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Reacting to Unfairness: Group Identity and Dishonest Behavior

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Abstract

Employees' misconduct can be attributed to experiences of unfairness. Does this dishonest reaction change when employees identify with the whole organization or with a subunit only? We experimentally investigate whether individuals are more likely to engage in dishonest behavior after having experienced unfairness perpetrated by a peer with a salient group identity. Two peers generate an endowment together, but only one can decide how to share it. They either share the same group identity or have distinct group identities. Then, they approach a task in which they can opportunistically engage in dishonest behavior. Our results show that when peers share the same group identity, unfair distributive decisions do not trigger a dishonest reaction. In contrast, when different group identities coexist, dishonest behavior is observed as a reaction to unfairness.

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1 Introduction

The general press often reports episodes of dishonest conduct within organizations: employees claiming extra days of leave, stealing or misusing inventory, overreporting working hours. These are only a few examples of small acts of dishonest actions which cost huge losses to organizations (Mazar & Ariely, 2006). Given the economic relevance of the consequences of such a behavior, scholars from psychology and economics have extensively examined their driving factors and the potential tools for limiting them. Individuals might decide to engage in dishonest behavior when they are given the opportunity. They might decide to take advantage of contexts in which the probability to be detected is low, but they might also prefer to give up the additional profit when this is associated to a violation of moral rules. These decisions have been widely investigated in the literature, as we review in the dedicated session. But individuals can also opt to behave dishonestly as a reaction to decisions made by other peers. When employees perceive decisions to be unfair, they become more willing to engage in dishonest conduct, viewed as a way to balance perceived unfairness (Hollinger & Clark, 1983). An employee might be unable to sanction an unfair peer and attempt to restore fairness by increasing dishonest conduct at cost of the organization.

Organizations are communities of individuals that rely on the establishment of a culture that regulates social interactions. Managers can promote the diffusion of a corporate culture with the aim of making employees share the same goals and values. Prior research shows that corporate culture is crucial to foster employees' sense of identification in the organization and to boost employees' productivity and commitment toward the organization (Akerlof & Kranton, 2005). But there are also potential drawbacks to high levels of organizational identification. First, the establishment of a strong group identity might promote tolerance towards unfair behavior to not undermine the positive perception of the group to which belonging.

Second, modularity in the organizational structure might encourage the development of "local" identities with different values and goals. Therefore, between-units decisions might not be equally embraced across the organization. The establishment of diverse group identities within the same organization might allow the diffusion of costly reactions to decisions made by a peer belonging to a different unit when these are perceived unfair. It is hard to justify unpopular decisions made by a peer with different values and goals; therefore, dishonest conduct is likely to emerge to restore fairness at cost of the whole organization.

As these example suggest, instead of limiting dishonest conduct, organizational identification might foster it when corporate culture is not equally shared by subunits and divisions. In our study, we specifically investigate the decision to react dishonestly against the organization after experiencing a peer's unfair action, and the extent to which this decision is mediated by different types of a peer's group identity. We depict the typical organizational context in which the probability to detect employees' dishonest conduct is low. We address how one's decision to behave dishonestly (e.g., taking advantage from misreporting) is driven by unfair decisions made a peer who shares the same or a different group identity.

Throughout the study, we adopt the concept of *fairness-restorative* dishonest behavior to identify the reaction to unfairness caused by a peer at the expenses of the organization. Individuals might engage in dishonest conduct when they are given the opportunity to increase their material well-being. However, they might be even more willing to act dishonestly when they experience unfair decisions they cannot tolerate.

We investigate how group identity enters the way unfairness is tolerated and, therefore, how it mediates *fairness-restorative* dishonest behavior. We mimic the scenario in which two employees work for the organization, but only one has the power to distribute wages. If the least powerful employee perceives the distribution as unfair, she might be willing to restore fairness. Since she has no power to restore fairness by directly punishing the

counterpart, she might increase her dishonest conduct which is costly to the organization. In our experiment, participants are paired in couples and receive a payoff based on the counterpart's decision in a real-effort dictator game, an ideal setting to impose unfairness on recipients and to induce a shared view of fairness across participants. In particular, prior studies show that dicators allocate unfairly even when they agree on which is the fair allocation (Konow, 2000; Dengler-Roscher *et al.*, 2015) and that the act of exerting effort elicits a shared view of fairness in the proportionality principle (Cappelen *et al.*, 2014). Then, participants are given the opportunity to increase their payoff by engaging in a self-report task which is costly to the experimenter but not to the counterpart. In the baseline condition, participants in the couple are only labelled as recipient and dictator. In the *IN* condition, participants in the couple know that they share the same group identity. In the *OUT* condition, participants in the couple identify with two different groups. To induce group identification, we rely on a modified version of Tajfel *et al.* (1971)'s minimal group paradigm. This way, we investigate recipients' degree of dishonest reactions to dictators' decisions when group identity varies.

Our results show that dishonest conduct is not affected by perceived unfairness when peers share the same group identity. On the other hand, dishonest conduct is significantly affected by unfair decisions made by peers with a conflicting group identity. Thus, allowing for the coexistence of diverse group identities leads individuals to be more sensitive to unfair decisions made by their peers and to react by increasing their dishonest conduct to restore fairness.

Additionally to highlighting a novel mechanism underlying dishonest behavior, our study is of practical relevance to organizations characterized by a decentralized structure. For example, organizations which fail to develop a shared corporate culture across divisions are at risk of costly misconduct by employees who cannot tolerate decisions made by peers from divisions they find hard to identify with. For these organizations, it might

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be preferable to promote the diffusion of one identity by favoring the interaction between employees from different units and subgroups.

The paper is organized as follows. In Section 2 we review the relevant literature and we derive the behavioral hypotheses. In Section 3 we describe the experimental design. Results are presented in Section 4. Section 5 concludes.

