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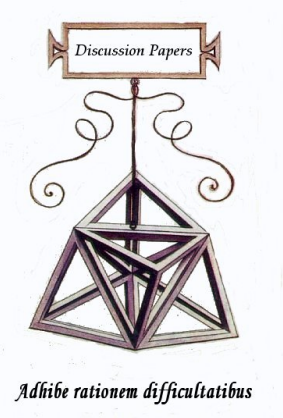


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# Risk taking for others: an experiment on ethics meetings

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# Risk taking for others: an experiment on ethics meetings

**Abstract**

Relying on an novel experimental design, we study the effect of, so called, *ethics meetings* on risk-taking for others decisions in a situation where preferences of a decision maker are not aligned with those of a passive receiver. Decision makers choose between two risky gambles, one of which always implies a better outcome for himself but exposes the receiver to higher risk. In the main treatments (i.e. Ethics meeting), in contrast to the Baseline treatment, decision makers also discuss within a group of peers – before their decision – the consequences of their choice. Our results show that, in treatments with ethics meetings, decision makers tend to choose more often the less risky gamble for the receiver.

**Keywords**: discussion, moral psychology, ethics
**JEL:** G02, G32, C91, D81

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# 1 Introduction

In the aftermath of the financial crisis, three objectives emerged for financial market reforms: 1) enhancing financial stability and managing systemic risk (macro-prudential regulation); 2) rebuilding financial institutions (micro-prudential regulation); and 3) making the financial sector work for the benefit of financial users and society as a whole (Wehinger et al. (2012)). While the first two objectives were the focus of regulators, the third objective has received comparatively little attention. One reason for this little attention to the third point can be identified in the circumstance that the issue exceeds the boundaries of traditional approaches to efficiency and regulation of the financial sector, involving social responsibility and businness ethics. However, it is now widely accepted that financial crisis was not just crash (Zingales (2015)), and failure by banks and bank agents to meet ethical values played a significant role in it. This acknowledgment has generated interests in the provision of culture and ethics within the financial sector, as a measure to contrast widespread tolerance of dishonest behaviors (Morris and Vines (2014), Klooster and Meyer (2016)), Cohn et al. (2014, 2015)). While culture and ethics are recognized as important determinants of human and organizational behaviour (Guiso et al. (2015)), framing policy debates around these concepts is often viewed somewhat impractical (Wehinger et al. (2012)).

With this paper we contribute to this debate by studying in the laboratory the conditions and the practices which favour the emergence of pro-social norms and behaviors in bank activities. In particular, by focusing on risk-taking decisions, we investigate whether individual moral deliberation – which we deal with in terms of *reflection* – and ethic discussion among peers – which we conceptualize as *ethic meetings* – are effective in reducing social costs of excessive risk taking by financial agents.

To this purpose, we rely on a novel experimental design which let us structure a decision-making situation in which there is a conflict of preferences between a decision maker and a passive receiver of the consequences of the decision. Our aim is to simulate *risk-taking for others* as representative of risk-taking decision in bank contexts: a decision maker has to choose between two risky gambles, one of which always implies a better outcome for him, but not for the receiver. Through manipulation of decision times and discussion among peers, we assess the effect of deliberation and ethics meetings on individual risk-taking for others. More precisely we conduct three treatments: a "*Baseline*" treatment, in which subjects are asked to choose within a relatively short time; a "*Reflection*" treatment, to evaluate the effect of deliberation over the risk-taking decision at stake; a series of "*Ethics-meeting*" treatments (differing in the communication setting) to investigate the effect of peer discussion concerning intentions and consequences of choice. The hypothesis we test is whether, in the context of risk-taking for others, reflection and ethics meetings makes fair choices more likely.

The motivation behind this research stems from the consideration of significant shortcom-

ings of both incentives-based and rules-based attempts to promote ethical controls over bank activities. Standard incentive schemes in the financial sector appear ill-suited to resolve agency problems, (Young et al. (2012); Awrey et al. (2013)). Moreover, Gneezy (2005), Burks and Krupka (2012) experimentally show that, when business norms and personal ethical commitments are not aligned, deception increases. On the other hand, rules-based attempts to financial law and regulation appear to have limited impact. Indeed in the last years, the financial services industry has produced several "codes of conduct" with few concrete results, [1] probably for the persistence of a risk-culture and irresponsible behaviours into the bank community. (Lo (2015), Young et al. (2012); Cohn et al. (2014); Awrey et al. (2013)).

