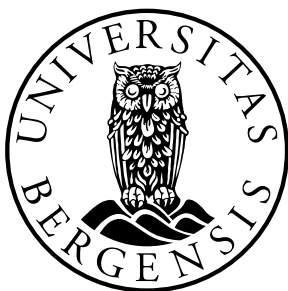


WORKING PAPERS IN ECONOMICS

No. 1/23

Ingrid Ovidia Telle and Sigve Tjøtta

Context and Preferences for Equality in the Spectator Game



Department of Economics
UNIVERSITY OF BERGEN

Context and Preferences for Equality in the Spectator Game*

Ingrid Ovidia Telle and Sigve Tjøtta

Department of Economics,

University of Bergen Norway

5 July 2023

Abstract

Spectator games have emerged as a tool for measuring equality preferences. To measure equality preferences, the spectators are matched with a pair of stakeholders who have been allocated unequal endowments. The spectators decide how much to redistribute from one stakeholder's endowment to the other one. We conducted a spectator experiment in which we fixed the spectators' redistribution choice set and varied context of the "no distribution" choice. We found a strong effect of the context variation. The spectators who chose not to redistribute the stakeholders' endowments increased from 12.3% to 38.0% in the treatment, making "no redistribution" more salient.

JEL classifications: D63, D90

Keywords: spectator game, measurement of inequality, context

*The replication material for the study is available at <https://osf.io/2mcs8/>.

1. Introduction

In the field of behavioral economics, spectator games have emerged as a tool for measuring equality preferences (Almås et al., 2020; Cappelen et al., 2013; Cappelen et al., 2020; Coffman, 2011; Engelmann & Strobel, 2004; Konow, 2000; Miller & Renes, 2021). Spectators act as a third party; they make decisions that affect the payoff of other subjects but not of themselves. To measure equality preferences, the spectators are matched with a pair of stakeholders who have been allocated unequal endowments. The spectators decide how much to redistribute from one stakeholder's endowment to the other one. Choosing equal distribution of the stakeholders' endowments is in the literature interpreted as a preference for equality (Bolton & Ockenfels, 2000; Fehr & Schmidt, 1999). Cappelen et al. (2013) broadened this literature to allow for more heterogeneity in preference for fair and unfair inequality.

Our paper contributes to the literature by examining the effect of context on spectators' choices, thereby causally examining the robustness of spectators' choices of redistribution as a measurement of equality preferences. In our experiment, we varied the context by adding a "no distribution" option to the choice set and keeping the spectator's choice set of redistribution the same across treatments. To the best of our knowledge, this design has not been reported in the literature.

We found a strong effect of making "no redistribution" more salient. The share of subjects who chose not to redistribute increased from 12.3% in the baseline treatments to 38.0% in the salient treatment. The implemented inequality, measured using the Gini coefficient, increased from 0.42 in the baseline treatment to 0.56 in the salient treatment. These increases are significant, both statistically and in terms of size.

Our motivation is two-fold. First, as a large body of empirical literature has demonstrated, [that](#) context matters, and we expect that by changing the context in the spectator game, we can alter the spectator's redistribution choice (for a recent review on the role of context, see Gerlach & Jaeger, 2016).

Second, and importantly, the expectation that context matters is backed up by theory. The spectator game is rooted in Adam Smith's *The Theory of Moral Sentiments* (TMS); the spectators in the literature are interpreted as Smithian impartial spectators rather than implicated stakeholders (Aguilar et al., 2013; Cappelen et al., 2020; Konow, 2008). Smith outlines a theory for how we morally judge others as well ourselves.¹ His central premise is that humans are sociable—it is only in and through society that humans become moral beings. Society is a mirror that guides us to sense what constitutes proper actions. Through praise, blame, or no reaction to one's own actions, humans gradually sense—through experience—what others expect of them. Humans' desire for praise and fear of blame, but also their desire for praiseworthiness and fear of blameworthiness, drives their approval and disapproval mechanism. According to Smith, when we judge ourselves, we step outside ourselves and “examine our conduct as any other fair and impartial spectator would examine it” (Smith, 1759, III.i.2, p. 110). In this process we consider whether the decision aligns with general rules of conduct in the specific situation. Moreover, Roland Bénabou and Jean Tirole's theory of prosocial behavior—which also calls on Adam Smith's impartial spectator—stresses that motivations “must be inferred from their choices and the *context*” (Bénabou & Tirole, 2006, p. 1654, our italics). Changing the context without altering the output consequences may

¹ This is captured in the subtitle added in the fourth edition: “An essay towards an analysis of the principles by which men naturally judge concerning the conduct and character, first of their neighbors and afterwards of themselves”. For secondary literature on Smith's moral theory, see Campbell (1971); Griswold (1999); and Smith & Wilson (2019).

affect the subjects' perception of what behavior is considered appropriate, thus impacting their choices in the experimental situation.² With the theoretical lens of Adam Smith's TMS, such change in context goes beyond changing information. Change in context may also change the moral approval and disapproval of actions (see Smith & Wilson, 2019, Ch. 6).

The remainder of the paper is organized as follows. In Section 2, we present our experimental design. In Section 3, we present the results of our experiment. We discuss possible explanations for our findings in Section 4. Section 5 concludes.

2. Experimental Design

We randomized the subjects into either stakeholders or spectators. Upon finishing a real-effort task for 10 minutes, we gave the stakeholders a lottery ticket with equal probabilities of winning the whole prize, 400 bonus points, or winning nothing at all.³ We also gave them the opportunity to exchange the ticket for a guaranteed payment of 140 bonus points, a considerably lower value than the expected reward from the lottery. The stakeholders were informed that they earned bonus points based on the choices they made as well as on a redistribution phase. We informed the subjects that each bonus point they earned had a conversion rate to 1 United States (US) cent, and that we would pay them their final earnings upon completion of the experiment.

² Insights from Smith's moral theory have also been applied to experimental situations including the ultimatum game (Paganelli, 2009), the dictator game (Paganelli, 2009; Serdarevic & Tjøtta, 2022), and the receiver game (Serdarevic, 2021; Tjøtta, 2019).

³ We gave the stakeholders a set of five words, for example, "THE, EXCITING, GAME, NO, WAS." We asked them to form an expression using four of these words. Each person had 20 seconds before her answer was automatically submitted and she was given a new set of words.

Upon finalizing the same real-effort task as the stakeholders, we randomly assigned the spectators in the two treatments to a pair of stakeholders. Both stakeholders had chosen the riskier lottery option. In this way, we created a situation where the stakeholders had chosen to participate in a lottery (like Cappelen et al., 2013). We informed the spectators of the choice the stakeholders had faced between the lottery and the guaranteed payment, that both stakeholders had chosen the lottery, and that one of the stakeholders was a loser in the lottery and the other was a winner. Only a random subsample of the spectators determines the actual payment of the stakeholders.

In the baseline treatment (B-treatment), we asked the spectators to type a number from 0–400 that they wanted to transfer from the winner to the loser of the lottery; the decision to transfer included the option to redistribute no money (i.e., 0). In the salient treatment (S-treatment), the spectators were first faced with the decision to exit by selecting “I do not want to redistribute” or to continue to the redistribution stage by selecting “I want to redistribute.” If they chose “I do not want to redistribute,” the winner of the lottery kept her or his money, and the factual redistribution was zero. If the spectator decided to enter the distribution stage, the spectator faced the same decision as in in the B-treatment, including redistributing zero money.

Text Box 1: Screen text for the B-treatment

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.

Text Box 2: Screen text for the S-treatment

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

- I want to redistribute
- I do not want to redistribute

Text Box 3: Screen text for subjects in the S-treatment conditional upon choosing “I want to redistribute” in the previous screen.

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.

