University of Passau
Chair of Economic Theory
Prof. Dr. Johann Graf Lambsdorff

How do group dynamics influence individual behaviour in an environmental context?

An experimental analysis

Seminar paper

Authors: Theresa Schröter & Lea Sackenheim
Program: M.Sc. International Economics and Business
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Lecturer: Dr. Katharina Werner
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Abstract

Present study examines how group dynamics influence ecologically harmful behaviour. Subjects, matched in groups of three, each had to choose between two different amounts of lottery tickets, with the higher amount involving an environmental damage while the lower one did not. In a first treatment it was investigated whether diffused pivotality increases ecologically harmful behaviour. In a second treatment we examined if an extremely high environmental damage, in case of unecological behaviour of all group members, would increase subjects' sense of responsibility again, which our results prove false. Furthermore, they show that diffused pivotality did not significantly promote environmentally harmful decisions. Instead, herding behaviour dominated subjects' decisions over all treatments, i.e. subjects conformed to the behaviour they expected from others.

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List of Abbreviations

BL – Baseline

EHD – extremely high environmental damage

Extreme-GD – Extreme-Group-Damage Treatment

FET – Fisher's exact test

GM – group members

H – Hypothesis

LT – lottery tickets

R – Result

Simple-GD – Simple-Group-Damage Treatment

0-Believers – Subjects who believe that none of their GM chooses 6 LT

1/2-Believers – Subjects who believe that at least one GM chooses 6 LT

2-Believers – Subjects who believe that both GM choose 6 LT

1. Introduction

"Entire ecosystems are collapsing. […] And all you can talk about is money and fairytales of eternal economic growth. How dare you!" states climate activist Greta Thunberg at the UN Climate Action Summit (The Guardian 2019). The *FridaysForFuture* demonstrations, launched by Thunberg, were joined by about 6 million people around the globe in September 2019 (The Guardian 2019). According to Umweltbundesamt 2018, 64% of the German population consider climate protection as very important. However, only 19% perceive that other people protect the environment enough. In fact, just 12% of the population state to actively engage in environmentalism. It seems that environmental awareness and -behaviour often diverge strongly, especially if people can benefit from acting unecologically. Falk & Szech (2013) and Dana et al. (2005) find that people in a group are more likely to make a selfish choice that creates harm if they do not feel solely responsible or pivotal for the outcome.

This study will look at how group dynamics influence individual decisions in an environmental context and whether diffused responsibility increases ecologically harmful behaviour. Moreover, in reality it can be observed that joint unecological behaviour can lead to extremely high environmental burden. Thus, we also want to investigate if people, when a very high damage occurs in case all group members act environmentally harmful, behave more responsibly, which has not been examined before.

2. Related Literature

There are several studies that investigated the existence of different types of institutional mechanisms that create group dynamics and promote immoral outcomes.

Dana et al. (2005) modified the basic dictator game in a way that allowed subjects to leave the direct relationship between their actions and others' outcomes. A second dictator was introduced so that no longer one dictator was solely responsible for the outcome. Each dictator had the possibility of choosing and thereby generating a fair outcome even if the second dictator chose the unfair option. Only if both dictators chose the unfair one, this option was generated. Dana et al. explored the existence of 'moral wiggle rooms' due to diffused responsibility. Unfair outcomes are promoted as subjects don't feel fully responsible for them. Consequences of their choices were uncertain and the argument of someone else also being able to choose the fair option served as excuse for choosing the immoral one.

Our study is most related to the one by Falk & Szech (2013) who examined how the implementation of diffused pivotality affects moral outcomes. In this experiment, participants faced the decision whether to kill a to them allocated mouse in order to earn 10 $ or save the mouse and not receive any money. They designed a set up where subjects were fully pivotal (baseline) and where pivotality was diffused (treatment) to compare if the sense of not being decisive for the outcome promotes immoral outcomes. Diffused pivotality was introduced by matching subjects in groups of eight. As soon as one subject

decided to kill the mouse for 10 $, the mice of all 8 group members were killed. Results show that diffused pivotality increases the share of subjects deciding to kill the mouse in order to earn 10 $. Perceiving themselves as irresponsible for the outcome, provides a justification for the subjects and thus promotes willingness to engage in immoral actions.

The feeling of not being decisive for the outcome creates a replacement logic where subjects justify own immoral behaviour by thinking "if I don't do it, another one will". Replacement arguments have often been studied in the context of Nacional socialism. Lifton (1986) interviewed doctors stationed in Auschwitz whose task it was to select those who would be sent directly to the gas chambers. Arguments of not being able to stop the machinery of immoral crime was often used as an excuse for engaging in these activities. Further studies by Darley (1992), Arendt (1963) and Crawford (2007) also investigated the organisational setting during World War II where actors used arguments of inevitability to justify immoral actions.

Diffused responsibility, diffused pivotality and replacement logic are also important factors in our experiment. Experimental studies in the environmental context have been spare before and reasons for acting environmentally harmful have been rather investigated in a psychological and theoretical way. Plus, the setting where joint immoral behaviour leads to an extreme (unlike an aggregated) damage haven't been examined before. Based on previous literature, we want to investigate the impact of different types of group dynamics on an immoral outcome, which is in given study an environmental damage.

3. Experimental Design

As mentioned before, the experiment in present study is mainly based on the experiment by Falk & Szech (2013), put into an environmental context and enhanced by a further treatment. Our experiment was a one-shot game, where a between-subject design was used. Subjects were matched in groups of three and assigned randomly to 3 different treatments.