The need for new control instruments, besides incentives and rules, justifies our attempt to investigate the effects of ethics meetings as an internal and self-sustaining way to enhance bank social responsibility. Our hypothesis on the effect of ethic meetings and deliberations are grounded on Dual Process Theory of moral judgment (see Greene (2014) for a comprehensive review). According to it, decisions in context where there is a clear social norm are driven by automatic responses, while in other situations, decisions require an effortful cognitive process. In particular, we expect that, by (auto)framing deliberation and peers-discussion, individuals will identify the consequences of their decision and reduce the frequence of unfair decisions (this is also in line with Habermas (1990)'s recognition of the fundamental discursive nature of ethics).

Our results suggest that ethics meetings are effective in increasing the number of fair choices. Moreover, our results suggest that these effects is mediated by expectations about what peers will do and what the other expect from the decision maker.

The paper is organized as follows: section 2 positions our contribution in the context of experimental studies on the role of moral norms and values in the emergence of pro-social behaviors and social norms; in section 3 we present the experiment design; section 4 illustrates and discusses main results; section 5 concludes.

## 2 Literature review

In order to frame the issue of risk-taking behaviours in banking, we focus on decisions under risk made by a decision-maker who choose for another individual, i.e risking (also) other individual monetary payoff. In order to do this, we set up a new experiment which confront our subjects with a sort of risky dictator game (Bohnet et al. (2008)). In particular, in our experiment the decision-maker has always to decide between two risky gambles: one "safer" risky investment (i.e. *right*), which always produces a certain amount of money for the decision-maker, and one "riskier" investment (i.e. *left)*, which allows him to gain more money but only exposes his

[1] A prominent example is the Code of Ethics and Standards of Professional Conduct of the Chartered Financial Analyst Institute.

patner to the risk of getting a lower payoff. In other words, disregarding the level of individual risk aversion, the decision maker has always an interest in making the riskier investment, while his partner has a preference for the safer investment. Moreover, from the point of view of the society as a whole, the safe investment would be preferable.

In that kind of situation, fairness theories as Fehr and Schmidt (1999) and Bolton and Ockenfels (2000) would predict a greater attraction of the safe(r) option when the risky option implies unequal payoffs. According to this theory, Bolton et al. (2008) indeed show that individuals tend to be more resistant to imposing risks on others than on themselves. However, they also show that individuals tend to choose more frequently the risky option when the safe option implies unfavorable inequality, suggesting that social comparisons can significantly affect risk taking.

The literature also singles out that when individuals are not accountable for their choices, they tend to be less risk averse when investing other's people money (Pollmann et al. (2014)). Moreover, Andersson et al. (2014) show that individuals are less loss averse when managing risks for other people. They explain this circumstance with a more "rational" account connected to the decision made on behalf of others, which reduces the affective bias associated to loss aversion. In general, it seems that economic rationality would always lead the decision maker to selfishly exploit this type of decision situation, against more responsible and other-regarding decisions.

However, the experimental literature studying the effects of social and moral norms on dictator-games suggests that these type of norms are sufficient for explaining a considerable amount of variation in other-regarding behaviour. For example, Krupka and Weber (2013) demonstrate that an indicator of social norms, derived from a game-based elicitation method, accurately predicts behavioural change across variants of the dictator game (e.g. the standard or the bully version of the dictator game). In the same vein, Schram and Charness (2015) examine the effects of social norms on dictator choices through the creation of normative advices from peers who do not have any financial payoff at stake in the game. They find that when one's decision is observed, there is a tendency to choose more in line with the advice received. A moral norm is thus induced through the advice given to the dictator. In line with these studies, we make the hypothesis that social norms may help explain a considerable amount of variation in other-regarding behaviour, but differently from them, we allow the relevant social norm to become salient through discussions among individuals who need to make the same choice. This discussion should promote the comprehension of the risky feature of the decision at stake, favouring the fairer decision. In particular, as in Bicchieri and Xiao (2009); Bicchieri (2005) we hypothesize that conforming to norms will depend on two types of expectations: *one empirical*, i.e. what one expectes the norm to be followed by a majority of people, and *one normative*, i.e. the belief about what *one ought to conform* to the norm.

More precisely, we contribute to this literature by showing that communication, which only

intervenes among individuals who have to make the same decisions (i.e. *peers),* would increase the comprehension of the risky feature of the decision at stake, and thereby the emergence of a social norm, which goes against the selfish computation of the rational decision maker. Accordingly, we make the hypothesis that ethic meetings, in the form of peer discussions, may reframe participants' beliefs, so that the decision makers may better evaluate their role in the decision-making situation and consider himself subject to a wider social norm including the point of view of subjects external to the group of peers. For example, the decision-maker may start feeling responsible for consequences of their decisions previously overlooked or under-evaluated, because "external" to the cognitive frame which identifies relevant consequences in the initial decision context.

