, Kleinknecht (2019) suggests that gender differences in lying might be contextual and Erat and Gneezy (2012) conclude that "women are less likely to lie when it is costly to the other side". (p. 723). If women are less likely than men to lie when it is costly to their opponents, the same might hold true for increased payoff to themselves and decreased payoff to their opponents (see Gneezy (2005) for e.g. relevance for contract theory). Additionally, Childs (2012) hypothesized that women have a greater aversion to lying for small monetary gains that disappears with increased gain.

We investigate the relationship between women's inclination to lie and stakes, using an amended version of Gneezy's (2005) cheap-talk game. Specifically, we use a within-subject design that includes multiple decisions per participant, with varying stakes. We find women to have a greater aversion to lying for small monetary gains that disappears when the stakes are raised.

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2. Experimental design

The standard Gneezy's (2005) cheap-talk game has two anonymously paired players, a sender and a receiver. The receiver chooses between two options, A and B, that determine payoffs for both players. Only the sender knows the payoffs related to A and B. Before the receiver decides the sender is asked to send the receiver either of two messages: "Option A will earn you more money than option B" or "Option B will earn you more money than option A".

In our implementation senders were undergraduate students and informed that they would be paired anonymously with a receiver recruited in one of Reykjavik's shopping centers; neither would know the identity of the other. We chose to have the receivers from a different subject pool, as complete strangers, to increase the likelihood of senders lying (Depaulo and Kashy, 1998). In the amended version of the game senders were shown a decision sheet which contained a menu of 10 decisions, numbered from 1 to 10 (see Appendix A). Each decision had two options A and B; the sender's own earnings from A were 500 ISK in all decisions, while her earnings from B varied from 600 to 5000 ISK (ISK 500 ≈ USD 4.40). For the receiver, the earnings were mirrored, that is, her earnings from A varied from 600 to 5000 ISK while her earnings from B are always 500. We measured the 'stakes' of a decision as the earnings difference between the sender and receiver. This varied from 100 ISK in the first decision to 4500 ISK in the tenth (if the receiver's favor for option A and the sender's favor for option B).

For each decision, senders choose one of the two messages described above to send to the receiver. Senders were informed that at the end of the experiment we would randomly draw a number between 1 and 10 and send the message chosen for that decision to an actual receiver, after which the receiver's choice would determine the payoff for both players.

We stressed to senders that only one of the ten decisions would count, but that they would not know which one. Therefore, they should treat each decision as if it were the only one that was going to count in the end. Following the receivers' decision, the senders were paid. To secure full anonymity for senders and still have full knowledge of every sender's behavior, senders used a private identification number made only available to them. One week later, after we had collected receivers' decisions, senders could use these id numbers to collect their earnings.

At the end of each session, senders provided demographic information and completed the Icelandic version of the 60-item HEXACO Personality Inventory-Revised (Ashton and Lee, 2009), where the answers ranged from 1 (totally disagree) to 5 (totally agree) and were averaged to create a summary measure, with satisfactory internal consistency (Cronbach's alfa = .69). This allows us to analyze whether senders' behavior can be attributed to individual personality attributes (Ellingsen and Johannesson, 2004). Specifically, we are interested whether the attribute Honesty-Humility predicts dishonest behavior (Ashton and Lee, 2005; for more about personality attributes and unethical behavior, see Lee et al., 2005) because in Gneezy's (2005) cheap-talk game, the behavior of senders has been interpreted as dishonest without empirical evidence (e.g., Capraro, 2018; Fischbacher and Föllmi-Heusi, 2013; Mazar and Ariely, 2006).

3. Results

51 male and 71 female senders participated in the study, and one who did not report their gender. As can be seen in Fig. 1, 53% of the male senders lied in an attempt to secure the preferred option when the stakes were lowest; the same holds

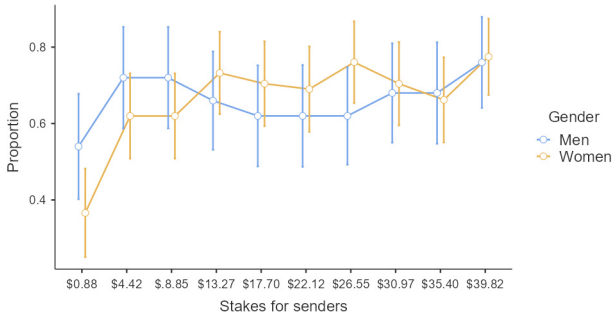

Fig. 1. Proportion of all senders lying with increased stakes. Error bars represent the 95% confidence interval.