2   Relevant Literature and Hypotheses

For being substantially costly to organizations, dishonest behavior has received increasing attention by scholars from psychology and economics. The standard economic approach to dishonesty has been shaped by the strict consequentialist logic put forward by the seminal contribution of Becker (1968): people cheat only when the expected benefits of dishonest behavior (e.g., a promotion) outweigh its expected costs (e.g., losing the job). Experimental evidence shows that the decision to behave dishonestly to maximize earnings is, in fact, influenced by contexts poor of monetary or reputation sanctions (see, among others, Fischbacher & Föllmi-Heusi, 2013; Ploner & Regner, 2013). However, recent research in economics has shown that dishonest behavior is not only driven by expected consequences (Gneezy, 2005; Mazar *et al.*, 2008; Erat & Gneezy, 2012; Abeler *et al.*, 2014), but also by history and context (Gino & Pierce, 2010b; Houser *et al.*, 2012; Shalvi *et al.*, 2015a).

Employees are routinely affected by distributive decisions made by other peers who work for the same organization. They work with the aim of gaining a wage that best reflects their effort. But when a peer's choice is perceived as unfair, employees try to restore fairness by indulging in dishonest conduct at cost of the whole organization. This is especially true when the employee has no power to react by directly punishing the unfair peer. For example, Greenberg (1990) shows that when employees experience unjustified wage cuts, they engage in inventory theft. According

to Ambrose *et al.* (2002), when people perceive income distributions as unfair, they engage in sabotage behavior in the attempt to restore equity.

Contextual elements seem to play a fundamental role in shaping fairness perceptions. In particular, they are influenced by the underlying allocation process and the idiosyncratic features of those affected by that allocation (Konow, 2003). Other studies (Gino & Pierce, 2009, 2010a,b; John *et al.*, 2014) report that individuals perceive unfairness in wealth disparities due to different initial endowments and different pay-schemes.

A few studies investigated dishonest behavior as a consequence of experiences of unfairness. In the context of a bargaining game, Ellingsen *et al.* (2009) report that individuals increase their dishonest behavior after experiencing negative actions from their counterpart. In this study, dishonest behavior is costly to the counterpart. Similarly, Alempaki *et al.* (2016) investigate deception as a reciprocity device when individuals experience unkind actions from their counterparts in a dictator game. Houser *et al.* (2012) investigate the decision to cheat after individuals participate in a dictator game. In their experiment, cheating is costly to the experimenter. Our study extends Houser *et al.* (2012)'s setting. We investigate the decision to engage in dishonest behavior which is costly to the experimenter. This way, we mimic the situation in which the least powerful employees are not able to react to unfairness by directly punishing the unfair peer, but their dishonest conduct is unlikely to be detected by the organization. We add to this stream of research by examining how a salient group identity affects the extent of tolerance of unfair actions made by a peer. Employees might be more willing to tolerate unfair decisions when they are made by peers from the same group. This intuition, motivating our research, originates in *Social Identity Theory (SIT)* (Tajfel *et al.*, 1971; Turner, 1985), wherein individuals aim to preserve a positive image of their group members because this is part of their own identity.

Shared group identity has been widely recognized as a means for reducing agency problems and enhancing virtuous behaviors in organizations

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(Akerlof & Kranton, 2000, 2005, 2008). A bunch of experimental studies show that individuals tend to cooperate more when interacting with others sharing the same group identity (in-group) (Eckel & Grossman, 2005; McLeish & Oxoby, 2011; Weng & Carlsson, 2015). In contrast, when interacting with members of other groups (out-group), individuals display less cooperation (Charness & Jackson, 2007; McLeish & Oxoby, 2007), coordination (Chen & Chen, 2011; Chen *et al.*, 2014) and other-regarding preferences (Chen & Li, 2009). SIT provides a general framework to understand the roots of such inter-group discrimination. When group identity is made salient, the perception of our self-concept changes and also our behavior changes accordingly: we tend to favor the members of our group, while discriminating against those who belong to another group (Balliet *et al.*, 2014).

Studies by Kollock (1998); Goette (2006) and Chen & Li (2009) find that individuals tolerate ingroup unfairness more than outgroup one. In contrast, McLeish & Oxoby (2007, 2011) and Weng & Carlsson (2015) find that ingroup unfairness breeds stronger punishment than outgroup unfairness. Similar to these studies, ours investigates situations in which tolerance of unfair decisions might be mediated by group identity. However, our specific focus is not on reactions against the unfair counterpart, such as second-party punishment, but on a type of reaction that creates negative externalities: *fairness-restorative* dishonest conduct.

As a measure of fairness of a peer's behavior, we refer to the proportionality between the amount contributed in the real-effort DG and the amount claimed by the dictator: the closer the amount claimed to the amount contributed, the higher the degree of fairness. Proportionality between inputs and outputs is at the cornerstone of equity theory (Adams, 1965; Homans, 1958; Walster *et al.*, 1973) and of the accountability principle (Konow, 1996). In the following, we refer to this concept of fairness as the *proportionality principle*.

To outline our predictions, we exploit the similarities between the ex-

periment by Houser *et al.* (2012) and our baseline condition in which no group identity is made salient. In the light of the finding by Houser *et al.*, we predict that individuals are more likely to indulge in dishonest behavior when a peer's behavior is perceived as unfair. This prediction represents the benchmark against which we assess behavior when group identities are made salient. Thus, we expect to observe spillovers between peer's behavior and dishonest conduct. Concerning the conditions in which group identity is made salient, we expect spillovers observed in the baseline condition to be strengthened by conflicting group identities (OUT). Violations of norms from an outgroup member are difficult to be tolerated and justified (Chen & Li, 2009).

Prediction 1. *OUT-group*
The stronger the violation of the proportionality principle by an outgroup individual, the higher the likelihood to engage in dishonest behavior.

When individuals share the same group identity (IN), we expect to observe a different pattern. In order to preserve positive beliefs about the group to which they belong and, thus, to avoid suffering from cognitive costs, individuals may increase their tolerance to unfair decisions made by a group member. Experiencing unfair decisions made by a group member is likely to prompt self-deception about the real nature of the offer. In particular, individuals interpret unfairness generated within the group through a mentalizing bias (Baumgartner *et al.*, 2013). This leads to the following prediction

Prediction 2. *IN-group*
The degree of violation of the proportionality principle by an ingroup individual does not affect the likelihood of engaging in dishonest behavior.