As highlighted in the introduction, this hypothesis is grounded on the Dual Process Theory of moral judgment (Greene (2014)). In particular, our experimental analysis resemble the right-wrong decision-context provided by Gunia et al. (2012), who account for the connection between ethical choices, on the one hand, and deliberation and discussion, on the other. Right-wrong decision is a specific type of moral decision between an intrinsically ethical course of action, i.e. an action which reflects a moral value (e.g honesty), and an unethical behaviour, which reflects the possibility to deviate from the normative moral value for self-interested gain (e.g. self-interested lying). In Gunia et al. (2012) *contemplation* – defined as "individually conducted moral reasoning" – and *conversation* – defined as "social contemplation" – produce a positive influence on ethical decisions in an honesty vs lying game. This is also confirmed by other experiments on honesty, in which the decision to tell the truth appears to be favoured by longer deliberation times. This has been interpreted by considering that honest behaviours presuppose self-control and hence the capacity to overcome the automatic self-serving response to situations in which cheating represents an advantageous opportunity to decision-maker. In this sense, "honesty requires time": subjects pushed to a quick answer tend to cheat more with respect to subjects who make decisions without time limits (Shalvi et al. (2012)).[2]

Our hypothesis is that risk-taking for others can be assimilated to right-wrong decisions. We hence expect that longer deliberation times and peers' discussion (representing ethic meetings in our case) favour a significant decrease in risk-taking over others. Our hypothesis rests on the consideration that, in risk-taking for others, reflection and peer-discussion enhance the "cognitive awareness of relevant moral values"(Gunia et al. (2012)), so that the relevant moral

[2]These findings may appear in conflict with the so-called Social Heuristic Hypothesis (Rand et al. (2012);Rand et al. (2014);Rand (2016)), which on the ground of Dual Process Theory demonstrates that - in the context of social dilemma decisions (one-shot, anonymous cooperation games) - fast intuition is relatively more cooperative than deliberative responses (Evans and Stanovich (2013); Alós-Ferrer and Strack (2014)). However, the types of decisions involved here are substantially different, and does not imply strong negative emotion (see Gunia et al. (2012)Greene (2014))

For criticisms of findings and methodology of SHH see Tinghög et al. (2013), Tinghög et al. (2016)). Dual Process Theory has been applied to risk-taking decisions, showing that the *reflection effect* of Prospect Theory is associated to automatic reactions, with "time pressure" increasing risk aversion in the case of gains and a reducing loss aversion (Kirchler et al. (2016)).

Table 1: ROLLING THE DIE: LEFT OR RIGHT CHOICE

| | | LEFT | | RIGHT | |
|---|---|---|---|---|---|
| Prob. | *Dice result* | **A** | **B** | **A** | **B** |
| $\frac{1}{6}$ | =1 | 6 | 16 | 0 | 6 |
| $\frac{5}{6}$ | $\neq$1 | 0 | 6 | 6 | 6 |

If the decision maker chooses "*Right*" and 1 comes out, she gets 6 Euro and the recipient 0 Euro. If the decision maker chooses "*Right*", and a number different from one comes out, she gets 6 Euro and the recipient 6 Euro. On the other hand, if she chooses "*Left*" and 1 comes out, she gets 16 Euro and the recipient 6 Euro. If she chooses "Left" and a number different from one comes out she gets 6 Euro and the recipient 0 Euro.

norm ("do not risk over others") becomes salient to decision makers, compensating for the consolidated selfish attitude, which, as mentioned above, represent a rational criteria of decision in risk-taking on behalf of others. In this way we also contribute to the debate around the Social Heuristic Hypothesis (Rand et al. (2012);Rand et al. (2014);Rand (2016)), not with the purpose of rejecting it, but to re-integrate it within a wider conception of pro-sociality, in which deliberation and discussion play an active role in re-framing the decision situation, through a change in individual beliefs, so that the decision maker, at the end of the process, acquires a more complete awareness of the consequences of the decision and of the value of the decision itself, and can adhere to previously unacknowledged moral norms.

# 3 Experimental design

In our experiment a decision maker (type B participant) faces a choice between two lotteries, "*Left*" and "*Right*", whose outcomes depend on the roll of a six-faces dice. The two lotteries implied different payments for both the decision maker and the passive receiver (type A participant). Payoffs and probabilities are summarized in the Table (1). At their arrival, participants were randomly assigned to one of two rooms. Each participant in each room knew to be randomly and anonymously paired to another subject in the other room. We used the strategic method: each participant in each room had to decide between "*Left*" and "*Right*" without knowing their role. Participants also knew that participants in the other room were performing the same decision under the same conditions. Only at the very end of the experiment, participants in one room were randomly assigned the role of B and, respectively, all the participants in the other room were assigned the role of A.[3] Therefore, the decision of each B-player in the selected room determined the payoff of the paired A-player. See the English translation of the instructions in the Appendix.