Subjects had the chance to acquire tickets for taking part in a lottery where 2 discount vouchers for *youexit Passau*, worth 30 € each, were drawn. Each subject got an individual ticket number. The subjects had to decide simultaneously between taking either 2 or 6 lottery tickets (LT). Dependent on the subject's decision, the respective amount of LT with the individual ticket number was put into the lottery pot. The more LT a subject acquired, the higher was the chance of winning one of the vouchers. However, a decision on 6 LT generated a negative impact on the environment, which was implemented by ripping DIN-A4 sheets of paper. 2 sheets were assigned to each subject. In all treatments, the subjects

were informed that the sheets of paper are blank and undescribed in order to stress the wasteful character of ripping these sheets.

The baseline treatment (BL) included a binary choice where the subject either received 6 LT in return for 2 ripped sheets or the subject received 2 LT and no sheet was torn. The group members' decisions and their consequences were independent from each other, so that subjects were fully pivotal and faced following trade-off: they could either choose the purely self-serving, payoff-maximizing option (6 LT) in return for causing environmental harm in form of ripped sheets or choose the option of a lower payoff (2 LT) in order to avoid environmental damage.

In our first treatment, called Simple-Group-Damage Treatment (Simple-GD), group interaction was introduced: the number of sheets that were torn depended on the behaviour of the whole group. As soon as at least one group member (GM) decided to take 6 LT, the environmental damage was implemented for the whole group, i.e. all 6 sheets were ripped irrespective of the subjects' individual choices. Thereby, pivotality was diffused. Only if all 3 GM chose 2 LT, no sheet was torn.

Our second treatment, called Extreme-Group-Damage Treatment (Extreme-GD), was an extension of the Simple-GD. If one or 2 GM chose 6 LT, the environmental damage of 6 ripped sheets was realized as in Simple-GD. Unlike latter treatment, we implemented an extremely high environmental damage for the group (EHD) when all 3 GM chose 6 LT. In this case, 7 sheets were torn in addition to the 6 sheets of the GM, so 13 sheets in total. Table 1 provides summary information about the number of ripped sheets for different group decisions in each treatment. The number of obtained LT always corresponded to the subject's individual decision irrespective of the environmental outcome.

Number of GM who choose 6 LT	Number of ripped sheets of paper per group		
	Baseline	Simple-GD	Extreme-GD
0	0	0	0
1	2	6	6
2	4	6	6
3	6	6	13

Table 1: Environmental outcomes per treatment

In all treatments, subjects were assured that all GM receive exactly the same instructions and information about the experiment. Before making their decision, a short quiz was given to the subjects to ensure that the instructions have been understood. Furthermore, subjects were asked about their beliefs about their GMs' choices after their own decision has been made. In order to minimize the problem of justification bias ex post, we incentivized correct beliefs in all treatments with one additional LT. At the end, the

subjects were informed about how many LT their GM had chosen and thereby whether their own belief was correct or not, along with the information about the environmental outcome and the subject's acquired amount of LT. Following the experiment, a questionnaire about personal information had to be answered.

4. Hypotheses

Previous literature (Falk & Szech 2013, Lifton 1986) suggests that diffused pivotality reduces the sense of being decisive for the outcome and therefore increases the share of people choosing the immoral option. Consequently, we expect the share of subjects choosing 6 LT and thereby producing an environmental damage to be higher in the Simple-GD than in the BL. Subjects may think that at least one other GM will behave selfishly and choose the immoral option. In this case, the environmental damage for the whole group would be generated regardless of the individual decision, so choosing the environmentally friendly option of 2 LT wouldn't change the outcome. This train of thought, representing replacement logic, serves as an excuse for the subjects to choose 6 LT.

H1a: The share of subjects choosing 6 LT increases in the Simple-GD compared to the BL.

From H1a, a hypothesis about subjects' decisions combined with their beliefs about GMs' choices can be deduced. In the Simple-GD, we expect the share of subjects choosing 6 LT to increase when believing that at least one GM chooses 6 LT. Thinking that the environmental damage is inevitable, discourages subjects from acting morally fine.

H1b: In the Simple-GD, subjects tend to choose 6 LT more often when believing that at least one GM chooses 6 LT.

According to Umweltbundesamt 2018, the majority of the German population cares about environmental issues. Furthermore, several studies provide evidence that ecological behaviour increases when the sense of responsibility increases (Suhara et al. 2017, Kaiser et al. 1999). Group mechanisms that drive subjects to act harmfully in the Simple-GD might be dominated by an increased sense of responsibility when implementing an EHD. Therefore, we expect the share of subjects that choose 6 LT in the Extreme-GD to decrease again compared to the Simple-GD as the sense of responsibility increases. Subjects want to avoid the EHD in form of 13 ripped sheets and thus choose 2 LT more often.

H2a: The share of subjects choosing 6 LT decreases in the Extreme-GD compared to the Simple-GD.

Respectively, we build a hypothesis about beliefs in the Extreme-GD. When believing that both other GM choose 6 LT, subjects want to avoid the EHD and choose 2 LT due to an increased sense of responsibility.

H2b: In the Extreme-GD, subjects tend to choose 6 LT less often when believing that both GM choose 6 LT.

5. Setting and Data

The experiment was programmed and conducted with the experimental software z-Tree (Fischbacher 2007). The experiment was run in a PC pool at the University of Passau over 2 days in July 2019. Apart from the experiment in present study, one further experiment by a fellow student was conducted in each session. The experiments were run straight after each other. The order of the experiments was altered in each session. All participants of the same session took part in the same treatment. The type of treatment was drawn randomly right before the start of the session. The experiments had been advertised beforehand in seminars, social media, with posters and through word-of-mouth recommendation. However, the major part of participants was recruited just before the start of each session by approaching them randomly on the university premises.