In the next session, we describe the experimental design we adopted to test our hypotheses.

3 Method

Our experiment is designed to investigate dishonest behavior as a device to restore fairness when different group identities are salient. At this aim, we rely on the minimal group paradigm (MGP) (Tajfel *et al.*, 1971). We conduct three variants of group identity. In particular, we vary whether no group identity is salient ($BASE$), whether individuals share the same group identity (IN), and whether individuals do not share the same group identity (OUT).

Participants were recruited to the laboratory in even groups. In all conditions, they were presented with a real-effort task. In the IN and OUT conditions, participants completed a task aimed to manipulate group identity. Then, participants faced a dictator game aimed at distributing an endowment based on the earnings from the real-effort task. Finally, participants were asked to self-report a number which allowed them to increase their final earnings.

The experiment was programmed and conducted using z-Tree software (Fischbacher, 2007).[1] Upon their arrival to the laboratory, participants were randomly allocated to cubicles and asked to privately read the instructions.[2] A member of the staff read aloud the instructions and answered doubts about the experimental procedure. Before starting the experiment, participants had to answer six control questions checking their understanding of the instructions. Participants received on average €9.50 in addition to a show-up fee of €3. Each session lasted on average 1 hour and 30 minutes.

A total of 192 students took part in the experiment. 64 were assigned to the IN condition and 68 to the OUT condition. The remaining 60 participated to the Baseline condition. In all three conditions half participants were randomly assigned to the Dictator role and the other half to the Re-

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[1]Screenshots from the experiment are available in the Appendix.
[2]A translated copy of instructions is available in the Appendix.

cipient role.

3.1 Stage 1: Real-Effort Task

In the first stage, participants were presented with a task that generates a part of their final earning. The task is a modified version of Gill & Prowse (2012)'s real effort slider task. Participants were asked to position a set of sliders at a correct location on the screen, within 240 seconds. Sliders were presented in blocks of 6, with correct locations randomly defined by the computer. Before starting, all sliders were randomly aligned, to avoid visual learning effects. Participants generated €1 for each block correctly solved.

We adopted this procedure to ensure that participants shared the same perception of fairness. Evidence suggests that the mere act of exerting effort leads individuals to perceive fairness in proportional distributions (Cappelen *et al.*, 2014). While Houser *et al.* (2012) endow dictators with windfall money, we designed this task to prime shared perceptions of fairness in proportional distributions. Throughout the study, we refer to Konow (1996)'s definition of fairness (i.e., *equity* (Adams, 1965; Homans, 1958; Walster *et al.*, 1973)) as the *proportionality principle*: a fair distribution is one proportional to the variables that affect production and that individuals can control (i.e., work effort).

3.2 Stage 2: Group Identity

Participants in *IN* and *OUT* conditions were presented with a task based on the MGP. This task enables to make salient a group identity. First, participants were asked to guess a number $\in \{1,2,...,99\}$ randomly drawn by the computer. According to their guess, they were either allocated to one color group (Red) or to another color group (Yellow). Specifically, those whose guess was closer to the randomly drawn number were assigned to one group and those who were farther to another group. Participants were

only told that those in their color group were matched according to the similarity criterion just presented.[3] Second, to strengthen "common fate" feelings - a major constituent of group identity - we asked participants to take part in a collective task.[4] Subjects were shown a screen containing a set of unordered pieces of words and were asked to combine them to form a proverb. Participants received an additional €1 if their color group was the fastest in completing the task. To determine which of the two groups was the fastest, individual time records of those in the group were summed up. To test the effectiveness of group identity manipulation, participants were asked to evaluate their perception of similarity with participants affiliated to the same and the other color groups. Answers were reported both on a Likert scale and in a self/other task similar to that adopted by Sani *et al.* (2007).

In the *BASE* condition, participants only played the proverb task and they were told that they had the opportunity to win an additional €1 in the case they were among the fastest half of session participants. All references to group colors were omitted.

3.3 Stage 3: Dictator game

In the third stage, each participant was randomly assigned to either the role of dictator or that of recipient and paired with another participant in the other role. Those assigned to the *IN* condition were informed that they belonged to the same group (Red/Red or Yellow/Yellow). Participants assigned to the *OUT* condition were informed that they belonged to different groups (Red/Yellow or Yellow/Red). In these conditions, both

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[3]We did not disclose to participants whether they belonged to the closer or farther group to avoid possible entitlement feelings among those guessing better. Furthermore, we chose a trivial task to avoid potential biases in group composition when the discrimination criterion correlates with unobservable features.

[4] In contexts where group identity is imposed on existing one, as it happens in the laboratory, the salience that commonly categorized individuals are homogeneously treated helps identification (Kramer & Brewer, 1984).

players shared common knowledge of group membership. Participants assigned to the *BASE* condition were only informed about their roles. The dictator was asked to allocate between herself and the other the sum that they generated in the *Earnings* stage, which was also of common knowledge by both players.

Our modified dictator game is the ideal setting to induce dictators to make unfair decisions against recipients. Previous studies on allocation choices document that individuals claim more than what they earned when they have a personal stake in the decision outcome (Konow, 2000; Cherry *et al.*, 2002), although they recognize that proportional claims are the fair ones (Dengler-Roscher *et al.*, 2015). Therefore, by claiming nonproportional offers of a co-produced outcome, dictators force recipients into an experience of unfairness.

3.4   Stage 4: Questionnaire

The *Questionnaire* stage consists both of non-incentivized self-reported answers and of incentivized answers. For what concerns the former, we asked participants to answer a survey about subjective perceptions of fairness in the allocation task and socio-demographic characteristics. For the latter (*Social Norm Task*), we asked participants to rate in terms of social appropriateness a hypothetical scenario similar to the one they experienced in the dictator game exploiting a task based on Krupka & Weber (2013) [5]. This way, we obtained a measure of the shared perceptions of fairness across participants.