Before knowing which was their role in the experiment, participants were also asked about their beliefs. More precisely, we asked participants to specify their beliefs concerning: 1) the

[3]Roles were assigned according to the drawing of a card from a card deck, the first room picking a red card was assigning the B status).

Table 2: TREATMENT OVERVIEW

| TREATMENT | TIME | | DECISION |
|---|---|---|---|
| **Baseline (BT)** | 4 minutes* | | Left or Right choice |
| **Reflection (RT)** | 4 minutes* | 4 minutes alone | Left or Right choice |
| **Ethics- Meetings (EMT)** | | | |
| *Ethics 2* | 4 minutes* | 4 minutes discussion in couple | Left or Right choice |
| *Ethics 3* | 4 minutes* | 4 minutes discussion in a group of three | Left or Right choice |
| *Ethics Chat* | 4 minutes* | 4 minutes discussione in couple through a chat | Left or Right choice |

**Clarifications questions to the experimenter are allowed*

percentage of subjects choosing left in their same room ("first-order peer belief"); 2) the percentage of subjects choosing left in the other room ("first-order belief"); 3) the average response to question 2 in the other room ("second-order belief"). Payments to this phase were determined by a lottery selecting only one of the three questions and by rewarding who had answered correctly to the selected question, with a 10% of tolerance. [4]

In order to identify the effects of deliberation and ethics discussions, we run several treatments differing in the time and in the conditions of decision-making. More precisely, in *Baseline Treatment* (BT), participants were given only four minutes in order to let them fully understand the instructions and ask clarification questions to the experimenter. In the *Reflection Treatment* (RT), after the first 4 minutes for understanding the instructions, participants were given 4 additional minutes to think alone and in complete silence. In the *Ethics Meetings Treatments* (EMT), participants were also assigned to a group of participants in the same room to discuss, for 4 minutes (after the first 4 minutes for understanding the instructions), about the consequences of their decisions for As and Bs, and about their personal intentions concerning the decision at

[4] More precisely we asked the following questions:

1. Out of 10 participants, how many participants do you believe have played left in this room?
2. Out of 10 participants, how many participants do you believe have played left in the other room?
3. The same questions 2 has been asked to the participants in the other room. What do you think is the average answer to that question?

Table 3: SOCIAL PREFERENCE CHOICE

| | | **X** | **Y** |
|---|---|---|---|
| Line 1 | *You* | 2 | 2 |
| | *Your patner* | 2 | 1 |
| Line 2 | *You* | 2 | 3 |
| | *Your patner* | 2 | 1 |
| Line 3 | *You* | 2 | 2 |
| | *Your patner* | 2 | 4 |
| Line 4 | *You* | 2 | 3 |
| | *Your patner* | 2 | 5 |

stake.[5] In particular, in *Ethics 2* participants were grouped in pairs for a face-to-face interaction, while in *Ethics Chat* participants were grouped in pairs but had to discuss through a chat in order to check for any differences in communication mode and to track the content of conversation. In *Ethics 3*, participants were instead in a group of three for a face-to-face interaction in order to check for any differences due to group size. In all EMT treatments, after the 4 minutes of discussion, participants were asked to turn back to their screen and make their choice individually. See Table (2) for an overview.[6]

In addition, we control in all treatments for the preexistence of social preferences through a set of lotteries as in Bartling et al. (2009). Specifically, at the beginning of the experiment, each subject was exposed to 4 decisions in which she had to choose how to allocate payoffs between herself and another subject, randomly and anonymously paired to her in the same room. Everyone had to choose among allocation X and Y (see Table (3). The results of these lotteries were given only at the very end of the experiment.[7] A questionnaire with a short version of the big-five questions (John et al. (1991, 2008)), and relevant personal information (sex, age, years attending university) concluded the experiment.

The experiment took place at the "Laboratorio di Economia Sperimentale" of University of Pisa on January and May 2017. We conducted 16 sessions, each involving either 28, 24 or 20 participants, for a total of 412 participants invited from a pool of more than 1500 registered students from every departments of Pisa University. No one could take part to more than one session. Including the show-up fee of 5 €, the average pay was 10,90 €. In total, we run 2 sessions performing the *Baseline* treatment (BT), 2 sessions performing the *Reflection* treatment

[5]It is important to notice that ethics meetings could determine a risk of *experimenter's demand effect*, which is common to experimental studies aimed at investigating the effect of normativity and moral framing on decision making. In our experiment, by organizing "ethic meetings" among participants, we make the group discussion internal to the game, so making the normative definition of what is appropriate emerges from interaction among subjects. In this way, not only we can avoid the problem of a normative (demand) effect, but we can also analyse factors determining (from within) the *formation* of the norm through belief change.

[6]In all treatments the experimenter had firstly read the instrunctions aloud.