for 37% of female senders.[1] We ran a repeated measures analysis of variance (ANOVA) and examined the interaction between the within-subjects factor stakes, with gender as the independent factor. A main effect for stakes was found, $F(7.15, 858.25) = 6.44$, $p < .001$, indicating that senders were more likely to lie for larger stakes than smaller. Additionally, we found a significant stakes × gender interaction, $F(7.15, 858.25) = 2.29$, $p = .025$, with women appearing less likely than men to lie for smaller stakes, while the gender difference is nor observed for higher stakes, supporting Childs' (2012) hypothesis.[2] It seems that the first decision is driving the gender difference, $t(119) = 1.91$, $p = .058$, although we note that we are underpowered to detect small to modest differences.[3]

Gender did not correlate with 'number of lies', a summary measure of how often for the ten decisions senders sent a deceptive message, $r_p = .005$, $p = .96$. The Honesty-Humility measure correlates with 'number of lies', $r_p = -.336$, $p < .001$.

Majority of receivers were trusting, with 58% of the receivers following their sender's suggestion. This is lower than in previous studies, with 73%–78% of receivers following their sender's suggestion (e.g. Childs, 2012; Dreber and Johannesson, 2008; Gneezy, 2005; Gylfason and Olafsdottir, 2017), probably due to different settings (shoppers versus students).

4. Conclusion

Similar to previous studies on deception our results indicate that senders are more likely to lie for larger stakes than smaller (e.g., Dreber and Johannesson, 2008; Erat and Gneezy, 2012; Gneezy, 2005; Sutter, 2009; Leibbrandt et al., 2018). Kajackaite and Gneezy (2017) summarize that for deception games "senders are more likely to lie when the incentives to do so are increased" (p. 434). Our results with respect to gender differences are in accordance with Childs' (2012) suggestion that women may have a greater aversion to lying than men do for small stakes, but that this difference disappears with increasing stakes. We consider this result a first step towards a better understanding of gender

[1] Sutter (2009) raises the point that telling the truth should count as an act of "sophisticated" deception when the sender anticipates that the receiver will not follow his message. This suggests that we might be underestimating the amount of deception in our sample.

[2] In Appendix B we report results of a probit regression of lying as a function of gender, stakes and its interaction. The coefficient of the interaction between stakes and gender is negative, supporting Childs' (2012) hypothesis, implying that women appear less likely than men to lie for smaller stakes.

[3] We have sufficient power to test for our main effects and interaction effects. A post hoc power analysis using GPower (Faul et al., 2009) with effect size at f = .14, $\alpha = .05$, and total sample size as 122, gives us a power (1-β) of .99. However, we are not sufficiently powered to test for gender differences for all ten decisions. To test for differences for all ten decision (power (1-β) = .80, α = .005 (two-tailed), and $d = .30$) the sample size would have to increase to 596 participants.

differences in lying (as propagated by Kajackaite and Gneezy (2017)). It has been observed, for example, that women are more honest than men where dishonesty benefits the liar at someone else's cost (e.g., Abeler et al., 2019; Capraro, 2018; Grosch and Rau, 2017), but this observation is not without exceptions (e.g., Childs, 2012; Gylfason et al., 2013; Vranceanu and Dubart, 2019). We believe that our results provide new insights in this discussion, but further studies on the relationship between stakes and gender would certainly be beneficial.

Although sensitivity to stakes seemed to drive decisions to some extent, about 11% of senders never lied. Such lack of willingness to lie could be associated with guilt (Erat and Gneezy, 2012), which resonates well with our results seeing as guilt is associated with Honesty-Humility (Fang et al., 2019) and Honesty-Humility is associated with lying in our study. Erat and Gneezy (2012) argue that people might experience guilt when lying because they would be violating a social norm. More specifically, that the amount of guilt people experience could be contingent on a descriptive norm – "their beliefs about adherence to the norm in their peer group". (p. 730). Future research should address descriptive norms by e.g., assessing the relationship between conformity and deceptive behavior.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Appendices. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.econlet.2022.110926.