Finally, we provided participants with a self-report task apt to elicit dishonest behavior via untruthful reports (*Dishonesty task*). Previous studies elicited dishonest behavior by looking at self-reported task score (Mazar *et al.*, 2008; Cadsby *et al.*, 2010) or at outcomes of a random event (Buc-

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[5]In Krupka & Weber (2013) the group of subjects answering the question was different from the group of subjects that played the dictator game.

ciol & Piovesan, 2011; Houser *et al.*, 2012; Fischbacher & Föllmi-Heusi, 2013; Ploner & Regner, 2013). We elicited dishonest behavior with a novel method similar to that of Gill *et al.* (2013). They asked subjects to report the last digit of their best friend's number to obtain a more precise distribution of dishonesty degree. We asked to self-report the last digit of the last call they made being aware that they are going to earn €0.50 times the number reported (i.e., maximum earnings are obtained when the last call ends with 9).[6] While participants were free to report the value without any control from our side, we invited them to check the call list on their mobile phone. This way, we reduced any potential contextual ambiguity that may lead individuals not to perceive that they are lying (Shalvi *et al.*, 2015b).

4   Results

We first analyze dictators' allocation choices and provide an assessment of shared perceptions of fairness among participants. Then, we present results of the dishonesty task and a regression analysis inquiring about determinants of dishonest behavior.

4.1   Fairness

Figure 1 provides a joint representation of claims by the dictators in the *Dictator game* and outcomes in the *Real-Effort* task, in each of the experimental conditions separately.

As the graphs show, dictators' claims largely violate the proportionality principle, with most of the observations lying above the 45° line. This is confirmed also by the intersection between average claims and average contributions, well above the proportionality line in all conditions.

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[6]The exact payoff rule was presented only in the screen of the computer in concomitance to the task

Figure 1: Dictators: Contributions and Claims
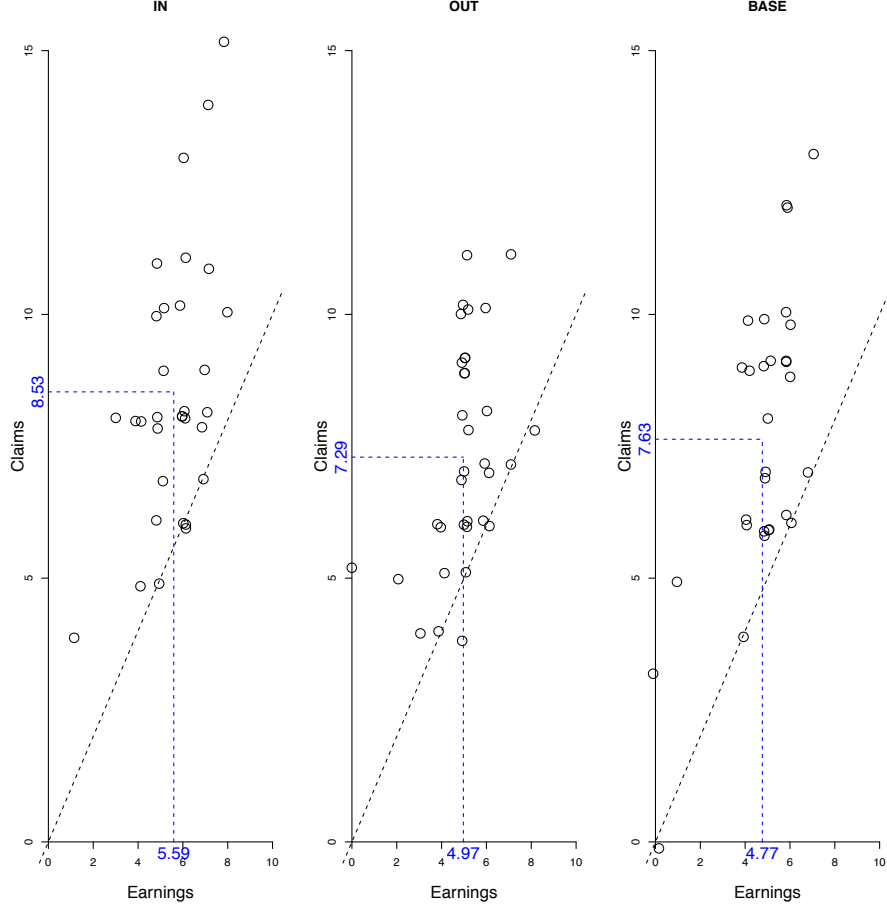
On the x-axis (Earnings), the amount earned in the slider task. On the y-axis (Claims), the amount claimed in the DG. Points above (below) the 45° line identify claims larger (smaller) than the amount contributed. Average values are reported along the axis. To improve visualization, a small random noise is added to the graph.

As a measure of the opportunistic stance of dictators, we compute the share of resources of the other appropriated by the dictator. This index of deviation from proportionality is computed as $\phi = \frac{\pi_D - e_D}{e_R}$, where π_D is the actual payoff claimed by the dictator, e_D is the amount earned by the dictator and e_R is the amount earned by the recipient.

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Table 1: Violation of proportionality

	Median	Mean	SD	N
IN	0.464	0.518	0.364	32.000
OUT	0.400	0.388	0.404	33.000
BASE	0.500	0.541	0.356	28.000

The proportionality index is computed as the amount of other's earnings appropriated relative to other's earnings ($\phi = \frac{\pi_D - e_D}{e_R}$). When $\phi = 0$, the allocation is fully in line with the proportionality principle. When $\phi > 0$, an opportunistic violation of the principle is detected.

As Table 1 shows, the largest average (median) violation is observed in condition BASE, followed by IN and OUT. In all conditions the deviations are significantly larger than zero according to a Wilcoxon Signed Rank Test (all p-values < 0.001). A series of Wilcoxon Rank Sum Tests shows that differences across experimental conditions are not statistically significant (all p-values > 0.125).

Dictators largely violate the proportionality principle and appropriate a considerable amount of resources generated by their counterpart. No significant differences in the degree of violation of the proportionality principle are observed across group conditions.

4.2 Perceptions of Fairness

Table 2 provides a representation of the shared perception of fairness in the population, as collected in the *Social Norm* task. Participants are presented with a scenario resembling the allocation task of the experiment and asked to assess the degree of social acceptability of each potential allocation.