We collected data online using the Qualtrics Research Suite.⁴ We recruited a total of 236 US-based participants from the online workplace Amazon Mechanical Turk in June 2021: 106 spectators in the B-treatment, 100 spectators in the S-treatment, and 30 stakeholders. Both the spectators and stakeholders received a fixed payment of 2 USD. We did not pay the spectators for their redistribution choices. We used a randomized matching procedure to pair the spectators and stakeholders. We informed the spectators that the “choices that you make will with some probability decide how many bonus points each of the two other participants will be paid at the end.” Therefore, only a random subsample of the spectators determined the actual distributions of bonus points between the stakeholders. Among the 30 stakeholders, 21 chose the lottery and 9 chose the safe option.⁵ In addition to fixed payments of 2 USD, those 21 stakeholders were paid

⁴ Qualtrics, Provo, UT, USA (<http://www.qualtrics.com>).

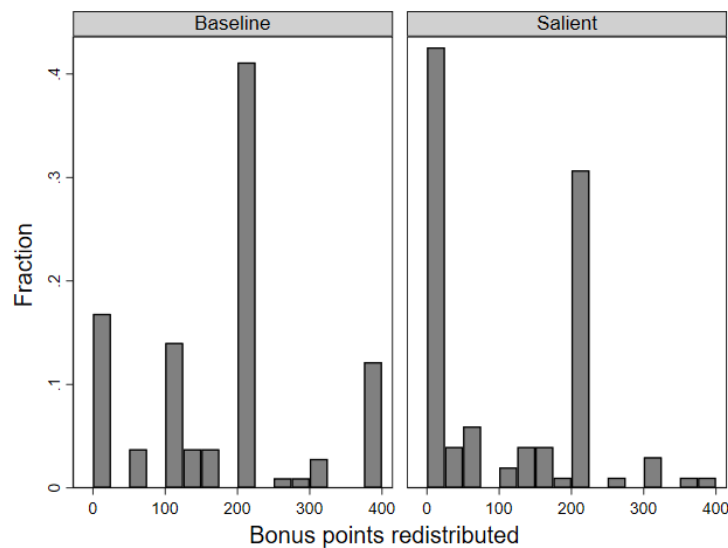
⁵ Of the 21 stakeholders, we randomly drew 10 pairs of a winner and a loser of the lottery and a corresponding 10 spectators who would determine the actual distribution of the bonus points between the loser and the winner. For the remaining stakeholder, we randomly drew whether this person would be a winner or loser of the lottery and a spectator to determine the actual payment for this person.

according to their corresponding randomized drawn spectators' redistribution choice; 10 stakeholders received the guaranteed payment of 1.40 USD.

3. Results

We present the distribution of spectator's redistribution from the lottery winner to the loser in Figure 1. The two panels in Figure 1 illustrate a significant difference in the spectators' redistribution across the two treatments. For the S-treatment, we set the redistribution equal to zero for those spectators who chose "I do not want to do redistribute." Among those spectators who chose "I want to redistribute," none of them chose to redistribute zero. The treatment in which "no redistribution" was salient (S-treatment), 38.0% of the spectators did not redistribute; in contrast, only 12.3% of the spectators in the B-treatment chose to redistribute zero. Finally, the number of spectators who chose an equal distribution dropped from 41.5% in the B-treatment to 31.0% in the S-treatment.

Figure 1: Redistribution of bonus points



In Table 1, we report the main aggregate statistics. The mean redistribution dropped from 169.4 experimental units in the B-treatment to 101.6 units in the S-treatment. The inequality the spectators implemented as measured by the Gini coefficient in the corresponding two-person stakeholder situation increased considerably from 0.42 in the B-treatment to 0.56 in S-treatment.

Table 1: Summary statistics for treatments.

	Baseline	Salient
Mean redistribution	169.4	101.6
Share of spectators who chose “I do not want to redistribute” in the S-treatment (# of subjects)		38.0 (38)
Share of spectators who chose zero redistribution (# of subjects)	12.3 (13)	38.0 (38)
Share of spectators who chose an equalizing output (# of subjects)	41.5 (44)	31.0 (31)
Implemented inequality	0.42	0.56
Age (years)	38.9	40.3
Education	4.7	4.7
Political orientation	2.8	2.9
Female	0.40	0.34
Observations	106	100

Note: We measured the mean redistribution in experimental unit points ranging from 0–400. For the S-treatment, the redistribution of the spectators who chose “I do not want to redistribute” is 0. “Implemented inequality” is the mean Gini coefficient. “Education” is a scale variable from 1–8, where 1 = less than high school, 2 = high school/GED, 3 = some higher education, 4 = two-year college degree, 5 = four-year college degree, 6 = master’s degree, 7 = doctoral degree, and 8 = professional degree (JD, MD). “Political orientation” is a scale variable from 1–5, where 1 = very liberal and 5 = very conservative. “Female” is a dummy variable set at 1 if the spectator is a female.

The OLS estimated effect of the S-treatment showed a reduced redistribution by 67.6 experimental points ($p < 0.01$) and an increased implemented inequality by 0.142 ($p < 0.05$). We report the OLS

regressions in the Supplementary Material. The treatment effects were robust to the inclusion of the background variables of gender, age, education, and political orientation as controls.

The Salient treatment results in a substantial decrease in the proportion of spectators who choose to redistribute everything compared to the Baseline condition. In the Baseline, 12 percent of spectators redistribute everything, while in the Salient treatment, this percentage reduces to just 1 percent. This substantial shift in behavior highlights the impact of the Salient treatment on individuals' choices regarding redistribution.

These results align with the findings from our pre-wave data collection, as reported in Telle (2016). In the pre-wave experiment, the average amount of redistribution was 157.0 in the baseline condition and 85.8 in the salient treatment. The OLS regression analysis estimated a reduction of 72.6 bonus points being redistributed in the salient treatment, and this difference was statistically significant ($p < 0.01$). Note that the protocols used in the pre-wave data collection slightly differed from those reported in the current study.

4. Discussion

Making the “no redistribution” option salient substantially altered the spectators’ redistribution choices. One possible explanation of the observed treatment effect is that offering the spectators in the S-treatment an exit option provided them with moral “wiggle room” to avoid making a costly decision.⁶ Previous researchers reported that introducing an exit option into dictator games reduced

⁶ Some may argue that choosing the option ‘I do not want to redistribute’ is not the same as choosing to exit the situation thus the word 'exit' is not entirely correct. However, we believe that context matters in this situation. Therefore, some subjects may still perceive the option ‘I do not want to redistribute’ as an exit option.

the dictator's willingness to share the endowment (Broberg et al., 2007; Dana et al., 2006). One explanation put forward for this result is that the exit option provides the dictator with moral "wobble room" to avoid making a decision that has a monetary and image cost. Hence, dictators acquire an option to hide their true preference for inequality due to social image concerns. Similarly, offering spectators an exit option in the S-treatment may have provided them with the chance to avoid a decision that carried an image cost, as there was no direct monetary cost for the spectators in our experiment. Thus, the exit option gives the spectators room to hide their true preferences for inequality.

However, offering the spectators an exit option may also be offering them a deliberation room. Kahneman describes decision-making as falling within a dual cognitive process comprising two systems (2009, pp. 20–21). System 1 operates intuitively, automatically, and quickly; System 2 demands reflection, deliberation, and time. In this sense, offering the spectators an exit option provided them with room to deliberate, which could influence their redistribution choices toward a true preference for equality.

Our findings may also relate to explanations of the experimenter demand effect. This effect suggests that experimental subjects respond to indications about what constitutes the appropriate behavior "demanded" of them. Here, in the S-treatment, the "demand" may become more salient.

Another possible explanation for our result is that the spectators selecting the option not to redistribute in the S-treatment were saving time, as they had to make one less decision. The participants had an incentive to make the choices as quickly as possible. However, the average time used, recorded from entering the experiment to exiting it, was quite similar in the two treatments:

976 seconds (standard deviation is 316 seconds) in the B-treatment and 1064 seconds (587 seconds) in the S-treatment.⁷ In the S-treatment, the subjects who chose not to redistribute used less time than those who did chose to redistribute, at 931 versus 1146 seconds, respectively. However, in the B-treatment, the subjects who chose to redistribute zero points used less time than those who chose to redistribute a positive amount: 888 versus 988 seconds, respectively. As choices are made on the margin, however, we cannot rule out that some spectators chose the exit option to save time.