[7]At the end of the experiment, only one couple in each room was selected, then one decision line was randomly selected for payment

(RT), and 12 performing different types of the *Ethics-Meetings* treatments (EMT). In particular, we conduct 3 sessions of the ethics-meetings composed of two persons (*Ethics Group 2),* 4 sessions of the ethics-meetings composed of two persons communicating through a chat (*Ethics Chat)*, and 5 sessions of the ethics-meetings composed of three persons (*Ethics Group).*

### 3.1 Hypotheses

We suppose that ethics meetings have an effect on risk-taking for others decisions by changing (or, in any case, by being linked to) the beliefs concerning *a)* what others will choose in the decision-making situation; *b)* what the passive receivers of the consequences of the decision expect from the decision makers.

In this respect, our hypothesis relies on the Dual Process Theory of moral judgment (see Greene (2014)). According to it, in context where there is a clear social norm, decisions are driven by automatic responses, while in other situations, decisions require an effortful cognitive process. Therefore, we expect that by (auto)framing deliberation individuals identify the consequences of their decision and reduce the frequence of unfair decisions. This means that in our experiment the frequence of "*Left*" in RT will be lower than BT.

We also expect this effect is strengthened by ethical discussion. As in the conception of "discourse ethics" in Habermas (1990), the solution of ethical problems and the identification of substantial ethical contents emerge from ethical discussions in which participants, through interactive argumentative procedures, reach a consensus.[8] As a result, the frequence of unfair decisions is further reduced after a discussion with peers. This means that in our experiment we expect the frequence of "*Left*" in EMTs will be lower than RT and BT.[9]

To summarize, the hypoteses we tested is:

$$\%Left\ Choice_{BT} > \%Left\ Choice_{RT} > \%Left\ Choice_{EMT}$$

## 4 Results

In line with our hypothesis that ethics meetings favour more ethical (pro-socially responsible) choices, we observe that participants in the EMT showed the lowest percentage of "left" decisions (26%). Moreover, also subjects allowed to reflect by themselves in the RT opted for left decisions less often (35%) than subjects in the BT (50%) (see Table (4)), so confirming also the expectation that also deliberation have a positive effect on ethical choices. These effects (which account for correlation at group level) are slightly significant when considering the difference

[8]Habermas (1990) summarizes this approach in his *discourse principle*: "Only those norms can claim to be valid that meet (or could meet) with the approval of all affected in their capacity as participants in a practical discourse".

[9]From a psychological perspective, the hypothesis on the effect of ethic meetings and deliberation are in line with Gunia et al. (2012).

between RT and BT ( i.e. -0.14 with p-value=0.063), while they are significant when considering the difference between EMT and RT (i.e -0.089 with p-value=0.051). In particular, within the EMT treatments, the largest effect is observed when participants discussed through a chat (i.e -0.149 with p-value=0.032).

In line with Schram and Charness (2015) (who find that females are more likely to follow advices), we do find a stronger effect of ethics meetings when the group only comprises females respect to groups composed by only males or mixed. More precisely, in female groups the difference between EMT and RT is negative and significant (i.e. -0.21 with a p-value=0.031), while it is smaller and not always significant in groups with different composition. Moreover this difference is particularly large in female groups when the discussion occurs through a chat (i.e. -0.28 with a p-value=0.027).

Regarding the effect of reflection, we do find a stronger effect in group made of all males. In this case, the difference between RT and BT is negative and highly significant (i.e. -0.24 with a p-value=0.042). For mixed groups (results are not reported), the average effects is something in between these effects for females and males group.

As anticipated, we elicted beliefs of our participants to assess whether the effect of ethic meetings over risk-taking decisions was mediated by expectations about what peers will do (Bicchieri (2005)) and by guilt aversion (Charness and Dufwenberg (2006)) or justification (Shalvi et al. (2012)). By comparing beliefs between treatments, we see that there are striking differences: in EMTs individuals always expect that individuals - both in the same and in the other rooms - will choose "*Left*" less frequently (see Table (5)). For example, we observe a clear reduction in the share of people believed to play left in the same room ("first-order peer belief"), falling from 59,46% of the BT, to 52,68% of the RT, to 41% of the EMTs. These differences are always economically and statistically significant. In addition, the difference in "first-order belief" is about 12% lower in EMTs than in RT with a p-value=0.000. These results hold for all EMTs and for all types of beliefs. For example, if we look at the second-order belief in EMTs it is 13% lower than RT with a p-value=0.000. It must be underlined that the larger shift in beliefs happens in the comparison beetween RT and EMTs, suggesting that only EMTs are effective in changing decision making attitude towards the choice at stake.