Overall, 14 sessions were conducted. All experimental sessions were run with 12 to 18 subjects. Each session lasted approximately 15 minutes. A total of 233 subjects, university students from all majors, took part in the experiments. Approximately 60 % of the subjects were female, which is in line with the higher share of female students at the University of Passau. Table 2 provides summary statistics for the sessions and the subjects' main characteristics.

	Observations	Sessions	Ø number of subjects per session	Male Subjects	Female Subjects	Mean Age	Min/Max Age
Total	233	14	16.6	94	139	23	18/33
Baseline	84	5	16.8	30	54	23	19/33
Simple-GD	77	5	15.4	38	39	23	19/32
Extreme-GD	72	4	18	26	46	22	18/28

Table 2: Summary statistics

Upon arrival, subjects drew numbers that assigned them randomly to a seat in the PC pool. In order to ensure anonymity and privacy for the subjects, they were separated from each other by partition walls and the experimenters were isolated in a booth during the experiments. Before starting the first experiment, general instructions applying to both experiments were read out loud. Specific instructions on the experiment itself were given in written form on the screen (Appendix).

Directly after our experiment, the respective sheets for all participants of that session were torn in public in front of the subjects' eyes. One week later, the lottery procedure was realized as described above: the respective number of LT for each subject was put into a lottery pot and 2 LT were randomly drawn. The winners were published on our event page on Facebook as well as by the Students' Committee of Business and Economics. The vouchers were given to the winners by the students' committee who didn't know the experiment. Consequently, double blindness was always guaranteed.

6. Results

Over all treatments, an average of 48% of the subjects chose 6 LT, while 52% opted for 2 LT. A total amount of 350 sheets was torn. Table 3 shows the main results.

	Share of subjects choosing 6 LT	Beliefs about how many GM chose 6 LT		
		0	1	2
Total	48%	27%	43%	29%
Baseline	57%	13%	52%	35%
Simple-GD	47%	30%	42%	29%
Extreme-GD	39%	42%	35%	24%

Table 3: Subjects' decisions and beliefs in all treatments

6.1 Simple-GD

In H1a it was assumed that the share of subjects choosing 6 LT would increase in the Simple-GD compared to the BL due to diffused pivotality. Figure 1 shows a higher share of subjects picking 6 LT in the BL than in the Simple-GD and therefore a converse tendency than hypothesized in 1a. However, this difference is not statistically significant as per Fisher's exact test (FET, p=0.209). H1a thus cannot be confirmed, i.e. diffused pivotality has no significant effect on the individual propensity to choose 6 LT.

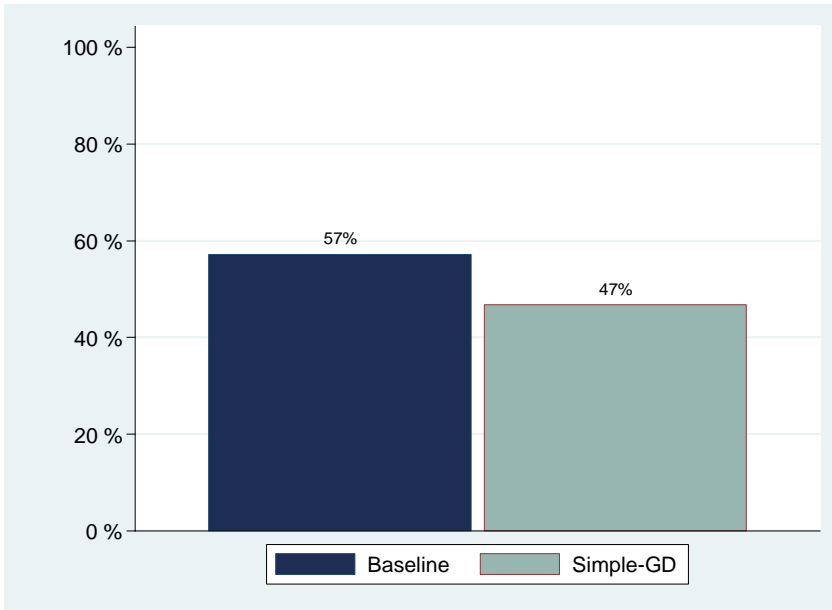**R1a:** *The share of subjects choosing 6 LT does not increase in the Simple-GD compared to the BL.*

Figure 1: Share of subjects choosing 6 LT in Baseline & Simple-GD

Subjects' behaviour in the Simple-GD might also depend on their beliefs about GMs' decisions. In H1b it was supposed that subjects, when believing that at least one GM chooses 6 LT (hereafter called 1/2-Believers), tend to choose 6 LT themselves more often due to replacement logic. Figure 2 illustrates that 63% of the 1/2-Believers also chose 6 LT. This finding turns out to be highly significant (FET, p=0.000).

R1b: *In the Simple-GD, subjects choose 6 LT significantly more often when believing that at least one GM chooses 6 LT.*
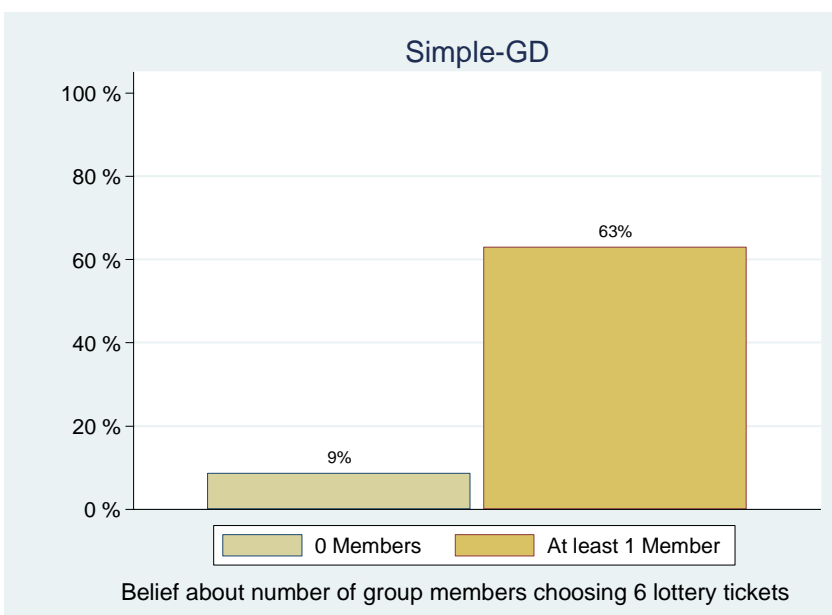