As the table illustrates, the allocation deemed as the most acceptable is the one reflecting proportionality (1|5), with an average of 0.420. Interestingly, the equitable splitting 3|3 is judged more acceptable than the allocation 2|4, despite the latter being closer to the proportionality allocation. All other allocations are judged, on average, unacceptable.

Table 2: Perceptions of fairness

Allocation	Average	Freq (%)			
		$--$	$-$	$+$	$++$
0|6	-0.312	41.1	25.0	23.4	10.4
1|5	**0.420**	**10.4**	**18.8**	**18.2**	**52.6**
2|4	0.250	3.6	17.7	66.1	12.5
3|3	0.299	4.7	22.4	46.4	26.6
4|2	-0.295	22.9	51.0	23.4	2.6
5|1	-0.671	62.0	30.2	4.2	3.6
6|0	-0.861	88.0	6.80	1.6	3.6

The column Allocation reports potential allocations to two individuals, with 1|5 being the allocation respecting the proportionality principle (bold font). Participants face four assessments for each allocation: "Very unacceptable" ($--$), "Quite unacceptable"($-$),"Quite acceptable"($+$) and "Very acceptable" ($++$). Frequency of choice for each of the assessment is reported in the table (Freq %). Similarly, to Krupka & Weber (2013), the column "Average" is computed by assigning values -1, -1/3, 1/3, and 1 to the evaluations of acceptability of the allocation in increasing order of acceptability.

Table 3 reports self-reported measures about the perceived fairness of dictator's choices. Larger values capture a stronger perception of fairness.

As Table 3 shows, dictators perceive their choices as fairer than the matched recipient, across all conditions and questions. To test whether perceptions statistically differ, we compute the average at the individual level of the answers to the three questions. When comparing average perceptions of dictators and recipients, a statistically significant difference is observed for condition BASE and IN (Wilcoxon Rank Sum test, both p-values $<$ 0.013), while a marginally significant difference is observed in condition OUT (Wilcoxon Rank Sum test, p-value = 0.051). When comparing averages across conditions given the role, no statistically significant differences are observed (Wilcoxon Rank Sum test, all p-values$\geq$ 0.110).

To gain insights into the source of feelings of fairness, we compute correlations between average feelings of fairness in the statements of Table 3 and the proportionality index of Table 1 (Spearman's rank correlation).

Table 3: Perception of fairness

Mean(SD)	Dictator	Recipient
	BASE	
Fair	4.133 (2.145)	3.100 (2.369)
Fair|Outcome	3.600 (2.078)	2.633 (2.312)
Fair|Effort	3.800 (1.864)	2.367 (2.042)
	IN	
Fair	4.625 (1.963)	3.125 (2.366)
Fair|Outcome	4.500 (2.125)	2.688 (2.132)
Fair|Effort	4.875 (1.930)	2.375 (1.963)
	OUT	
Fair	3.971 (2.249)	3.353 (2.650)
Fair|Outcome	3.824 (2.355)	2.882 (2.459)
Fair|Effort	3.941 (2.074)	2.676 (2.371)

For dictators (recipients), the row labelled Fair *refers to the statement "I feel that I treated the other fairly" ("I feel that the other treated me fairly"). The row* Fair|Outcome *refers to the statement "I feel that I treated the other fairly given the outcome in the slider task" ("I feel that the other treated me fairly given the outcome in the slider task"). The row* Fair|Effort *refers to the statement "I feel that I treated the other fairly given the effort in the slider task" ("I feel that the other treated me fairly given the effort in the slider task"). Answers are collected on a Likert scale 1–7, with 1 meaning "I totally disagree" and 7 meaning "I totally agree".*

We expect to observe a negative correlation between the index capturing violations of proportionality and perception of fairness. The strongest correlation is observed for the dictators in condition OUT (ρ =-0.830), while the lowest correlation is observed for dictators in condition IN (ρ =-0.418).

When evaluating the fairness content of their actions, dictators seem to adhere to a mentalizing bias aimed at reducing the cognitive dissonance originating in the discrepancy between the—generally acknowledged—fairness norm and the actual—generally selfish—behavior. Accordingly, dictators perceive their actions as fairer than what perceived by their counterpart.

Furthermore, dictators in condition IN display a weaker sensitivity to violations of proportionality in terms of fairness perception. Shared group identity would call for fair behavior and when this does not happen, dictators may reduce their discomfort by re-assessing the fairness of their behavior.

4.3 Dishonesty

Figure 2 shows a description of behavior in the dishonesty task embedded in the questionnaire. Larger numbers are associated to higher gains.

As the figure shows, the distribution of reported values is negatively skewed, with the mass of the distribution shifted towards higher values and a spike at the highest admitted value. A series of $\tilde{\chi}^2$ tests confirms that reported values are not uniformly distributed (all p-values< 0.038). The tendency to self-report high numbers is testified also by averages of the distributions, with values ranging from 6.233 (Recipients, BASE) to 7.206 (Recipients, OUT). The central tendency of the distributions is significantly larger than the expected average value of 4.5, in all three conditions and for both roles (Wilcoxon Signed Test, all p-values < 0.001).

A comparison of the distributions across experimental conditions for each role shows that there are no significant differences in the central tendencies of the distributions (Wilcoxon Rank Sum Test, all p-values > 0.253).

Participants dishonestly manipulate reported numbers to increase their earnings. At the aggregate level, experimental conditions do not affect participants' degree of dishonesty.