Our motivation for this paper grew out of Adam Smith's *The Theory of Moral Sentiments*, which holds that people's decisions are affected by context. The experimental spectator's situation is a complex one with a multitude of corresponding and conflicting norms. It involves taking money from one stranger and giving it to another stranger. Taking harms others, giving does good toward others. In our design, both stakeholders had chosen to participate in the lottery with a winner and a loser. According to some spectators, intervening and redistributing the outcomes of someone's voluntary choices may be considered as a norm violation. Other spectators follow norms of equalizing outcomes between the stakeholders.

Moreover, in judging the propriety of an action in a situation, we also considered the intentions among the involved agents, including the experimenters (Smith, 1759, VII.iii.3.15, p. 326). An intended harm is often judged more harshly than the same unintended harm—a well-meant “doing good” action is usually more praised than the same ill-meant “doing good” action. For example, we would blame someone for giving a bottle of wine to a friend with the intention of sharing it when that person knows the friend is a former alcoholic. Keeping the spectator's redistribution

⁷ We measured the total time of the experiment as the time from when the subjects entered the experiment to the time they logged out, including the real effort task.

choice set constant but varying the salience of the “no redistribution” choice may make the experimenter’s intention clearer—it may be more proper to follow procedural norms in this situation, causing the spectators to choose not to redistribute.

To explore the spectators’ motivation for their choices, after they made their redistribution choice, we asked them the following open-ended question: “What motivated your redistributive decision?” One issue with analyzing the answers to such open-ended questions is that talk is cheap; the subjects could easily rationalize their choices to make themselves look good. As these answers do not directly affect payoff, what incentive is there to tell the truth? (Farrell & Rabin, 1996). Economists are reluctant to use qualitative data for this reason. However, looking at this situation through the lens of Adam Smith, cheap talk does not come easily (for an elaboration of these arguments, see Serdarevic, 2021). Smith acknowledges that people have an incentive to cheap talk to “appear fit for society” as he puts it. However, they also have an incentive to talk honestly in order “to be really fit” for society rather than to appear fit (Smith, 1759, III.2.7, p. 117). Smith continues, the second incentive must be the stronger of the two. It is only the “weakest and superficial of mankind” who can be pleased by cheap talk to appear fit for society; “wise” people reject such talk. Humans gradually learn from their experiences to distinguish between cheap talk that is used to appear fit for society and honest talk that makes one truly fit. In this process, we struggle to avoid cheap talk and strive for honest talk. Smith’s theory treats humans as weak and imperfect beings, meaning that there is no guarantee people will always reach the perfection of honest speech.

To analyze the respondents' motivations, we therefore classified respondents' answers into four categories:⁸

1. **Procedural:** The subject's motivation focuses on the "rules of the game", for example, "They both took a 50% gamble," or "I don't think it's my right to interfere."
2. **Consequential:** The subject's motivation focuses on outcomes and relates to consequences in terms of the redistribution of bonus points between the two participants, for example, "I just wanted to equalize bonus points and gave each participant 200 points."
3. **Both category 1 and 2:** Motivations related to both 1 and 2.
4. **Other:** When none of the above categories apply, including ambiguous and empty answers.

We recruited two independent coders from the University of Bergen. Neither had any prior experience with coding. We informed them of the main structure of the experiment but did not give them information about the two treatments or the purpose of the study. We informed the coders about the subjects' redistribution choice and their motivation. Before the coding process started, we committed to report the results of both coders' categorization separately, rather than combining them into a single classification.⁹ The two coders differed in their categorization as follows: 11.3%

⁸ Our classifications are similar to the terms "consequential" and "deontology," which Aguiar et al. (2008) used to analyze answers in dictator games.

⁹A description of the instruction and coding process as well as the types of motivations is included in Supplementary Material.

in the B-treatment and 11.0 % in S-treatment, see tables B2 and B3 in the supplementary material.

Table 2 provides an overview of the results obtained from the two coders.

Making the “no-distribution” salient increased the percentage of answers categorized as “procedural” from 10.4 (11.3) % in the B-treatment to 32.0 (33.0) % in the S-treatment for Coder 1 (Coder 2 in parentheses). The consequential motivation decreased from 43.4 (36.8) % in the B-treatment to 31.0 (26.0) % in the S-treatment. Conditional upon choosing “no distribution,” the most common motivation was procedural norms in both treatments. In the B-treatment, 13 out of 106 spectators chose “no redistribution”; 11 (12) of these 13 were motivated by procedural norms. In the S-treatment, 38 out of 100 spectators chose not to redistribute. Among these 38 spectators, 31 (33) were motivated by procedural norms. Conditional upon choosing equal distribution, the most common motivation explanation was categorized as consequential. In the B-treatment, 44 out of 106 spectators chose equal distribution. Among these 44 spectators, the two coders categorized 39 (39) as having consequential motivation. In the S-treatment, 31 out of 100 spectators chose to equalize between the two stakeholders. Among these 31 spectators, the coders categorized 25 (25) as having consequential motivation.

Table 2: Summary of classification of motivations by Coder 1 and Coder 2 (Coder 2 in parentheses)

	X = Points Redistributed					Total	Percentage
	X = 0	0 < X < 200	X = 200	200 < X < 400	X = 400		
B-treatment							
Procedural (1)	11 (12)	0 (0)	0	0 (0)	0 (0)	11 (12)	10.4 (11.3)
Consequential (2)	0 (0)	6 (0)	39 (39)	0 (0)	1 (0)	46 (39)	43.4 (36.8)
Both (3)	0 (0)	12 (17)	0 (0)	1 (0)	0 (0)	13 (17)	12.3 (16.0)
Other (4)	2 (1)	14 (15)	5 (5)	4 (5)	11 (12)	36 (38)	34.0 (35.8)
Total	13	32	44	5	12	106	
S-treatment							
Procedural (1)	31 (33)	1 (0)	0 (0)	0 (0)	0 (0)	32 (33)	32.0 (33.0)
Consequential (2)	0 (0)	5 (1)	25 (25)	1 (0)	0 (0)	31 (26)	31.0 (26.0)
Both (3)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	2.0 (4.0)
Other (4)	7 (5)	17 (20)	6 (6)	4 (5)	1 (1)	35 (37)	35.0 (37.0)
Total	38	25	31	5	1	100	

5. Conclusion

We found a strong effect from making the “no distribution” option salient; it seemed to substantially alter the spectators’ redistribution choices. This result suggests that either preferences for redistribution are unstable and heavily affected by decision context, or that these redistribution choices are not a direct manifestation of the underlying preferences for equality.

Acknowledgements

We would like to thank Thomas de Haan, Mathias Ekström, Nina Serdarevic, and Eirik A. Strømmland for their discussions and comments. We are grateful to editor Maria Bigoni and two reviewers for their comments and suggestions; we believe they improved the paper a great deal. A special thanks to Sebastian Fest for helping us conduct our experiments. Finally, thank you to Småforsk at the University of Bergen for its financial support.

References

- Aguiar, F., Becker, A., & Miller, L. (2013). Whose impartiality? An experimental study of veiled stakeholders involved spectators and detached observers. *Economics and Philosophy*, 29, 155–174.
- Aguiar, F., Brañas, P., & Miller, L. M. (2008). Moral distance in dictator game. *Judgment and Decision Making*, 3(4), 344–354.
- Almås, I., Cappelen, A. W., & Tungodden, B (2020). Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians? *Journal of Political Economy*, 128(5), 1753-1788.
- Bénabou, R., & Tirole, J. (2006). Incentives and prosocial behavior. *American Economic Review*, 96(5), 1652–1678.
- Broberg, T., Ellingsen, T., & Johannesson, M. (2007). Is generosity involuntary? *Economics Letters*, 94(1), 32–37.
- Campbell, T. D. (1971). *Adam Smith's science of morals*. Routledge.
- Cappelen, A. W, Konow, J., Sørensen, E. Ø., & Tungodden, B. (2013). Just luck: An experimental study of risk-taking and fairness. *American Economic Review*, 103(4), 1398–1413.
- Cappelen, A.W., R. Falch, and B. Tungodden (2020) Fair and Unfair Income Inequality. Chapter in Zimmermann (2020).
- Coffman, L. C. (2011). Intermediation reduces punishment (and reward). *American Economic Journal: Microeconomics*, 3(4), 77–106.