References

Abeler, J., Nosenzo, D., Raymond, C., 2019. Preferences for truth-telling. Econometrica 87, 1115–1153.
Ashton, M.C., Lee, K., 2005. Honesty-humility, the big five, and the five-factor model. J. Pers. 73, 1321–1354.
Ashton, M.C., Lee, K., 2009. The HEXACO-60: A short measure of the major dimensions of personality. J. Pers. Assess 91, 340–345.
Buchan, N.R., Croson, R.T.A., Solnick, S., 2008. Trust and gender: An examination of behavior and beliefs in the investment game. J. Econ. Behav. Organ. 68, 466–476.
Capraro, V., 2018. Gender differences in lying in sender-receiver games: A meta-analysis. Judgm. Decis. Mak. 13, 345–355.
Charness, G., Blanco-Jimenez, C., Ezquerra, L., Rodriguez-Lara, I., 2019. Cheating, incentives, and money manipulation. Exp. Econ. 22, 155–177.
Childs, J., 2012. Gender differences in lying. Econom. Lett. 114, 147–149.
Depaulo, B.M., Kashy, D.A., 1998. Everyday lies in close and casual relationships. J. Pers. Soc. Psychol. 74, 63–79.
Dreber, A., Johannesson, M., 2008. Gender differences in deception. Econom. Lett. 99, 197–199.
Eckel, C.C., Grossman, P.J., 1998. Are women less selfish than men? Evidence from dictator experiments. Econ. J. 108, 726–735.
Ellingsen, T., Johannesson, M., 2004. Promises, threats and fairness. Econ. J. 114, 397–420.
Erat, S., Gneezy, U., 2012. White lies. Manage. Sci. 58, 723–733.
Ezquerra, L., Kolev, G.I., Rodriguez-Lara, I., 2018. Gender differences in cheating: Loss vs gain framing. Econ. Lett. 163, 46–49.
Fang, Y., Dong, Y., Fang, L., 2019. Honesty-humility and prosocial behavior: The mediating roles of perspective taking and guilt-proneness. Scand. J. Psychol. 60, 386–393.
Faul, F., Erdfelder, E., Buchner, A., Lang, A.-G., 2009. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behav. Res. Methods 41, 1149–1160.
Fehr, E., Fischbacher, U., Gächter, S., 2002. Strong reciprocity, human cooperation, and the enforcement of social norms. Hum. Nat. 13, 1–25.
Fehr, E., Gachter, S., 2000. Cooperation and punishment in public goods experiments. Amer. Econ. Rev. 90, 980–994.
Fischbacher, U., Föllmi-Heusi, F., 2013. Lies in disguise – An experimental study on cheating. J. Eur. Econ. Assoc. 11, 525–547.
Gneezy, U., 2005. Deception: The role of consequences. Amer. Econ. Rev. 95, 384–394.
Grosch, K., Rau, H.A., 2017. Gender differences in honesty: The role of social value orientation. J. Econ. Psychol. 62, 258–267.
Gylfason, H.F., Arnardottir, A.A., Kristinsson, K., 2013. More on gender differences in lying. Econom. Lett. 119, 94–96.
Gylfason, H.F., Olafsdottir, K., 2017. Does Gneezy's cheap talk game measure trust? J. Behav. Exp. Econ. 67, 143–148.
Kajackaite, A., Gneezy, U., 2017. Incentives and cheating. Games Econ. Behav. 102, 433–444.
Kleinknecht, J., 2019. A man of his word? An experiment on gender differences in promise keeping. J. Econ. Behav. Organ. 168, 251–268.
Lee, K., Ashton, M.C., Shin, K.-H., 2005. Personality correlates of workplace anti-social behavior. Appl. Psychol. 54, 81–98.
Leibbrandt, A., Maitra, P., Neelim, A., 2018. Large stakes and little honesty? Experimental evidence from a developing country. Econom. Lett. 169, 76–79.
Mazar, N., Ariely, D., 2006. Dishonesty in everyday life and its policy implications. J. Public Policy Mark 25, 117–126.
Niederle, M., 2016. Gender. In: Kagel, J., Roth, A.E. (Eds.), Handbook of Experimental Economics, second ed. Princeton University Press, pp. 481–553.
Biziou-van Pol, L., Haenen, J., Novaro, A., Liberman, A.O., Capraro, V., 2015. Does telling white lies signal pro-social preferences? Judgm. Decis. Mak 10, 538–548.
Sutter, M., 2009. Deception through telling the truth?! experimental evidence from individuals and teams. Econ. J. 119, 47–60.
Vranceanu, R., Dubart, D., 2019. Deceitful communication in a sender-receiver experiment: Does everyone have a price? J. Behav. Exp. Econ. 79, 43–52.