Figure 2: Share of subjects choosing 6 LT combined with belief about GMs' decisions in the Simple-GD

Regardless of H1b being confirmed, there were less subjects opting for 6 LT in the Simple-GD than in the BL overall, which was shown in R1a. How could this be explained? Figure 3 indicates that 62% of the 1/2-Believers in the BL also went for 6 LT (significant as per FET, p=0.048), which is akin to the respective share in the Simple-GD. However, in the BL this behaviour cannot be explained by diffused pivotality as subjects were fully pivotal. It seems that subjects in the BL form beliefs about their GMs' decisions and derive a descriptive norm about others' behaviour from it (Cialdini 2003), to which they appear to conform to: They opt for the amount of LT they expect the other subjects, or rather their GM, to choose. Figure 2 indicates that such 'herding behaviour' could also exist in the Simple-GD. From the subjects believing that none of their GM picks 6 LT (hereafter called 0-Believers), just 9% opted for 6 LT anyway, i.e. 91% also went for 2 LT like they expected their GM to do (significant as per FET, p=0.000). This tendency is even more distinct than in the BL, in which 73% of the 0-Believers went for 2 LT. Furthermore, Table 3 shows that the share of 0-Believers was much higher in the Simple-GD (30%) than in the BL (13%). This difference is significant at the 5% level (FET, p=0.012).
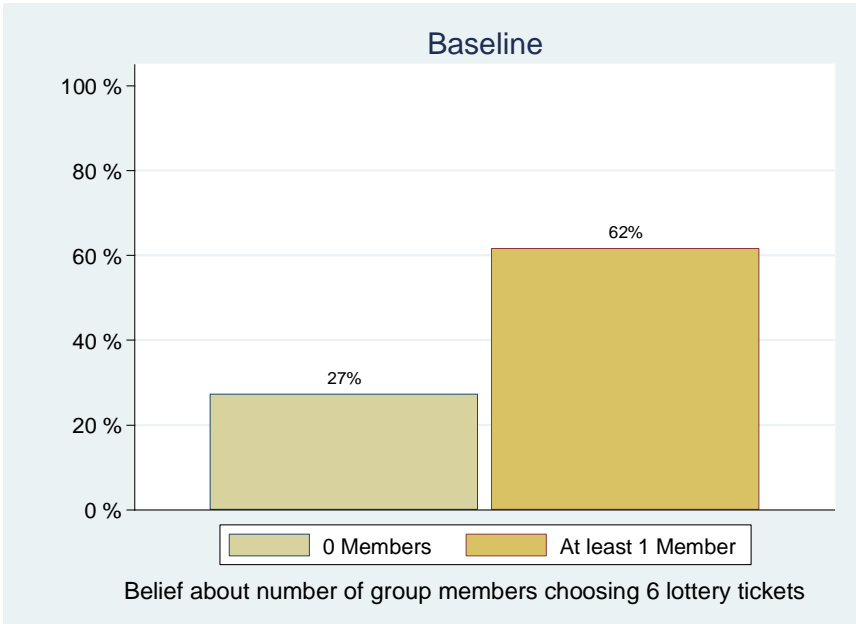

Figure 3: Share of subjects choosing 6 LT combined with belief about GMs' decisions in the BL

So, a lower share of subjects choosing 6 LT in the Simple-GD compared to the BL, as opposed to H1a, can be explained by more subjects expecting others to act environmentally friendly in the Simple-GD and hence opting for 2 LT as well.

6.2 Extreme-GD

Given the EHD added in the Extreme-GD, it was assumed in H2a that the share of subjects picking 6 LT would decrease compared to the Simple-GD due to an increased sense of responsibility. Figure 4 supports the hypothesized tendency, as 47% of the subjects opted for 6 LT in the Simple-GD, while just 39% did so in the Extreme-GD. However, this difference is not statistically significant (FET, p=0.408), so H2a cannot be confirmed.

R2a: *The share of subjects choosing 6 LT does not significantly decrease in the Extreme-GD compared to the Simple-GD.*
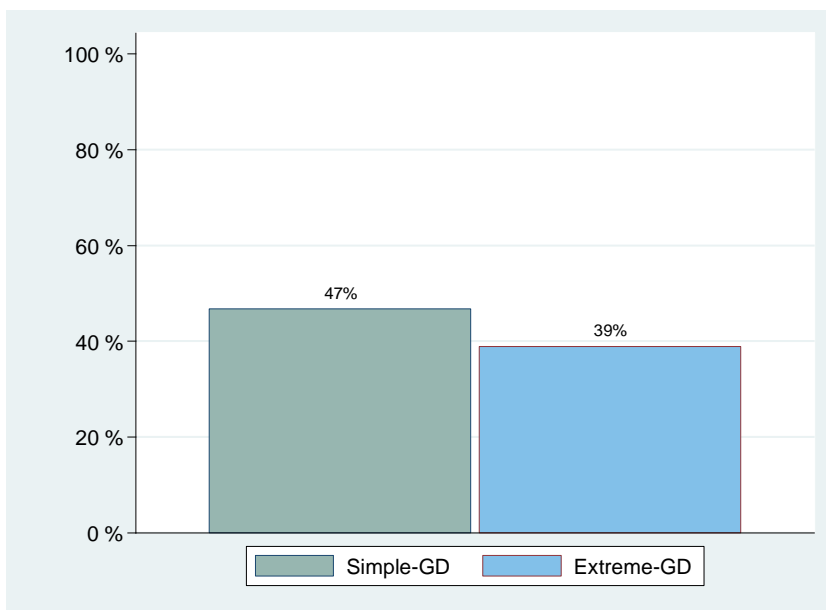