- Dana, J., Cain, D. M., & Dawes, R. M. (2006). What you don't know won't hurt me: Costly (but quiet) exit in dictator games. *Organizational Behavior and Human Decision Processes*, *100*(2), 193–201.
- Engelmann, D., & Strobel, M. (2004). Inequality aversion, efficiency, and maximin preferences in simple distribution experiments. *American Economic Review*, *94*(4), 857–869.
- Farrell, J., & Rabin, M. (1996). Cheap talk. *Journal of Economic Perspectives*, *10*(3), 103–118.
- Gerlach, P., & Jaeger, B. (2016). Another frame, another game? Explaining framing effects in economic games. In A. Hopfensitz & E. Lori (Eds.), *Proceedings of norms, actions, and games (NAG 2016)*. Toulouse: Institute for Advanced Studies.
- Griswold Jr., C. L. (1999). *Adam Smith and virtues of enlightenment*. Cambridge University Press.
- Kahneman, D. (2009). *Thinking, fast and slow*. Penguin Group.
- Konow, J. (2000). Fair shares: Accountability and cognitive dissonance in allocation decisions. *The American Economic Review*, *90*(4), 1072–1091.
- Müller, D., & Renes, S. (2021). Fairness views and political preferences: Evidence from a large and heterogeneous sample. *Social Choice and Welfare*, *56*, 679–711.
- Paganelli, M. P. (2009). Smithian answers to some experimental puzzles. In J. T. Young (Ed.), *Elgar companion to Adam Smith* (pp. 181–192). Edward Elgar.
- Serdarevic, N. (2021). More or less money: The love of praiseworthiness and the dread of blameworthiness. *Erasmus Journal for Philosophy and Economics*, *14*(2), 1-24.
- Serdarevic, N. & Tjøtta, S. (2022). Applying Adam Smith's Theory of Moral Sentiments to elicited social norms: Giving and taking in dictator games. *Social Sciences & Humanities*, Open 6, 100290.
- Smith, A. (1759). *The Theory of Moral Sentiments*. Liberty Fund (Glasgow ed. 1976).

Smith, V., & Wilson, B. (2019). *Human economics: Moral sentiments and the wealth of nations for the twenty-first century*. Cambridge University Press.

Telle, I.O. (2016). Exit Moribus: en test på altruisme hos en upartisk tilskuer (in Norwegian). Master thesis Department of Economics, University of Bergen, Norway.

Tjøtta, S. (2019). More or less money? An experimental study on receiving money. *Journal of Behavioral Economics*, 80, 67–79.

Zimmerman, K.F. (2020) *Handbook of Labor, Human Resources and Population Economics*. Springer.

SUPPLEMENTARY MATERIAL

Context and Preferences for Equality in the Spectator Game

Ingrid Ovidia Telle and Sigve Tjøtta

Department of Economics,

University of Bergen Norway

5 July 2023

Contents

A	SUPPLEMENTARY TABLES AND FIGURES REFERRED TO IN MAIN TEXT	211
B	INSTRUCTIONS TO CODERS AND RESULT AFTER CODING	222
B1	Instructions to the coders.....	222
B2	Results after coding	24
B3	Overview of reported motivation by treatment, redistributed points and classification	26
C	INSTRUCTIONS TO THE PARTICIPANTS IN THE EXPERIMENT	31

A SUPPLEMENTARY TABLES AND FIGURES REFERRED TO IN MAIN TEXT

Table A.1 OLS regressions: Dependent variables Redistribution (columns 1 and 2) and Gini coefficient (columns 3 and 4).

	(1) Redistribution	(2) Redistribution	(3) Gini	(4) Gini
Salient	-67.76*** (15.27)	-67.53*** (15.36)	0.142* (0.0598)	0.140* (0.0602)
Female		9.850 (16.40)		-0.0521 (0.0642)
Age		-0.0470 (0.780)		-0.00429 (0.00305)
Political Orientation		4.367 (5.454)		0.0342 (0.0214)
Education		12.36* (6.259)		0.00246 (0.0245)
Constant	169.4*** (10.64)	97.12* (43.74)	0.420*** (0.0417)	0.500** (0.171)
Observations	206	205	206	205
Adjusted R^2	0.084	0.090	0.022	0.031

Notes Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. We measured the mean transfer in experimental unit points (0–400). For the S-treatment, we set the transfer of the spectators that chose not distribute to 0. “Education” is a scale variable from 1–8, where 1 = less than high school, 2 = high school/GED, 3 = some higher education, 4 = two-year college degree, 5 = four-year college degree, 6 = master’s degree, 7 = doctoral degree, and 8 = professional degree (JD, MD). “Political orientation” is a scale variable from 1–5, where 1 = very liberal and 5 = very conservative. “Female” is a dummy variable set at 1 if the spectator is a female.

Table A.2 Summary statistics of time spent in the survey experiment, recorded in seconds.

	Baseline	Salient
All	975.83 (316)	1064.36 (587.2)
Choosing zero redistribution	888.23 (107.7)	930.89 (331.3)
Choosing positive redistribution	988.08 (333.5)	1146.16 (689.3)
Observations	106	100

Note: Time is recorded from entering the experiment to the time they logged out, including the real effort task. Standard deviation in parenthesis.

B INSTRUCTIONS TO CODERS AND RESULT AFTER CODING

After the spectators made their redistribution choice, we asked them the following open-ended question: “What motivated your previous decision?” To analyze the answers, we recruited two independent coders, both students in economics at the University of Bergen. They were informed of the main structure of the experiment but were not given information on the two treatments or the purpose of the study.

The coders received two documents from us; first, the instructions and an overview of the categories presented below. Second, they received an Excel document with the open-ended text answers together with the ID number of each subject.

Before the coding process started, we decided to report both coders’ categorization results in the paper.

B1 Instructions to the coders

In the experiment, the subjects were first explained that in another study,

“Participants have been working on the same language task for 10 minutes. As a payment for this task, they were initially given a lottery ticket that gave them the chance to earn 400 bonus points or 0 bonus points with equal probability. All participants then had the chance to decide whether they want to keep their lottery ticket or whether they want to exchange it for a safe payment of 140 bonus points.

On the next screen, we will show you an outcome that resulted from decisions that two other randomly selected participants made in the described study. Your task will be to determine the distribution of bonus points that these participants have earned.

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes, and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.”

The subjects were then allowed to decide how many of the 400 bonus points earned by X they would give to Y. If they decided to give 0, X would receive 400 and Y 0, and if they decided to give 400, X would receive 0 and Y 400.

After the subjects made their redistribution choice, they were asked the following open-ended question: “What motivated your redistributive decision?”.

Your job is to categorize the answers into these four **categories of motivation**:

1. **Procedural:** The Subject’s motivation focuses on the “rules of the games,” for example, “They both took a 50% gamble” or “I don’t think it’s my right to interfere.”
2. **Consequentialist:** The Subject’s motivation focuses on outcomes and relates to consequences in terms of the redistribution of bonus points between the two participants, for example, “I just wanted to equalize bonus points and gave each participant 200 points.”
3. **Both category 1 and 2:** Motivations related to both (1) and (2).
4. **Other:** If none of the above categories apply, including ambiguous and empty answers.