4.4 Is dishonesty influenced by unfair decisions?

We predict that recipients' dishonest behavior is affected by unfair decisions conditional on dictator's group identity. Therefore, we look at the relationship between reported values and allocations across group conditions and

Figure 2: Self-reported numbers
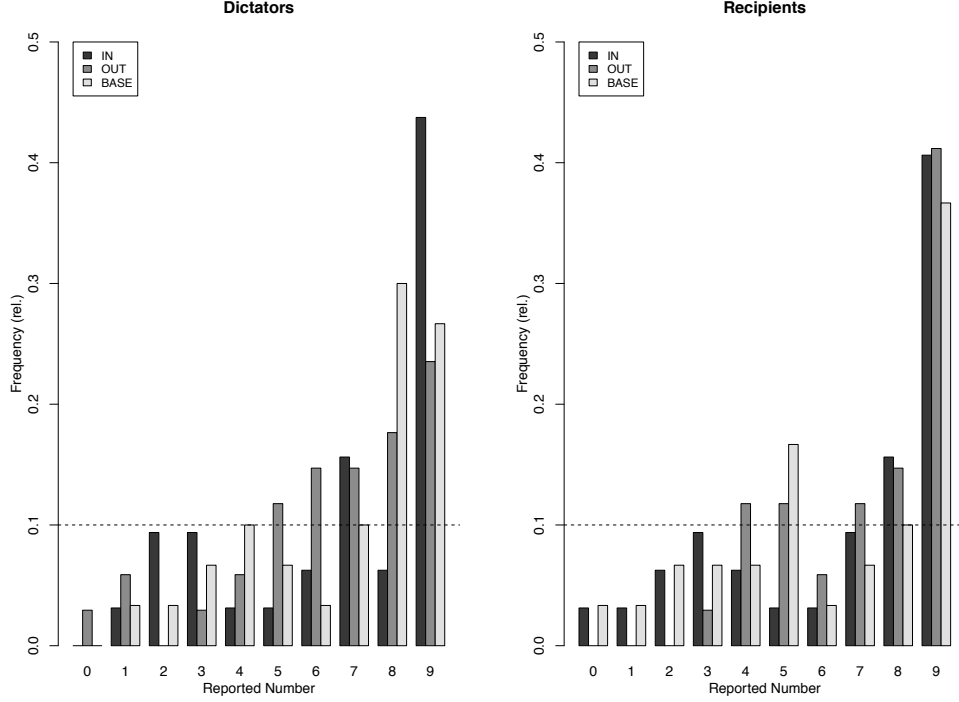
Self-reported last digit number of the last phone call made by dictators (leftward panel) and recipients (rightward panel), in each of the three experimental conditions separately. The dashed horizontal line provides a reference for the ideal uniform distribution of values. To improve visualization, a small random noise is added to the graph.

roles.

Figure 3 shows that for dictators, a positive correlation between unfairness and reported values is registered in all conditions, though the relation is not statistically significant (Spearman's rank correlation, all p-values$\geq$ 0.113). For the recipients, a negative and slightly positive correlation is observed in BASE and IN, respectively. However, these correlations are not statistically significant (all p-values $\geq$ 0.581). In contrast, in con-

Figure 3: Self-reported numbers and unfairness
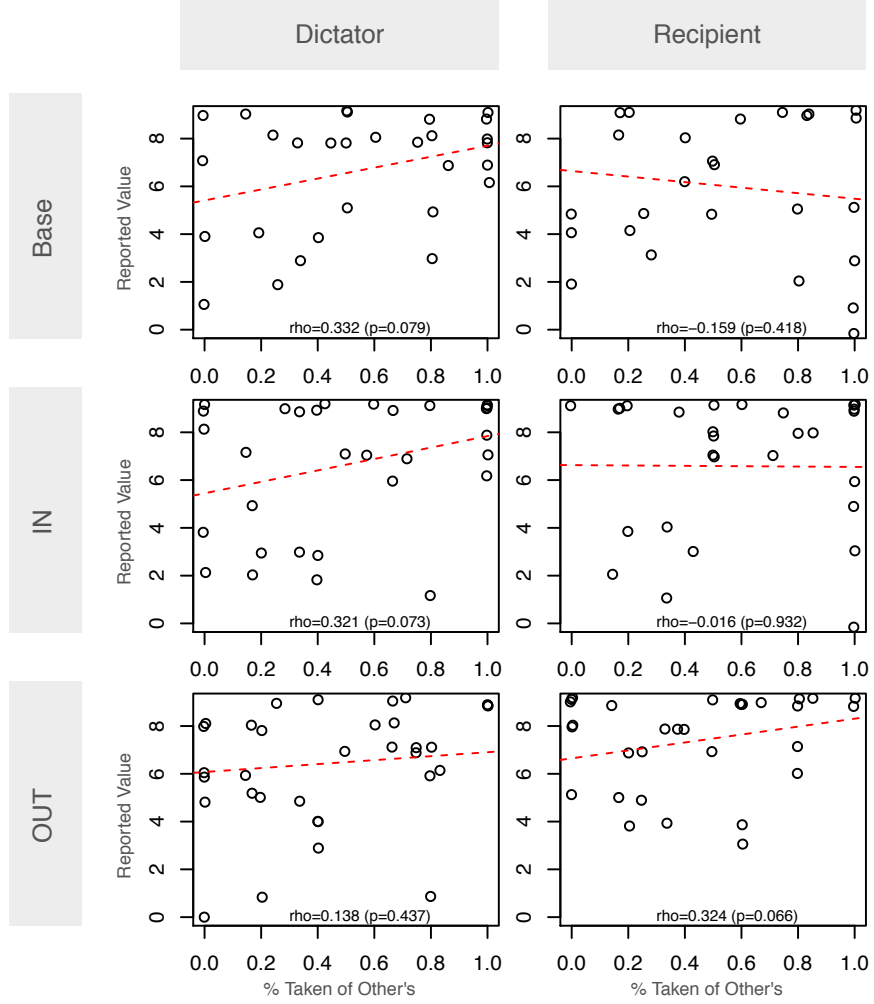
On the x-axis, the proportionality index $\phi = \frac{\pi_D - e_D}{e_R}$. On the y-axis the value reported in the Dishonesty task. For dictators, higher values on the horizontal axis imply more unfairness favoring them. Conversely, for recipients higher values on the horizontal axis imply more unfairness damaging them. In each panel, a Spearman's rank correlation ρ is presented.

dition OUT a positive and marginally significant correlation is observed (p-value=0.080).

To address the causal relationship between unfairness and dishonest conduct given different types of salient group identity we run a regression model. Table 5 reports on the outcomes of a regression estimate about determinants of dishonest behavior of those acting as recipients in the *Dictator game*. The dependent variable *Reported.value* is given by the integer reported in the dishonesty task described above.[7] When reports are truthful, the dependent variable and explanatory variables are orthogonal. When this is not the case, we obtain evidence of distorted behavior.