These results suggests that ethics meetings have a strong effect in shifting participants expectations concerning the behavior of their own peer group, from one more self-interested vision to one more pro-social and ethical. It seems that, under the light of ethic meetings, subjects have more positive expectation concerning the behaviors that others – and in particular the passive receiver of the consequence of the decision – would adopt in the same decision situation. Moreover, participants in the EMTs evaluate others expectations as less negative than how they perceive it in the BT and in the RT. This is compatible with the hypothesis that the effect of ethic meetings over risk-taking for others depends on decision-makers trying to satisfy what they believe the others expect from them.

Table 4: CHOICE ACROSS TREATMENTS

| TREATMENT | INDEP OBS | SHARE LEFT | | DIFFERENCE | *p-value* |
|---|---|---|---|---|---|
| **Baseline** | 56 | 0.5 | | | |
| **Reflection** | 56 | 0.35 | **Reflection vs Baseline** | -0.14 | 0.063 |
| **Ethics (Total)** | 130 | 0.26 | **Ethics vs Reflection** | -0.089 | 0.051 |
| *Ethics 2* | 42 | 0.27 | *Ethics Group 2 vs Reflection* | -0.083 | 0.173 |
| *Ethics 3* | 40 | 0.31 | *Ethics Group 3 vs Reflection* | -0.049 | 0.284 |
| *Ethics Chat* | 48 | 0.21 | *Ethics Chat vs Reflection* | -0.149 | 0.032 |

| *Female Groups (i.e. all female)* | | | | | |
|---|---|---|---|---|---|
| TREATMENT | INDEP OBS | SHARE LEFT | | DIFFERENCE | *p-value* |
| **Baseline** | 34 | 0.5 | | | |
| **Reflection** | 29 | 0.45 | **Reflection vs Baseline** | 0.05 | 0.344 |
| **Ethics (Total)** | 30 | 0.24 | **Ethics vs Reflection** | -0.21 | 0.031 |
| *Ethics 2* | 10 | 0.30 | *Ethics 2 vs Reflection* | -0.14 | 0.199 |
| *Ethics 3* | 5 | 0.33 | *Ethics 3 vs Reflection* | -0.11 | 0.315 |
| *Ethics Chat* | 15 | 0.17 | *Ethics Chat vs Reflection* | -0.28 | 0.027 |

| *Male Groups (i.e.all males)* | | | | | |
|---|---|---|---|---|---|
| TREATMENT | INDEP OBS | SHARE LEFT | | DIFFERENCE | *p-value* |
| **Baseline** | 22 | 0.5 | | | |
| **Reflection** | 27 | 0.259 | **Reflection vs Baseline** | -0.24 | 0.042 |
| **Ethics (Total)** | 22 | 0.265 | **Ethics vs Reflection** | 0.005 | 0.520 |
| *Ethics 2* | 7 | 0.367 | *Ethics 2 vs Reflection* | 0.097 | 0.307 |
| *Ethics 3* | 7 | 0.19 | *Ethics 3 vs Reflection* | -0.06 | 0.315 |
| *Ethics Chat* | 8 | 0.25 | *Ethics Chat vs Reflection* | -0.009 | 0.478 |
| | | | | | |

We keep for each treatment the numbers of indepedent observations. The p-values result from a one-sided t-test.

Table 5: BELIEFS ABOUT CHOICE SIDE ACROSS TREATMENTS

| TREATMENT | INDEP OBS | FIRST-ORDER PEER BELIEF | | DIFFERENCE | *p-value* |
|---|---|---|---|---|---|
| **Baseline** | 56 | 0.59 | | | |
| **Reflection** | 56 | 0.53 | **Reflection vs Baseline** | -0.06 | 0.078 |
| **Ethics (Total)** | 130 | 0.41 | **Ethics vs Reflection** | -0.12 | 0.000 |
| *Ethics Group 2* | 42 | 0.44 | *Ethics 2 vs Reflection* | -0.09 | 0.029 |
| *Ethics Group 3* | 40 | 0.41 | *Ethics 3 vs Reflection* | -0.12 | 0.006 |
| *Ethics Chat* | 48 | 0.40 | *Ethics Chat vs Reflection* | -0.13 | 0.001 |

| TREATMENT | INDEP OBS | FIRST-ORDER BELIEF | | DIFFERENCE | *p-value* |
|---|---|---|---|---|---|
| **Baseline** | 56 | 0.56 | | | |
| **Reflection** | 56 | 0.55 | **Reflection vs Baseline** | -0.01 | 0.372 |
| **Ethics (Total)** | 130 | 0.43 | **Ethics vs Reflection** | -0.12 | 0.000 |
| *Ethics Group 2* | 42 | 0.45 | *Ethics 2 vs Reflection* | -0.10 | 0.018 |
| *Ethics Group 3* | 40 | 0.43 | *Ethics 3 vs Reflection* | -0.12 | 0.004 |
| *Ethics Chat* | 48 | 0.42 | *Ethics Chat vs Reflection* | -0.13 | 0.001 |