Figure 4: Share of subjects choosing 6 LT in Simple-GD & Extreme-GD

In H2b it was supposed that subjects, when believing that both other GM choose 6 LT (hereafter called 2-Believers), tend to choose 6 LT less often in order to avoid the EHD. Figure 5 points out that 94% of the 2-Believers also went for 6 LT, i.e. just 6% tried to avoid the tearing of 13 sheets. This finding, which proves to be significant at the 1% level (FET, p=0.000), highly contradicts H2b. Subjects' sense of responsibility was not increased by the introduction of an EHD. Thus, H2b cannot be confirmed.

R2b: *In the Extreme-GD, instead of choosing 6 LT less often when believing that both other GM choose 6 LT, subjects choose 6 LT significantly more often.*
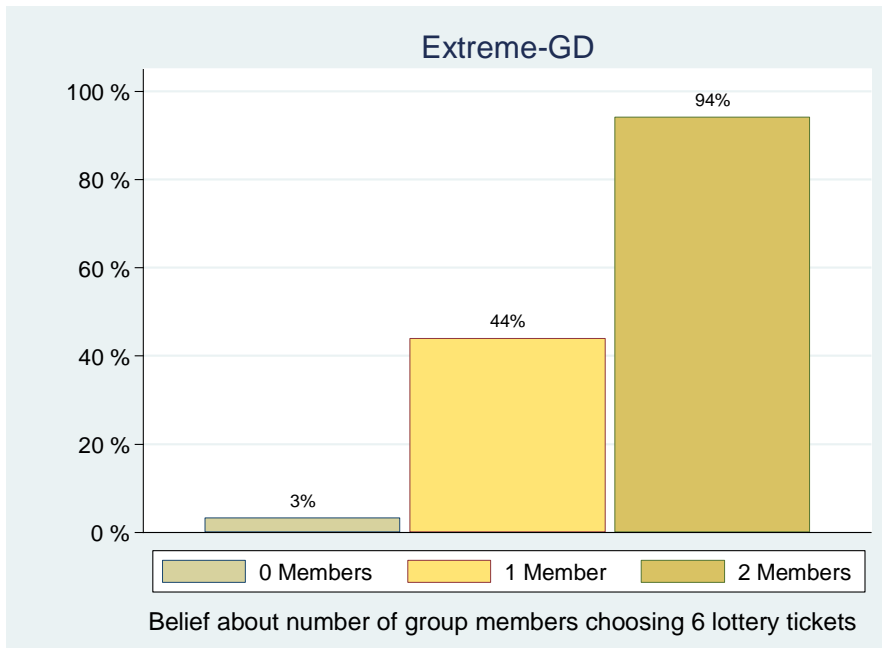
Figure 5: Share of subjects choosing 6 LT combined with belief about GMs' decisions in the Extreme-GD

At the same time, just 3% of the 0-Believers went for 6 LT, while 97% opted for 2 LT like they believed their GM to do. Subjects' behaviour in the Extreme-GD points to conditional cooperation. Subjects just contribute if they expect contribution by others (Smith 2011). In an ecological context, this means that subjects who expected an increased sense of environmental responsibility in others, also acted responsibly themselves, and vice versa. As indicated in Table 3, most of the subjects in the Extreme-GD (42%) were 0-Believers, so they expected both GM to decide responsibly, while just 24% believed that both GM would choose 6 LT. This explains the relatively low share of subjects opting for 6 LT in the Extreme-GD despite R2b.

7. Discussion and Limitations

Instead of replacement logic (Simple-GD) and an increased sense of responsibility (Extreme-GD), herding behaviour and conditional cooperation seem to dominate subjects' decisions over all treatments, which can be seen in Figure 6. 2-Believers mostly opt for 6 LT, too, although, in the case of the Extreme-GD, being aware that they could have avoided the EHD. 0-Believers pick 2 LT like they expect others to do. In the Simple- and Extreme-GD, when a sense of group membership was more apparent since the damage depended on the combined choices of all GM, herding behaviour was even stronger than in the BL.
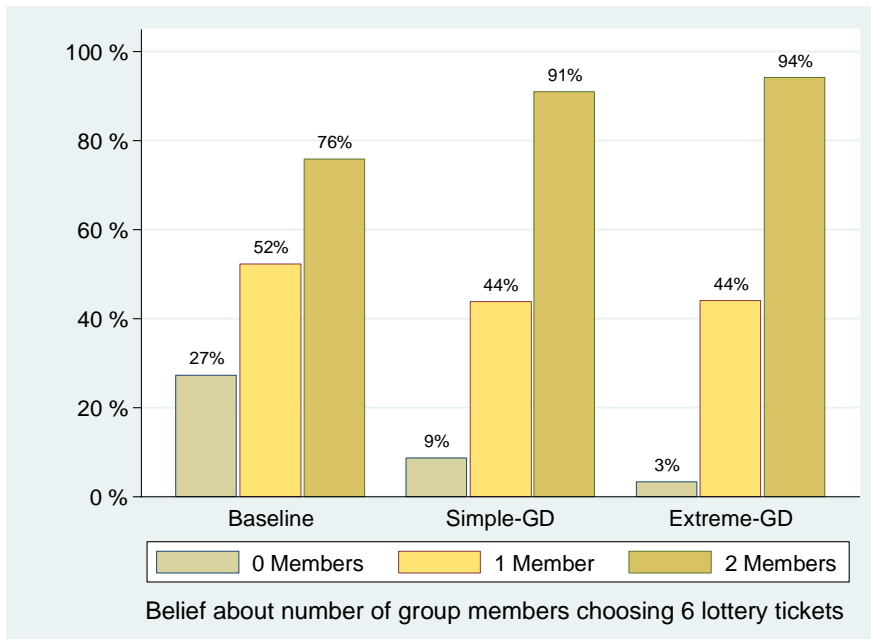
Figure 6: Share of subjects choosing 6 LT combined with belief about GMs' decisions in all treatments