Among explanatory variables, we have dummy variables controlling for group identity conditions: IN is equal to one when the recipient belongs to the same group and zero otherwise; OUT is equal to one when the recipient belongs to the other group and zero otherwise. BASE is the baseline condition.

We enrich the model with fairness-related variables: the proportionality index ϕ (*prop.index*, see Table 1) of matched dictator's choices and the extent according to which proportionality is perceived as appropriate in the *Social Norm* task (*prop.norm*, see Table 2). The interactions between the fairness-related variables and the group experimental conditions are also added. Finally, we consider a few control variables: *report.time* (the time in seconds required to report the value); *age*; *female*, and *civic.score* (a categorical variable of individuals' participation to collective activities, such as political parties and NGOs).

As Table 5 shows, our explanatory variables cannot systematically explain the value reported. The only exception is observed for the interaction term between *prop.index* and OUT. Both Model (2) and (3) show that in condition OUT a stronger violation of proportionality by the dictator positively impacts on the reported value. This does not happen in BASE and

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[7] We employed an Ordered Probit model to account for the heterogeneous attitude individuals display when they report increasingly high values. Particularly, the difference between 4 and 5 (i.e. mild dishonesty) is conceptually different from the difference between 8 and 9 (i.e. brazen dishonesty).

Table 4: Recipients' self-reported values (Ordered Probit regression)

	(1) rep.value	(2) rep.value	(3) rep.value
prop.index	0.011(0.249)	-0.57(0.543)	0.648(0.545)
prop.norm	-0.187(0.244)	-0.637(0.489)	-0.681(0.493)
IN		-0.365(0.645)	-0.466(0.65)
OUT		-0.781(0.671)	-0.725(0.673)
prop.index $\times$ *IN*		0.427(0.645)	0.559(0.667)
prop.index $\times$ *OUT*		1.486(0.489)*	1.60(0.769)**
prop.norm $\times$ *IN*		0.352(0.628)	0.374(0.639)
prop.norm $\times$ *OUT*		0.837(0.647)	0.689(0.659)
report.time			0.00398(0.007)
female			-0.2689(0.249)
age			-0.0144(0.045)
civic.score			0.013(0.111)
Observations	93	93	93

Standard errors in parentheses

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

An Ordered Probit regression model is adopted to account for the different attitude individuals display when they report increasingly high values. Significance symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

IN. [8]

The regression analysis shows that experiencing higher unfairness does not induce more dishonest behavior, in general. Only in condition OUT, when dictators and recipients belong to different groups, dishonest behavior significantly increases to restore fairness.

5   Conclusions

In this study, we investigated dishonest behavior as a way to restore fairness when different types of unfair peers' group identity are salient. We ran a laboratory experiment to mimic the situation in which two employees work for the same organization but only one can control the joint allocation of rewards. In this situation, the employee facing unfairness cannot directly react against the unfair peer, but she can react opportunistically against the organization, without any credible threat of being sanctioned. We find that unfair peers' group affiliation significantly affects the likelihood of undertaking dishonest behavior to restore fairness, with conflicting group affiliations fostering fairness-restorative dishonest behavior.

To investigate dishonest behavior as a reaction to unfairness we needed to ensure that participants shared the same perception of fairness. Consistent with previous research (Cappelen *et al.*, 2014), we find that the real-effort task was effective to prime perceptions of fairness in the proportionality principle. This was confirmed by responses to the *Social Norm task*.

Crucial for addressing our hypotheses was designing a setting that allowed recipients to experience unfair decisions. Consistent with previous findings (Konow, 2000; Dengler-Roscher *et al.*, 2015), we observed that dictators allocated to themselves more than what they believe is fair. Across all group conditions the index of proportionality revealed that allocations

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[8]Results are confirmed by a Tobit model to account for potential censoring in the data from the dependent variable - bounded between 0 and 9.

were self-oriented. Therefore, our modified dictator game was an effective setting to impose experiences of unfairness on recipients and to prepare a propellant for *fairness-restorative* dishonest behavior.

Consistent with previous research on dishonest behavior, we find that individuals behave dishonestly to increase their earning when they are given the opportunity (Fischbacher & Föllmi-Heusi, 2013; Ploner & Regner, 2013). Although across all conditions responses to the survey on perceptions of experienced unfairness confirmed that recipients acknowledged that dictators allocated unfairly, dishonest behavior increases only when individuals experience unfair decisions made by an out-group member. Regression results suggest that group identity enters the way unfairness is tolerated and, thus, moderates *fairness-restorative* dishonest conduct. Recipients were more willing to engage in dishonest behavior to restore fairness after experiencing unfair decisions made by an outgroup member. Alternatively, unfairness was irrelevant to purge dishonest behavior when recipients received unfair allocations from an ingroup member or from a dictator without a specified group identity.

Why should recipients react to unfairness when they are matched with an outgroup while refraining from the attempt to restore fairness when they are matched with an ingroup or with a stranger? The explanation lies at the roots of SIT. Conditional on which group identity is salient, individuals engage in different mentalizing processes of the norm violation (Baumgartner *et al.*, 2013). Recipients interacting with an unfair dictator with a different group identity have no reasons to put themselves in her shoes. They do not need to preserve their beliefs about their group identity and, thus, mentalize toward the unfair dictator. Instead, they perceive norm violations intolerable and attempt to restore fairness by becoming more inclined to dishonest conduct. In contrast, when a shared group identity is salient, recipients easily mentalize toward unfair dictators to maintain intact their beliefs about the group. A shared group identity would call for fair allocations, and when this is not the case, recipients may

avoid potential discomfort by justifying dictator's behavior.

In contrast with Houser *et al.* (2012)'s finding, we do not find that recipients react to unfairness by increasing their dishonest behavior when no group identity is salient. Our intuition is that, in our setting, both the recipient and the dictator exerted effort and the idea of *asset legitimacy* became salient (Mittone & Ploner, 2012). Recipients accept unfairness from a dictator because they acknowledged the additional effort exerted by the dictator to decide how to allocate the co-produced endowment.