Please read the open-ended text and mark within each “category” in the Excel document row whether a particular category applies to the answer. Mark with the corresponding number if the category applies; for example, 1 is for the first category, 2 is for the second category. **Please note that one answer can only be coded in one category.**

EXCEL DOCUMENT (pictures of the first rows)

A	B	C	D
ID	Redistribution: How much of the 400 points earned by X the Subject would give to Y.	Answers to question “What motivated your redistributive decision?”	Coding, please use numbers and only one number
1	0	Each person had the same chance. Just because I know the outcome doesn't really make me responsible for making sure X gets a share. I just felt each had the same choice and one won the lottery so to speak.	
2	0	NOTHING LIKE THAT	
3	400	i am motivate to get more point	
4	200	I wanted to be fair to both	
6	100	Despite making his/her own choice in the matter I still found it a bit unfair that the participant went through all the work without getting a bonus. So I gave 100 points to them and let the other participant keep the rest and achieve the higher bonus outcome.	
7	200	Dividing things evenly and fairly.	
9	200	To be fair to each person for completing the task.	

B2 Results after coding

Table B.1 Classification coder 1 and coder 2, both treatments.

<i>Coder 1</i>	<i>Coder 2</i>				Total
	Procedural (1)	Conseq. (2)	Both (3)	Other (4)	
Procedural (1)	42	0	0	1	43
Consequential (2)	0	64	8	5	77
Both (3)	0	1	11	3	15
Other (4)	3	0	2	66	71
Total	45	65	21	75	206

Table B.2 Classification coder 1 and coder 2, Baseline Treatment

<i>Coder 1</i>	<i>Coder 2</i>				Total
	Procedural (1)	Conseq. (2)	Both (3)	Other (4)	
Procedural (1)	11	0	0	0	11
Consequential (2)	0	39	6	1	46
Both (3)	0	0	10	3	13
Other (4)	1	0	1	34	36
Total	12	39	17	38	106

Table B.3 Classification coder 1 and coder 2, Salient Treatment

<i>Coder 1</i>	<i>Coder 2</i>				Total
	Procedural (1)	Conseq. (2)	Both (3)	Other (4)	
Procedural (1)	31	0	0	1	33
Consequential (2)	0	25	2	4	34
Both (3)	0	1	1	0	3
Other (4)	2	0	1	32	46
Total	33	26	4	37	100

Table B.4 Summary of classification of motivations, Coder 1

	X = points redistributed				Total	Percentage (%)
	X=0	0 < X < 200	X=200	200 < X ≤ 400		
B-treatment:						
Procedural (1)	11	0	0	0	11	10.4
Consequential (2)	0	6	39	1	46	43.4
Both (3)	0	12	0	1	13	12.3
Other (4)	2	14	5	15	36	34.0
Total	13	32	44	17	106	
S-treatment:						
Procedural (1)	31	1	0	0	32	32.0
Consequential (2)	0	5	25	1	31	31.0
Both (3)	0	2	0	0	2	2.0
Other (4)	7	17	6	5	35	35.0
Total	38	25	31	6	100	

Table B.5 Summary of classification of motivations, Coder 2

	X = points redistributed				Total	Percentage (%)
	X=0	0 < X < 200	X=200	200 < X ≤ 400		
B-treatment:						
Procedural (1)	12	0	0	0	12	11.3
Consequential (2)	0	0	39	0	39	36.8
Both (3)	0	17	0	0	17	16.0
Other (4)	1	15	5	17	38	35.8
Total	13	32	44	17	106	
S-treatment:						
Procedural (1)	33	0	0	0	33	33.0
Consequential (2)	0	1	25	0	26	26.0
Both (3)	0	4	0	0	4	4.0
Other (4)	5	20	6	6	37	37.0
Total	38	25	31	6	100	

B3 Overview of reported motivation by treatment, redistributed points and classification

Subjects' motivations are reported in Table B.6. Note that both coders received the subjects' motivation in random order in an EXCEL document, i.e., they did not code in the order reported in Table B.6 below. The first column (Treatment) lists the treatment, Baseline or Salient. The second column (Bonus Points Redistributed) contains the amount transferred to the loser of the lottery (0-400). We assigned the value zero to respondents that chose not to redistribute in the S-treatment (Note that all subjects in the S-treatment choosing to redistribute, redistributed a positive amount). The third column contains the subjects' complete answers. The fourth and fifth columns contains coder 1 and 2s classification according to the four categories, Procedural=1, Consequential=2, Both=3, Other=4.

Table B.6 Overview of subjects' motivations and redistributed bonus points by treatment, and the according classifications by coder 1 and 2.

Treatment	Bonus Points Redistributed	Motivation	Coder 1	Coder 2
Baseline	0	What the participants chose. They had a choice between lottery tickets or a sure amount and they both took the lottery ticket. It is only fair that the winner of that lottery ticket get the money. The other person, Y, assumed that risk.	1	1
Baseline	0	I didn't want to take any money away from the participant that earned it through the lottery.	1	1
Baseline	0	Well, I just went with the results. It doesn't seem fair to split someone's luck with someone else. They knew the risks going in with the lottery tickets and person X should not have to share with Y when they got lucky	1	1
Baseline	0	The both chose to gamble their ticket with the payouts being known. I made my decision based on what they wanted	1	1
Baseline	0	GOOD EXPERIENCE	4	4
Baseline	0	I thought about how the other person worked for their lottery ticket and they seemed more deserving of the payout.	4	1
Baseline	0	That was the amount that he actually earned -to penalize the other person would be unfair.	1	1
Baseline	0	It was a lottery and they both knew their chances	1	1
Baseline	0	Y didn't earn the points so I left it as-is since it would have taken away from X who did earn them.	1	1
Baseline	0	person x clearly put in the effort and should be rewarded	1	1
Baseline	0	Lottery was the choice made by both participants and they were aware of risk/reward.	1	1
Baseline	0	They chose to take the risk and knew what could happen. I didn't want to take money away from someone who won fairly.	1	1
Baseline	0	they chose to take a risk, so they get to live with their decision.	1	1
Baseline	2	GOOD AND INTERESTING	4	4
Baseline	10	I don't want to give my point to other	4	4
Baseline	10		4	4
Baseline	20	It is the underlying, not necessarily the expressed, reason for the will making the decision. Motivation is not actually the cause of the decision, for the will is the cause, but it provides the will with the direction for each decision. The motivation establishes the purpose for the entire decision making process.	4	4
Baseline	20	JUST A PREDICTION ABOUT THE BONUS	4	4
Baseline	50	I wanted to ensure each participant had something, but it didn't seem fair to take too much from one participant. I tried to think how I'd feel in both situations.	3	4
Baseline	50	I wanted to be more "fair" and give Y something, since they did not earn any.	2	3
Baseline	50	GOOD	4	4
Baseline	50	A gut feeling	4	4