A few limitations concerning our results need to be listed. Given that subjects were asked about beliefs after having decided themselves, it could be possible that they infer how others will decide from their own behaviour or try to justify a choice of 6 LT ex post. Though we tried to avoid this problem by rewarding correct beliefs with one additional lottery ticket, this incentive could have been too little. To eliminate justification bias ex post completely, an additional treatment group would be necessary, in which subjects are only asked about their beliefs regarding subjects' choices in the different treatments. As already mentioned, the experiment was conducted in sessions with another experiment, in which payoffs were hypothetical. Though we referred to this difference in the initial oral instructions, participants might have been confused and supposed that the ripping of paper in our experiment was hypothetical as well. However, this could also serve as an excuse for choosing 6 LT, since participants were aware that the lottery was real, too. Furthermore, since the order of the experiments was changed in every session, subjects might have acted differently when our experiment came second which could bias the results. However, several FETs show that the order had no significant effects on our variables of interest.

Moreover, participants seem to have underestimated the extent of the caused damage as they reacted shocked when the sheets were torn at the end of the experiment. Therefore, within future research the experiment could be conducted as a two-shot-game using a within-subject design to analyze if and how subjects' decisions change in the second round after having observed the blank sheets being torn.

8. Conclusion

In present study, herding behaviour and conditional cooperation determine subjects' choices over all treatments. They conform to the descriptive norm they believe to prevail. Especially in the baseline this seems to be choosing 6 LT, i.e. ecological harm is accepted if it comes along with a higher (chance of) profit. Hence, the reason for not acting environmentally friendly could in fact be, as mentioned in the introduction, that 81% of the German population expect other people to not protect the environment enough (Umweltbundesamt 2018). Not seeing oneself as pivotal, in contrast, cannot be the crucial factor, as results from the Extreme-GD show. Even if people are aware of being able to make a difference, they do not act environmentally responsibly if they expect others to not do so, either. In this context, former British Chancellor, George Osbourne, stated with respect to tackling climate change: "I don't want us to be the only people out there in front of the rest of the world. I certainly think we shouldn't be further ahead of our partners in Europe." (The Guardian 2013)

Given these findings, it is essential to target people's expectations regarding the behaviour of others and manage to implement environmental protection as a descriptive norm. When people assume that others act ecologically friendly, they will likely behave in an environmentally responsible manner, too.

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Appendix

A Instructions

General oral instructions at the beginning of the experiments

Herzlich Willkommen!

Vielen Dank für Ihre Bereitschaft, an zwei kurzen Experimenten im Rahmen des Masterseminars „Experimental Economics" teilzunehmen. Bevor das erste Experiment startet, einige allgemeine Erläuterungen vorab: Mit den Experimenten wollen wir Erkenntnisse über menschliches Verhalten gewinnen. Die Teilnehmer an den Experimenten befinden sich alle hier im Raum und nehmen an denselben Experimenten teil. Alle Teilnehmer sind anonym und können sich nicht untereinander absprechen. Auch Ihre Entscheidungen und Angaben werden anonym ausgewertet. Bitte verhalten Sie sich während der Experimente ruhig und sprechen Sie nicht mit Ihrem Nachbarn. Beachten Sie, dass es während der Experimente zu Wartezeiten kommen kann. Bitte verhalten Sie sich auch während dieser Wartezeiten ruhig und schauen Sie nicht auf Ihr Smartphone. Bitte lesen Sie alle Anweisungen sorgfältig durch und klicken erst auf „Weiter", wenn Sie alles verstanden haben. Haben Sie einen Bildschirm einmal verlassen, kann dieser nicht erneut aufgerufen werden.

Im ersten Experiment wird die Verlosung der Gutscheine und das Zerreißen der Blätter, wie dann erklärt, tatsächlich durchgeführt. Die Gewinne im zweiten Experiment sind hypothetisch. Stattdessen werden Sie mit Kaffee und leckeren Snacks entlohnt. Versuchen Sie dennoch sich vorzustellen und sich so zu verhalten, als würde um echtes Geld gespielt.[1] Auf Ihrem Platz befindet sich eine Platznummer, welche auf dem PC geklebt ist, und eine Losnummer, die vor Ihrer Tastatur liegt. Weitere Infos erhalten Sie im Laufe der Experimente. Bitte lesen Sie die Anleitungen sorgfältig durch und heben Sie Ihre Hand im Falle noch offener Fragen. Ein Spielleiter kommt dann zu Ihnen. Sie können jetzt mit dem ersten Experiment beginnen: Klicken Sie dazu auf 'Experiment starten'.