| TREATMENT | INDEP OBS | SECOND-ORDER BELIEF | | DIFFERENCE | *p-value* |
|---|---|---|---|---|---|
| **Baseline** | 56 | 0.59 | | | |
| **Reflection** | 56 | 0.57 | **Reflection vs Baseline** | -0.02 | 0.289 |
| **Ethics (Total)** | 130 | 0.46 | **Ethics vs Reflection** | -0.13 | 0.000 |
| *Ethics 2* | 42 | 0.48 | *Ethics 2 vs Reflection* | -0.11 | 0.002 |
| *Ethics 3* | 40 | 0.44 | *Ethics 3 vs Reflection* | -0.13 | 0.000 |
| *Ethics Chat* | 48 | 0.45 | *Ethics Chat vs Reflection* | -0.12 | 0.000 |

In order to try to size the effect of belief change on risk-taking for other across treatments, we now investigate the determinants of the *"Left"* choice. In particular, we rely on logit regressions where the dependent variable is the individual choice (i.e. a dummy variable equal to 1 if individual played left) while the independent variables are individual big five characterizations, social preferences, and beliefs. More precisely, the big five traits (i.e. Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) were rated on a 5-point Likert scale ranging from 1 (very low) to 5 (very high), while the social preferences (i.e. Prosocial, Costly proSocial, Envy, and Costly Envy) were dummy variables equal to 1 if individual choose Y in Table (3). In addition, to avoid multicollinearity problems among first-order and second-order belief, we create a new variable "Beliefs Difference" which measures the difference between these two variables.

However, as the traditional tests of the equality of coefficients across groups in non-linear regressions are complicated by identification problems (i.e. the residual variation confound the magnitude of the effects, see Long (2009)), we report standardized coefficients. We notice that the main drivers across treatments of choosing left are the beliefs variables. In particular, the coefficient of the "first-order peer belief" is always positve and statistically significant. However, while in the BT the coefficient is 1.198, in the ETMs this effect, although smaller, is still at play. This suggests that a sort of peer-effect is at stake. Therefore, if the decision maker believes that more peers are going to opt for *"Left"*, it is more likely that she also conform to the same decision, trying to get has much as possible from the decision situation. These results are in line with the effects of empirical expectation as studied in Bicchieri (2005); Bicchieri and Xiao (2009). On the other hand, the "Beliefs difference" coefficients suggest that a more complex *justification-effect* involves the relationship between what the decision maker expects from others (non peers) and what she believes about others expectations. The coefficient for belief difference is positive and significant only for the BT and one treatment among the EMT treatments (namely, Ethics 2). Since "Beliefs difference" is positive when the first-order belief is larger than the second-order belief, it is relatively more likely that the decision maker chooses left if she thinks that the expectations of other room participants are lower than her expectations about what participants in the other room are going to play. In intuitive terms, if I believe that the others will misbehave more than what I believe they expect from me, I may feel justified to misbehave. On the contrary, if I believe that the others will behave more ethically, than what I believe they expect from me, I may be more willing to opt for an ethical choice. In this sense, we can consider that the above mentioned justification effect goes together with a sort of guilt aversion in the case of risking for other. Moreover, if we notice that this effect slightly reduces from BT to EMT, we can provisionally conclude that ethic meeting reduces risking for others also by reducing justification effect and/or increasing guilt aversion.

# 5 Conclusions

The results of our experiment confirm the hypothesis that ethic meetings and reflection reduce risk-taking for others. Ethical deliberation and discussion frame the decision by making the decision makers identify the consequences of their decision and decide for the fairer option. The reduction in the frequency of unfair choices is accompanied by a change in first order and second order beliefs. In particular, we observed that, in the treatments with ethic meetings and deliberation, decision makers tend to believe more that others will opt for the fair decision, and alongside believe that others expects the same from them.