Baseline	100	THEIR WORK LEVEL NOT FAIR SO I CHOSE TO GIVE MINIMUM BONUS THAT WILL MOTIVATE THEM TO DO BETTER.	3	3
Baseline	100	Despite making his/her own choice in the matter I still found it a bit unfair that the participant went through all the work without getting a bonus. So I gave 100 points to them and let the other participant keep the rest and achieve the higher bonus outcome.	3	3
Baseline	100	I wanted to give Y something cause I felt bad.	2	3
Baseline	100	I felt bad for person Y even though person x earned the points so I gave most to x and a little to y	3	3
Baseline	100	I didn't want someone to be left with 0 points	3	3
Baseline	100	I decided to reward participant Y for taking a risk even though it did not turn out well for him.	3	3
Baseline	100	VERY NICE AND INTERESTING	4	4
Baseline	100	Well it was a lottery which in itself is not a sure thing. But I wanted to offer something who also participated in the lottery.	3	3
Baseline	100	I wanted some semblance of equality because I felt bad for the person who received zero, but I didn't want to do a true 50/50 split. The person with 400 deserved to keep most of it which is why I went with a 300/100 split.	3	3
Baseline	100	Their respective point on the task that was given to them.	4	4
Baseline	100	Both took the risk of a lottery ticket, one won and the other didn't. In fairness, didn't want the person who got nothing to walk away empty handed, but also didn't want to penalize the person who took the gamble and won too much. So, giving the one with nothing a little something was better than walking away empty handed. And the original winner still got twice as much as the original guarantee	3	3
Baseline	100	I felt like I should honor the luck of the draw to some extent, since both participants chose to take the risk. But I also felt the unlucky person should still be compensated somewhat.	3	4
Baseline	100	I wanted to pick a number that I thought was fair.	2	3
Baseline	100	The other person actually worked for the bonus	3	3
Baseline	100	Because one of the participant didn't earn anything. So, it will be better to share some point to other participant.	3	3
Baseline	140		4	4
Baseline	140	Earn bonus point	4	4
Baseline	140	VERY MOTIVATED	4	4
Baseline	140		4	4
Baseline	150	Y needed some reward	2	3
Baseline	150	Since person Y couldn't work hard to earn a point herself, she shouldn't be given more than 150 points.	4	3
Baseline	150	i wanted to be fair to both participants	2	3
Baseline	150	It isn't fair that one received 400 and the other received 0.	2	3
Baseline	200	I would like to say i choose both are get equal bonus	2	2
Baseline	200	I wanted to split it fairly because the task was awful.	2	2
Baseline	200	I wanted to make it even since they both worked on the task for 10 minutes, they both deserve the bonus.	2	2
Baseline	200	To be fair to both workers	2	2
Baseline	200	I wanted to be as fair as possible since they both worked on the same task.	2	2
Baseline	200	Participants should get equal points.	2	2
Baseline	200	I wanted to evenly distribute the points to the participants	2	2
Baseline	200	I just wanted them to both be equally compensated for their time	2	2
Baseline	200	GOOD	4	4
Baseline	200	Equality for both participants.	2	2
Baseline	200	I wanted to be fair to both people.	2	2
Baseline	200	To make things fair	2	2
Baseline	200	Fairness	2	2
Baseline	200	I would have liked others to do the same for me.	2	2
Baseline	200	I wanted to be fair to both	2	2
Baseline	200	I tried to split the points between them.	2	2
Baseline	200	I wanted the points to be equally distributed.	2	2
Baseline	200	i felt this was fair	2	2
Baseline	200	I was motivated by wanting to be fair to person Y.	2	2

Baseline	200	LORRY TICKET	4	4
Baseline	200	To be fair to each person for completing the task.	2	2
Baseline	200	I thought it would be fair to receive equal amounts.	2	2
Baseline	200	I think fairness is what motivated me ultimately. I think both workers should receive a fair split in this case.	2	2
Baseline	200	Both person X and person y worked a task for 10 minutes. I felt person y should be rewarded bonus points for their effort, and lacking info on how person X and person y did on their 10 minute task, i felt it was fair to reward each of them equally with 200 bonus points.	2	2
Baseline	200	I wanted to create a fair distribution of points between the two participants and to eliminate the advantage that chance had given one of the participants because I find it offensive that sheer randomness would give one of the participants an unfair advantage/benefit.	2	2
Baseline	200	I wanted to be equitable.	2	2
Baseline	200	They both worked the same amount so i thought they should receive the same paymet	2	2
Baseline	200	Just making it fair. I know there was a lottery and it was left to chance. Person Y took that chance and lost but Person Y still did the work and I think it would be more fair to split it between the 2 of them.	2	2
Baseline	200	I like to made everyone earn as much as possible	2	2
Baseline	200	Lottery ticket bonus point amount was considered to choose this decision. When bonus point amount was split between both x and y it can be considerable decision for two others.	2	2
Baseline	200	I wanted an even distribution of points	2	2
Baseline	200	THIS IS EQUAILY DECISION	4	4
Baseline	200	I always split profits down the middle. Or lottery tickets in this case.	2	2
Baseline	200	Dividing things evenly and fairly.	2	2
Baseline	200	good decision	4	4
Baseline	200	Both players worked on the same task and should be equally compensated.	2	2
Baseline	200	keep it even as possible	2	2
Baseline	200	A sense of fairness, it's better for two people to get paid then just one at the expense of another.	2	2
Baseline	200	Equality	2	2
Baseline	200	it seemed fair	2	2
Baseline	200	I GIVE THAT ON THEIR WORK QUALITY BASES.	2	2
Baseline	200	It was a lottery anyway so the chance was make no money or more money. One made nothing this was not fair and I split it. They both could of had nothing anyway.	2	2
Baseline	200	based on my option in my previous decision	4	4
Baseline	200	Both worked, while one got 400 the other got nothing. I was just trying to level the playing field and split the points evenly since they both work the same task doing the same thing for the same amount of time.	2	2
Baseline	250	IT WAS VERY GOOD DECISION FOR ALL THE TIME	4	4
Baseline	280	LONG TIME WORK	4	4
Baseline	300	Y decides X gives	4	4
Baseline	300	I know they both worked on the task. I wanted to reward Y with at least 100 points instead of 0. I am a compassionate person and person X has earned 300. I would have given them both 400 points if it were possible.	3	4
Baseline	300	BASED ON MY OPINION	4	4
Baseline	400	SOME CLEARED THE POINT IN LOTTERY	4	4
Baseline	400	VERY INTESTING EXPERIENCE	4	4
Baseline	400	The highest points possible.	4	4
Baseline	400	THANKS	4	4
Baseline	400	JUST OF MY PREFERENCE	4	4
Baseline	400	BOTH ARE COMPARING THE WORK IN X AND Y	4	4
Baseline	400	To make things fair. I think they both deserve the same amount of points.	2	4
Baseline	400	The decision based on the strategy.	4	4
Baseline	400	IT IS VERY USEFUL. IT IS GOOD EXPERIMENT. THANKS TO OPPORTUNITY. The better choices you make, the better decision-maker you'll become.	4	4
Baseline	400	LEARNING FAST TYPING	4	4

Baseline	400	THEIR PERFORMACE AND THEIR QUALITY OF WORK.	4	4
Baseline	400	TWO PERSON EACH THE LOTTERY TICKET.SO HE EARNED 400 RUPEES	4	4
Salient	0	They both decided to play the lottery, so the result of the lottery should stand. It was their choice so they should have to accept the results.	1	1
Salient	0	WITH THE PREDICTION	4	4
Salient	0	They both knew that by entering the lottery there was a risk that there could be no payout. I am not going to redistribute earnings just because someone got an outcome that was negative when they knew it was a possibility.	1	1
Salient	0	I made the decision that I did because both participants chose the lottery ticket rather than the safe option. While they both put in the same amount of work, they both took the risk that they wouldn't win the lottery. It would be unfair to the lottery's winner to redistribute their winnings to the other person, since both participants took the same risk.	1	1
Salient	0	They both took the risk of keeping the lottery ticket and having to chance to possible not earn any bonus. There is no need to redistribute any money because they both made their choice and must live with the outcome.	1	1
Salient	0	They took a chance, that is what lotto is. It would not be fair to take from one just because the other did not win, they could have picked the safe payment.	1	1
Salient	0	That was the risk they chose to take and I see no reason to alter it.	1	1
Salient	0	They made their decision and were fully informed so there is no need to change things. They both had the same option.	1	1
Salient	0	It would be unfair to take from somebody	1	1
Salient	0	I thought it was fair already	1	1
Salient	0	Since it was due to chance, I did not want to change things. I think the point of a lottery and taking a risk is that there are risky outcomes. It should not be up to a person to change that.	1	1
Salient	0	based on my interst	4	1
Salient	0	The participants made their decision, no need to intermiddle	1	1
Salient	0	I knew that they were given the option to have a safe amount of money given or to keep their lottery ticket. It wouldn't be fair that they both took the risk and there is no guarantee to win, to only take some of the winners earnings and give to the person who lost. They each made their own choices in a game of pure luck.	1	1
Salient	0	i dont want to alter the faith of others	1	1
Salient	0	I don't want to make the decision myself to distribute. I tend to prefer to allow others the choice to make.	1	1
Salient	0	I thought that there was no benefit in redistributing.	1	1
Salient	0	IT DEPENDS	4	4
Salient	0	They opted into this system where they bought a lottery ticket, and understood the rules beforehand. I think that me redistributing the bonus points would be unfairly intervening.	1	1
Salient	0	NOTHING LIKE THAT	4	4
Salient	0	I decided that it was better for one person to receive the full amount.	1	1
Salient	0	It was a lottery and they both knew the risk in choosing the gamble. It was a fair outcome and the decision shouldn't be changed. The risk and reward were known beforehand and should stick with whatever happened. For that reason, I chose to leave it alone.	1	1
Salient	0	FEELS WRONG TO REDISTRIBUTE IT AFTER THEY MADE THEIR DECISIONS	1	1
Salient	0	Even If the points are distributed both participants will remain unsatisfied so better not to redistribute and keep at least one person happy.	1	1
Salient	0	They both took the same risk and the person that won the lottery deserves to keep it. It was part of the game that you had a chance at getting nothing. They had a chance to take the safe payment if they did not want to deal with the risk.	1	1
Salient	0	I did not want to redistribute because both participants had the same options and it would be unfair to change it just because the one did not win.	1	1
Salient	0	ITS A LOTTERY TICKET. WHO HAS LUCK THEY WILL WIN. THERE IS NOTHING TO CHANGE.	1	1
Salient	0	The person chose the lottery ticket, and won due to luck. There is no point in my changing that. They instructions were listed before the experiment began.	1	1
Salient	0	I felt that they both made the choice to keep the lottery ticket, so they had to expect that they might lose.	1	1
Salient	0	It felt like the right thing to do.	4	1
Salient	0	For my personal thought	4	4