Written instructions on the experiment

For all treatments:

Herzlich Willkommen!

Der Ablauf des Experiments wird Ihnen auf den nachfolgenden Bildschirmen erklärt. Bitte lesen Sie alle Instruktionen aufmerksam durch.

Sie können nun auf "Experiment starten" klicken.

Experiment starten

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[1] As order of experiments was changed, order of mentioned experiments was changed respectively.

Im folgenden Experiment haben Sie die Möglichkeit, eine gewisse Anzahl an Losen zu erwerben, um an einer Verlosung von zwei Gutscheinen im Wert von jeweils 30€ für ein Escape Game bei youexit in Passau teilzunehmen.

Je höher Ihre Anzahl an Losen, desto höher ist die Wahrscheinlichkeit, dass Sie einen Gutschein gewinnen.

Nähere Informationen zur Verlosung erhalten Sie am Ende des Experiments.

Weiter

Auf Ihrem Platz befindet sich ein Zettel mit einer Losnummer.

Bitte geben Sie diese Nummer nun ein:

Losnummer

Weiter

Specific instructions in Baseline:

Sie können wählen, ob Sie **6 Lose** oder **2 Lose** erhalten.

Im Raum befindet sich ein Stapel mit weißen, unbeschriebenen Blättern Papier. Jedem Teilnehmer werden 2 Blätter Papier davon zugewiesen.

Wenn Sie sich für **6 Lose** entscheiden, werden die Ihnen zugewiesenen **2 Blätter Papier zerrissen**.

Wenn Sie sich für **2 Lose** entscheiden, wird **kein Blatt zerrissen**.

Sie befinden sich in einer Gruppe mit zwei weiteren Mitgliedern, die vor der gleichen Entscheidung stehen wie Sie.

Die Entscheidungen der Gruppenmitglieder sind unabhängig voneinander.

Sie können lediglich am Ende des Experiments sehen, wie viele Mitglieder Ihrer Gruppe sich für 6 bzw. 2 Lose entschieden haben.

Weiter

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Specific instructions in Simple-GD

<u>Sie können wählen, ob Sie **6 Lose** oder **2 Lose** erhalten.</u>

Im Raum befindet sich ein Stapel mit weißen, unbeschriebenen Blättern Papier. Jedem Teilnehmer werden 2 Blätter Papier davon zugewiesen.

Wenn Sie sich für 6 Lose entscheiden, werden die Ihnen zugewiesenen 2 Blätter Papier zerrissen.

Sie befinden sich in einer Gruppe mit zwei weiteren Mitgliedern, die vor der gleichen Entscheidung stehen wie Sie.

<u>Wie viele Blätter tatsächlich zerrissen werden, hängt vom **Verhalten Ihrer gesamten Gruppe** ab:</u>

Wenn **alle Mitglieder 2 Lose** wählen, werden **keine Blätter** zerrissen.

Sobald **mindestens ein Mitglied** Ihrer Gruppe **6 Lose** wählt, werden alle den einzelnen Gruppenmitgliedern zugewiesenen Blätter **(insgesamt 6 Blätter)** zerrissen.

[Weiter]

Specific instructions in Extreme-GD

<u>Sie können wählen, ob Sie **6 Lose** oder **2 Lose** erhalten.</u>

Im Raum befindet sich ein Stapel mit weißen, unbeschriebenen Blättern Papier. Jedem Teilnehmer werden 2 Blätter Papier davon zugewiesen.

Wenn Sie sich für 6 Lose entscheiden, werden die Ihnen zugewiesenen 2 Blätter Papier zerrissen.

Sie befinden sich in einer Gruppe mit zwei weiteren Mitgliedern, die vor der gleichen Entscheidung stehen wie Sie.

<u>Wie viele Blätter tatsächlich zerrissen werden, hängt vom **Verhalten Ihrer gesamten Gruppe** ab:</u>

Wenn **alle Mitglieder 2 Lose** wählen, werden **keine Blätter** zerrissen.

Wenn **mindestens ein Mitglied** Ihrer Gruppe **6 Lose** wählt, werden <u>alle</u> den einzelnen Gruppenmitgliedern zugewiesenen Blätter **(insgesamt 6 Blätter)** zerrissen.

Wenn **alle Mitglieder 6 Lose** wählen, werden **zusätzlich** zu diesen 6 Blättern **weitere 7 Blätter** zerrissen. Insgesamt werden dann also **13 Blätter** zerrissen.

[Weiter]

B Understanding

Baseline

Bitte beantworten Sie folgende Fragen, um sicherzugehen, dass Sie die Spielanleitung verstanden haben.

Sie wählen 6 Lose, dadurch werden:
- ○ 2 Blätter zerrissen
- ○ keine Blätter zerrissen
- ○ 6 Blätter zerrissen

Sie wählen 2 Lose, dadurch werden:
- ○ 2 Blätter zerrissen
- ○ keine Blätter zerrissen
- ○ 6 Blätter zerrissen

Weiter

Simple-GD

Bitte beantworten Sie folgende Fragen, um sicherzugehen, dass Sie die Spielanleitung verstanden haben.

Sie wählen 6 Lose, Mitglied 2 wählt 2 Lose, Mitglied 3 wählt 6 Lose. Dadurch werden:
- ○ 2 Blätter zerrissen
- ○ keine Blätter zerrissen
- ○ 6 Blätter zerrissen

Sie wählen 2 Lose, Mitglied 2 wählt 2 Lose, Mitglied 3 wählt 2 Lose. Dadurch werden:
- ○ 2 Blätter zerrissen
- ○ keine Blätter zerrissen
- ○ 6 Blätter zerrissen

Weiter

Extreme-GD

Bitte beantworten Sie folgende Fragen, um sicherzugehen, dass Sie die Spielanleitung verstanden haben.