Table 6: LOGIT: CHOICE LEFT

| | *Baseline* | *Reflection* | *Ethics 2* | *Ethics 3* | *Ethics Chat* |
|---|---|---|---|---|---|
| **Extraversion** | 0.3511 | 0.4661 | -0.1308 | 0.1144 | -0.2974 |
| | (0.480) | (0.594) | (0.298) | (0.266) | (0.326) |
| **Agreeableness** | -0.6353 | -0.4646 | -0.4336* | -0.1830 | 0.3338 |
| | (0.548) | (0.477) | (0.263) | (0.222) | (0.454) |
| **Conscientiousness** | 0.2221 | -0.2912 | -0.6230* | 0.4613 | -0.1250 |
| | (0.524) | (0.471) | (0.341) | (0.327) | (0.346) |
| **Neuroticism** | 0.2682 | -0.1817 | -0.0409 | 0.1675 | 0.1685 |
| | (0.450) | (0.453) | (0.459) | (0.292) | (0.342) |
| **Openness** | 0.2177 | 0.0016 | 0.0893 | 0.1637 | 0.1789 |
| | (0.522) | (0.513) | (0.280) | (0.202) | (0.299) |
| **First order peer belief** | 1.1982** | 1.4515*** | 0.9744*** | 0.7079*** | 0.8013*** |
| | (0.501) | (0.459) | (0.293) | (0.238) | (0.302) |
| **Beliefs Difference** | 0.8145* | 0.2388 | 0.7183*** | 0.2126 | 0.2573 |
| | (0.436) | (0.421) | (0.257) | (0.507) | (0.325) |
| **Prosocial** | -0.6789* | -0.1224 | -0.5494 | -0.1743 | -0.1934 |
| | (0.394) | (0.321) | (0.361) | (0.258) | (0.371) |
| **Costly prosocial** | -0.0408 | 0.1878 | -0.4818* | -0.6492** | -0.2392 |
| | (0.406) | (0.428) | (0.266) | (0.288) | (0.313) |
| **Envy** | -0.6424* | 0.0404 | -0.1581 | -0.1526 | -0.6967** |
| | (0.384) | (0.444) | (0.325) | (0.264) | (0.296) |
| **Costly Envy** | -0.1975 | 0.3155 | -0.5777 | -0.1212 | 0.0422 |
| | (0.377) | (0.366) | (0.359) | (0.310) | (0.305) |
| **Female** | -0.5156 | 0.5584 | -0.0812 | -0.0268 | -0.0910 |
| | (0.559) | (0.405) | (0.326) | (0.280) | (0.348) |
| **Constant** | -0.0632 | -1.0095*** | -1.3692*** | -1.0197*** | -1.7012*** |
| | (0.358) | (0.382) | (0.367) | (0.215) | (0.360) |
| ll | -25 | -27 | -36 | -59 | -41 |
| N | 56 | 56 | 84 | 120 | 96 |

*p<0.10,** p<0.05, ***p<0.01

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# INSTRUCTIONS: SECOND PHASE

In this game you have to choose between two options: **right** or **left**. Both these options will imply the **rolling of a six-faces dice**. The dice result will have consequences on the money that will be paid to you, and to another participant in the other room, at the end of the experiment.

An ID number will be randomly assigned to each participant. According to this number **each participant in one room will be automatically matched to another participant in the other room**. The number guarantees anonymity during the experiment and afterwards. Participants in one room will be assigned the role of type A player; while participants in the other room will be assigned the role of type **B** player.

At the end of the experiment, in each room, we will pick a card from a card deck. Participants in the room in which a red card will be picked (if two red cards are picked we go on with another draw) will be assigned the role of B player; the role of A player will be assigned to all participants in the other room. Payments will be determined in both rooms according to **B** choices, in the selected room.

Each participant in this room have to decide, only once, whether to play the right option or the left option. Participants in the other room will do the same.

In case you choose **right and you are assigned the B role**:

- **If the dice result is 1**: you will get 6 and the A player will get 0.
- **If the dice result is different from 1**: you will get 6 and the A player will get 6.

In case you choose **left and you are assigned the B role**:

- **If the dice result is 1**: you will get 16 and the A player will get 6.
- **If the dice result is different from 1**: you will get 6 and the A player will get 0.

**In case you are assigned the A role** the payment you will get will depend on the choice made by the player in the other room.

The payoffs are summarized in the following table:

| | LEFT | | RIGHT | |
|---|---|---|---|---|
| **Dice result** | **PAYOFF FOR A** | **PAYOFF FOR B** | **PAYOFF FOR A** | **PAYOFF FOR B** |
| NUMBER 1 | 6 | 16 | 0 | 6 |
| NUMBER DIFFERENT FROM 1 | 0 | 6 | 6 | 6 |

**Before choosing, we invite you to discuss for 4 minutes with the participant seated next to you "the consequences that your decision will have on the A player and on the B player"** (but only with him/her). You can also discuss with him/her your intentions regarding the decision whether to play right or left. At the end of the discussion you will have to make your choice, right or left. Notice that this final choice will be private and anyone, including your discussion mate, can see it.

At the end of the experiment, the dice result and the result of the first phase of the experiment will be displayed on your screen. You will eventually be asked to fill a questionnaire.

We remind you that your participation will remain anonymous to other participants and to the experimenter. Your payment will be implemented by referring to the randomly assigned ID number which will appear on your screen.

You have now 4 minutes to read again carefully these instructions. During this time, if you have questions please rise your hand and we will personally answer you. After these 4 minutes, you can discuss with the participant seated next to you for other 4 minutes.

Thanks for your participation.

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