Salient	0	They both made their choices and it would seem wrong to interfere with it. They both knew the lottery risk.	1	1
Salient	0	Each person had the same chance. Just because I know the outcome doesn't really make me responsible for making sure X gets a share. I just felt each had the same choice and one won the lottery so to speak.	1	1
Salient	0	I just don't think it'd be fair for me to do that	1	1
Salient	0	Each person knew the chance they were taking when they chose to keep the lottery ticket. They could have gone with the safe choice but didn't so they should have to live with their choice. Yes, it turned out better for Person X but it could have turned out badly for X. It was their choice so I don't think I have the right to take away from X to give to Y when it was their free will to choose which way to go.	1	1
Salient	0	FAST TYPING PRACTISE	4	4
Salient	0	Each person made their own individual decision and it was not my place to change the outcome of their decisions.	1	1
Salient	0	the person x and y are distributed and the bonus points earned in the study	1	1
Salient	5	yes i motivated	4	4
Salient	10	NOTHING TO SAY	4	4
Salient	10		4	4
Salient	20	It is the underlying, not necessarily the expressed, reason for the will making the decision. Motivation is not actually the cause of the decision, for the will is the cause, but it provides the will with the direction for each decision. The motivation establishes the purpose for the entire decision making process.	4	4
Salient	33	good	4	4
Salient	40	I felt it was the right thing to do.	4	4
Salient	40	BECAUSE CALCULATED BY ORIENTED	1	4
Salient	45	YES MOTIVATED	4	4
Salient	50	They should get compensated at least a little bit.	3	3
Salient	50	JUST A PREDICTION ABOUT BONUS	4	4
Salient	50	None	4	4
Salient	50	GOOD	4	4
Salient	50	GOOD	4	4
Salient	67	IT WAS GOOD	4	4
Salient	100	It is important to share with others.	3	2
Salient	100	My decision is to share some points with person Y	4	3
Salient	140	Just of my own satisfaction.	4	4
Salient	140	I motivated by myself.	4	4
Salient	140	The bonus is the survey so i am the motivated and happy	4	4
Salient	140	I think that it was unfortunate that Person y ended up with nothing even though they did the same amount of work as Person X.	2	3
Salient	150	equality	2	4
Salient	150	Based on my opinion and the number of tokens, I wish to distribute to other workers, I made my decisions	2	4
Salient	150	I wanted to make sure both parties got what they deserved	2	4
Salient	150	Both person give hard work so that only i give points	2	3
Salient	180	Because I am very interested with my own decision and I felt very involved and satisfied with my decision.	4	4
Salient	200	Good	4	4
Salient	200	i believe in fairness. Both spent same amount of time and energy and it would only be fair to appreciate the two	2	2
Salient	200	I wanted to be fair.	2	2
Salient	200	I wanted it to be fair for both people	2	2
Salient	200	They both worked on the same task; they both chose lottery tickets (equal effort and equal choices), but the pay was unequally distributed. I wanted the payment to reflect the same equality of the situation.	2	2
Salient	200	i wanted to keep some	4	4
Salient	200	I wanted both persons to get equal payout from the lottery.	2	2
Salient	200	GOOD	4	4
Salient	200	I want the distribution to be fair	2	2

Salient	200	I was motivated by the fact that one of the participants earned nothing despite also working on the same task, so it is fair enough both participants have an equal earnings	2	2
Salient	200	I wanted an equitable result for both participants.	2	2
Salient	200	I wanted things to be equal	2	2
Salient	200	I thought it was fairer to share the points equally between the two people because they had completed the same task.	2	2
Salient	200	I feel like it was fair, because both worked on the task for an equal amount of time and should be compensated equally. Even though the lottery ticket was a choice, it is still presented in the context of having to perform work.	2	2
Salient	200	Yes motivated the study	4	4
Salient	200	did the same amount of work, should be the same pay	2	2
Salient	200	Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.	2	2
Salient	200	Thought both participants were equally deserving.	2	2
Salient	200	Fairness is important	2	2
Salient	200	BONUS	4	4
Salient	200	TO BE FAIR TO THE ONE WHO GOT NO POINTS BECAUSE IT WAS A CHANCE LOTTERY	2	2
Salient	200	Fairness came into play. One was bonused and the other was given nothing.	2	2
Salient	200	I didn't want someone's work to go unrewarded. I thought it was more fair if they both got 200 than if someone got nothing.	2	2
Salient	200	doing what seemed to be fair.	2	2
Salient	200	fairness	2	2
Salient	200	equality	2	2
Salient	200	I was them to both receive half of the points. It's always a nice surprise when workers receive bonus money. Also not knowing which one with a lot of effort in two the task, I will just divide equally	2	2
Salient	200	I MAKE MY PREVIOUS DECISION BECAUSE OF I HAVE THE POINTS WITH ME.	4	4
Salient	200	I wanted the two participants to receive an equal reward for their work on the task.	2	2
Salient	200	TO GIVE THEM A EQUAL HALF.	2	2
Salient	200	Since both the participants worked on the same task for the same amount of time, I wanted the distribution to be equal between each other. I distributed the points equally between each other.	2	2
Salient	250	IT WAS VERY GOOD DESCISION	4	4
Salient	300	meeting deadlines, targets or goals. mentoring and coaching others. learning new things. coming up with creative ideas to improve something, or make something new. analysing complex data in order to draw clear and simple conclusions. working well as part of a team.	4	4
Salient	300	I WANT TO BE FAIR AND EVERYONE SHOULD BE BENEFITED SO I CHOSE THIS.	2	4
Salient	300	Its very interesting to this task	4	4
Salient	350	VERY DIFFERENT	4	4
Salient	400	GOOD	4	4

C INSTRUCTIONS TO THE PARTICIPANTS IN THE EXPERIMENT

We conducted the experiment at the online workplace Amazon Mechanical Turk (MTurk) in June 2021. Only subjects with a location in the United States were eligible for participation. Participants needed to have a total of 1,000 previously approved Mturk tasks and an approval rate of 95% to be included in the sample. We recruited a total of 236 participants: 30 stakeholders, 106 spectators in the B-treatment, and 100 spectators in the S-treatment. Data collection was conducted online by

using the Qualtrics Research Suite (Qualtrics, Provo, UT, USA. <http://www.qualtrics.com>). Below is a full transcript of the instructions that were given to the participants in the experiment. Each textbox represents a screen. Participants navigated to the next screen by clicking a button at the bottom of the screen.

Part 1, Introduction and language task

Q 1.1

Welcome!