Sie wählen 6 Lose, Mitglied 2 wählt 6 Lose, Mitglied 3 wählt 6 Lose. Dadurch werden:
- ○ 2 Blätter zerrissen
- ○ 6 Blätter zerrissen
- ○ 13 Blätter zerrissen

Sie wählen 2 Lose, Mitglied 2 wählt 2 Lose, Mitglied 3 wählt 6 Lose. Dadurch werden:
- ○ 2 Blätter zerrissen
- ○ keine Blätter zerrissen
- ○ 6 Blätter zerrissen

Weiter

C Decision

For all treatments:

Bitte wählen Sie nun, wie viele Lose Sie erhalten.

- ○ 6 Lose
- ○ 2 Lose

Weiter

D Beliefs

For all treatments:

Welche Erwartungen haben Sie über die Wahl der anderen Mitglieder Ihrer Gruppe?

Wenn Sie **richtig** liegen, erhalten Sie **1 zusätzliches Los**.

- ○ Beide Mitglieder meiner Gruppe wählen 6 Lose.
- ○ Ein Mitglied meiner Gruppe wählt 6 Lose, das andere Mitglied wählt 2 Lose.
- ○ Beide Mitglieder meiner Gruppe wählen 2 Lose.

[Weiter]

E Payoffs

Baseline:

Sie haben sich für **6 Lose** entschieden. Es werden somit **2 Blätter** zerrissen.

Mitglied 2 hat sich für 6 Lose und Mitglied 3 für 6 Lose entschieden.

Ihre Erwartung bezüglich der Wahl Ihrer Gruppenmitglieder war somit **korrekt**. Sie erhalten daher **1 zusätzliches Los**.

Insgesamt werden also **7 Lose** mit Ihrer **Losnummer 4** in den Lostopf geworfen.

[Weiter]

Simple-GD and Extreme-GD:

Sie haben sich für **6 Lose** entschieden.

Aufgrund Ihrer Entscheidung und der Ihrer Gruppenmitglieder werden **6 Blätter** zerrissen.

Mitglied 2 hat sich für 2 Lose und Mitglied 3 für 6 Lose entschieden.

Ihre Erwartung bezüglich der Wahl Ihrer Gruppenmitglieder war somit **nicht korrekt**. Sie erhalten daher **kein zusätzliches Los**.

Insgesamt werden also **6 Lose** mit Ihrer **Losnummer 4** in den Lostopf geworfen.

Weiter

F Information about lottery procedure

For all treatments:

Die Verlosung findet unter allen Teilnehmern des Experiments statt.

Die Losnummern der Gewinner werden am Mittwoch, den 10.07.2019, in der Facebook-Veranstaltung "Experimental Economics"

sowie auf einem Aushang der Fachschaft Wiwi bekannt gegeben.

Die Gutscheine können unter Vorlage des Loszettels in der Fachschaft Wiwi (Raum 025) abgeholt werden.

Bewahren Sie daher unbedingt Ihren Loszettel auf!

Ansonsten kann Ihnen im Falle eines Gewinns der Gutschein nicht ausgehändigt werden.

Weiter

Dieses Experiment ist nun beendet.

Bitte warten Sie, bis die entsprechende Anzahl an Blättern zerrissen wird und achten Sie auf weitere
Instruktionen des Experimentleiters.

G Questionnaire

For all treatments:

Fragebogen

Bitte beantworten Sie zum Abschluss die nachfolgenden Fragen. Ihre Angaben werden anonym ausgewertet und haben keinen Einfluss auf das Ergebnis.

Geschlecht
- ○ männlich
- ○ weiblich
- ○ divers

Alter [____]

Nationalität, Herkunft
- ○ Deutschland
- ○ Anglophoner Raum
- ○ Francophoner Raum
- ○ Iberoromanischer Raum
- ○ Sonstige

In welchem Fachsemester studieren Sie? [____]

Studiengang
- ○ BWL/VWL/Lehramt mit Wirtschaftswissenschaften
- ○ Kulturwirtschaft
- ○ European Studies
- ○ Governance and Public Policy
- ○ Medien und Kommunikation/Sprache und Text
- ○ Informatik/Internet Computing
- ○ Lehramt (ohne Wirtschaftswissenschaften)
- ○ Rechtswissenschaft
- ○ Sonstige

Wenn Sie hier alle Fragen beantwortet haben, können Sie mit den restlichen Fragen fortfahren, indem Sie auf "Weiter" klicken.

[Weiter]

Fragebogen

Bitte beantworten Sie zum Abschluss die nachfolgenden Fragen. Ihre Angaben werden anonym ausgewertet und haben keinen Einfluss auf das Ergebnis.

Wie gut schätzen Sie Ihr eigenes Deutschniveau ein? (1=sehr schlecht, 10=Muttersprache/wie Muttersprache)   Sehr schlecht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Muttersprache / wie Muttersprache

Wie gut schätzen Sie Ihr eigenes Englischniveau ein? (1=sehr schlecht, 10=Muttersprache/wie Muttersprache)   Sehr schlecht ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Muttersprache / wie Muttersprache

Haben Sie schon einmal in einem englischsprachigen Land gelebt?   ○ Ja   ○ Nein

Kennen Sie das "Gefangenendilemma" oder "Prisoner's Dilemma"?   ○ Ja   ○ Nein

Haben Sie sich schon einmal mit Spieltheorie beschäftigt?   ○ Ja   ○ Nein

Wenn Sie alle Fragen beantwortet haben, können Sie fortfahren, indem Sie auf 'Experiment beenden' klicken.

[Experiment beenden]