Please note that your participation will be registered on the following Amazon Mechanical Turk workerID: \${e://Field/workerId}

The worker ID was retrieved automatically when you clicked on the link that brought you here. This step is necessary for assigning payments to the right account and to ensure that you only participate in this study once.

Q 2.1

Introduction

Welcome to this research project. We very much appreciate your participation. In addition to your participation fee of 2 USD, you might receive additional bonus points. The calculation of bonus points depends on the choices made throughout the study and a redistribution phase.

The bonus points you receive are converted into **USD at a rate of 1 cent per bonus point**.

Your bonus will be paid to you using the bonus system within a few days after the completion of this HIT. Your payment for taking the HIT will be send to you shortly after the completion of this HIT.

Procedures

The study consists of three parts and you will be given instructions on your screen before every single part of the survey. Please always make sure to read the instructions carefully before you confirm that you have read the instructions.

Participation

Participation in this research study is completely voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to future participation in other studies conducted by us.

Confidentiality

All data obtained from you will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones). All questionnaires will be concealed, and no one other than the primary investigator will have access to them. The data collected will be stored in the HIPPA-compliant, Qualtrics-secure database until it has been deleted by the researchers.

Payment

At the end of this survey, you will be given a completion code. You will need to copy this code to the survey code field on the AMT web page that directed you here at the beginning.

Questions about the Research

If you have questions regarding this study, you may contact [email address anonymized].

Q 2.2

I have read and understood the above consent form and desire to participate in this study.

Yes

No

Q 3.1

In the first part of the study you will be working on a language task. You will be shown five English words and are asked to form a sentence or an expression by using four of these words. This means that each sentence or expression must only contain **four** words.

For example, if the words given to you are "**sky, blue, is, the, old**", then you can construct the sentence:

the sky is blue

Write the sentence or expression that you form into the answer field using your keyboard. Your answer will be submitted automatically after 20 seconds and you will be given five new words.

The language task will last for 10 minutes and we ask you to work thoroughly with each set of words.

Click the button below if you have read and understood the instructions.

Q 4

SILENCE USED SECOND THE TO

A OF THEORY SCIENCE OF

ALONE HOME GARBAGE WENT I

SHINING THE SWEET SUN IS

NICE BAD VERY A HOUSE

ON TELEVISION THE TROUBLE WAS

LATE PLANE THINKING WAS THE

HEART I LEFT JACKET MY

LONG BRIDGE THE BETTER IS

SONG REMEMBER TO CITY A

YOU COME SHINE TO HOME
ALL WAS AROUND HIM SILENCE
ABSOLUTELY KITCHEN WAS SHE RIGHT
DOWN POURING THROUGH IS RAIN
PEOPLE FACES I REMEMBER ALWAYS
THE EXCITING GAME NO WAS
WHAT WHY THINK YOU DO
ROOM SHOW SHOWCASE THE HIM
KNOCK HEAVEN DOOR THE ON
WHISPERED SHE HER NAME HIS
SIBLINGS THE APART GIRLS ARE
DAYS SPEND BOUGHT I MY
SHE SONG WATER YOU OFFERED
VERY STRONG WAS HE SAD
INTERESTING INTRIGUING BOOK WAS THE
SINKING WAS HAPPILY SHIP THE
CLOSE COMFORTING WAS THE HILL
NIGHT THE STRANGER PARADISE IN
THE OLD SMILING WAS FATHER
STAMP ALWAYS NEEDED A HE

Note: Box Q4 contains all 30 word combinations participants had to solve. All combinations were shown as separate tasks in Qualtrics. The response time was limited to 20 seconds per word combination, resulting in a total of 10min. working time for *all* participants.

<p>Q 5.1 & Q 6.1</p> <p>The task is now concluded and you have reached the payment phase. When you are done with the next part, there will also be a set of general questions that will complete this survey study.</p> <p>Before proceeding to the next set of questions, we ask you to answer a control question that has the aim to check whether you as a participant in this study actually read the instructions. You are given several options but are simply asked to disregard the question and choose the answer father. If you click anything else, we will have to disregard all your answers in order to guarantee the validity of our results. Please read each of the instructions carefully. The choices that you make will, with some probability, decide the payment of bonus points.</p> <p>From the set of words that was presented to you previously, which family member was never mentioned in any of these sets?</p> <p style="text-align: center;">Son <input type="checkbox"/> Daughter <input type="checkbox"/> Father <input type="checkbox"/> Mother <input type="checkbox"/> Sister <input type="checkbox"/> Brother <input type="checkbox"/></p>
--

Part 2, Randomized treatment groups

Part 2 Stakeholders:

Q 7.1

You have been working on the language task for 10 minutes. As a payment for this work task, you were given a lottery ticket that gives you the chance earn 400 bonus points or 0 bonus points with equal probability. The bonus points that you have received by the end of this study will be paid to you using the bonus system within a few days after the completion of this HIT.

Please click on the button to continue.

Q 7.2

Before we continue, you will have the possibility to decide whether you want to keep your lottery ticket and the chance to earn 400 bonus points or 0 bonus points with equal probability or whether you want to exchange it for a certain payment of 140 bonus points.

Please indicate your choice below:

- Keep the lottery ticket
- Exchange the lottery ticket

Part 2: Spectators, *Baseline Treatment*:

Q 8.1

In the other study, participants have been working on the same language task for 10 minutes. As a payment for this task, they were initially given a lottery ticket that gave them the chance to earn 400 bonus points or 0 bonus points with equal probability. All participants then had the chance to decide whether they want to keep their lottery ticket or whether they want to exchange it for a safe payment of 140 bonus points.

On the next screen we will show you an outcome that resulted from decisions that two other randomly selected participants made in the described study. Your task will be to determine the distribution of bonus points that these participants have earned.

Please read each of the instructions carefully. The choices that you make will with some probability decide how many bonus points each of the two other participants will be paid at the end. Your choices will, however, not affect how many bonus points you will earn.

Please click on the button to continue.

Q 10.1

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.



Part 2 Spectators in the Salient Treatment:

Q 9.1

In the other study, participants have been working on the same language task for 10 minutes. As a payment for this task, they were initially given a lottery ticket that gave them the chance to earn 400 bonus points or 0 bonus points with equal probability. All participants then had the chance to decide whether they want to keep their lottery ticket or whether they want to exchange it for a safe payment of 140 bonus points.

On the next screen we will show you an outcome that resulted from decisions that two other randomly selected participants made in the described study. You will then be given the opportunity to determine the distribution of bonus points that these participants have earned.

Please read each of the instructions carefully. The choices that you make will with some probability decide how many bonus points each of the two other participants will be paid at the end. Your choices will, however, not affect how many bonus points you will earn.

Please click on the button to continue.

Q11.1

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

- I do not want to redistribute
- I want to redistribute

Q 11.2

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.

Note: The content in Text box Q7.4 were screened to subjects in the S-treatment conditional on choosing “I want to redistribute” on the previous screen (Q7.3). Subjects choosing “I do not want to redistribute” were sent directly to part 3 by clicking the **next** button.

Part 3, Motivation, demographics and end of survey

Q 12.1

What motivated your previous decision?

Q 13.1

You have completed the third part of the survey. We would now like to ask you five more questions before we conclude this survey:

Q 13.2

What is your gender?

- Male
- Female

Q 13.3

How old are you?

Q 13.4

What is the highest level of education you have completed?

- Less than High School
- High School/GED
- Some College
- 2-year College Degree
- 4-year College Degree
- Masters Degree
- Doctoral Degree
- Professional Degree (JD, MD)

Q 13.5

Would you describe yourself as politically on the "left" (eg. a liberal) or on the "right" (eg. a conservative)?

- 1 - Very liberal 2 3 – Neutral 4 5 – Very conservative

Q 13.6

Finally, if you have any comments or suggestions related to this study please write them down in the field below. Your feedback is very important to improve our research.:

Q 14.1

You have successfully finished the survey and we thank you for your participation!
We will calculate and pay your bonus as soon as this full batch of HITs is finished.
It generally takes us a few days to match the data and pay out the bonuses.
Press **Next** to receive your completion code.