Our study shows that group identity mediates *fairness-restorative* dishonest behavior and provides us with some insights into the working of organizations. Organizations may try to improve the productivity of employees by introducing competitive payment schemes (i.e., tournament incentives). Schemes of this kind may potentially promote selfish unfair behavior aimed at damaging peers at work, like in the extreme case of sabotage. In this study, we addressed the importance of building a common identity in fostering tolerance of peers' decisions perceived as unfair and the hidden danger of allowing for the coexistence of conflicting group identities: this latter is likely to prompt extreme sensitivity to unfair distributions that translates in exacerbating dishonest conduct at cost of the whole organization.

Managers who succeed at diffusing a shared corporate culture across all organizational divisions might face the consequences of employees' misconduct only when this is unlikely to be detected. When employees equally identify with the organization, they are more likely to tolerate unfair decisions from other employees and, consequently, renounce to engage in fairness-restorative dishonest conduct. Alternatively, when managers fail to limit local identification in each subunit and division, they are exposed to additional costs from low monitoring. When employees are imposed unfair decisions by a peer from a division with different values and goals, they are likely to perceive unfairness and to correct it by substantially increasing their undetectable misconduct.

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Appendix

A Robustness Check

Table 5: Recipients' self-reported values (Tobit regression)

	(1) rep.value	(2) rep.value	(3) rep.value
prop.index	0.048(0.998)	-1.92(2.066)	-2.232(2.05)
prop.norm	-0.661(0.981)	-2.394(1.88)	-2.562(1.87)
IN		-1.27(2.473)	-1.663(2.461)
OUT		-3.023(2.581)	-2.775(2.553)
prop.index $\times$ *IN*		1.329(2.466)	1.872(2.481)
prop.index $\times$ *OUT*		5.686(2.884)*	6.095(2.913)**
prop.norm $\times$ *IN*		1.512(2.411)	1.607(2.422)
prop.norm $\times$ *OUT*		3.212(2.489)	2.622(2.499)
report.time			0.0141(0.0249)
female			-1.12(0.941)
age			-0.0487(0.172)
civic.score			0.0498(0.421)
Constant	8.204(0.967)***	9.669(2.072)***	10.96(4.519)**
sigma			
Constant	4.051(0.434)***	3.862(0.412)***	3.812(0.406)***
Observations	93	93	93

Standard errors in parentheses

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

*A Tobit regression model is adopted to account for bounded support of choices (ul=9, ll=0). Standard errors in parentheses. Significance symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$*

B Screenshots from the experiment

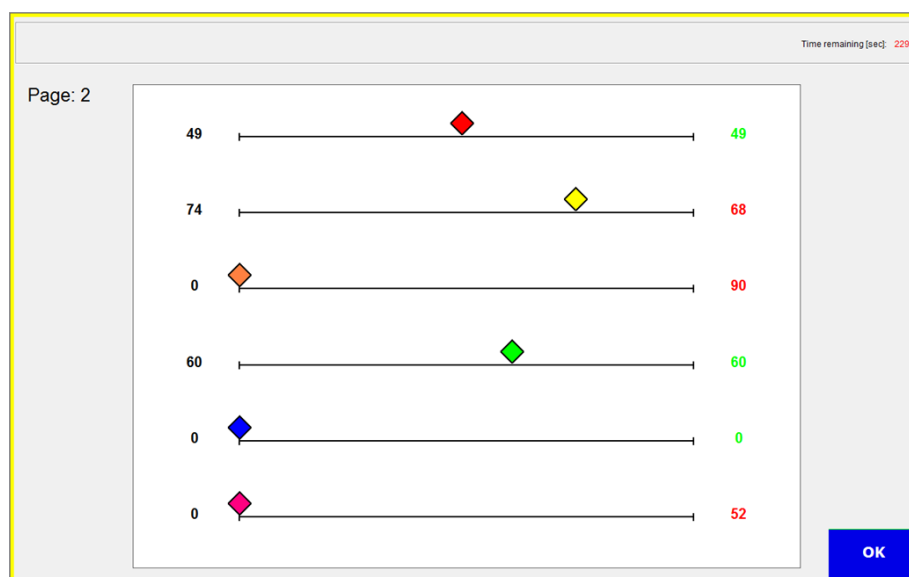Figure 4: Real Effort Task

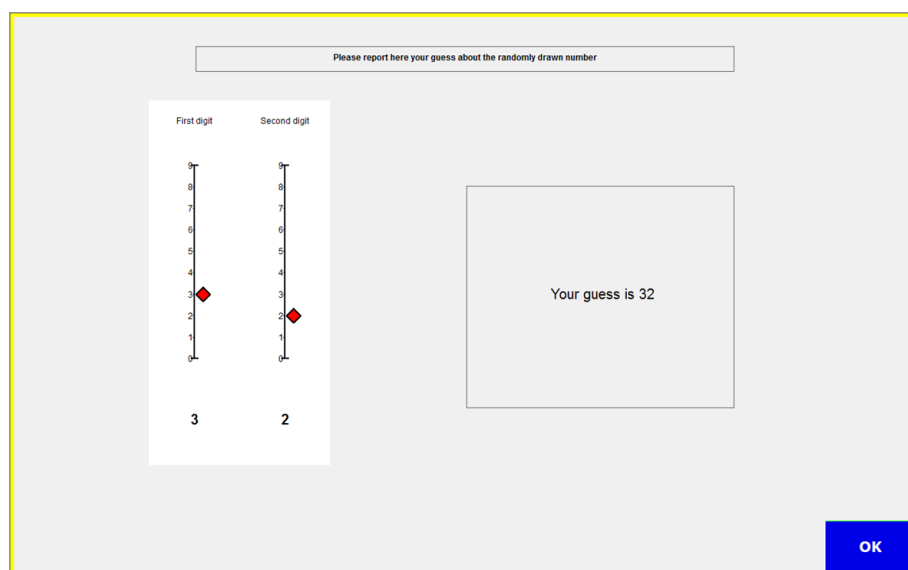Figure 5: Group Identity: Guess Task.

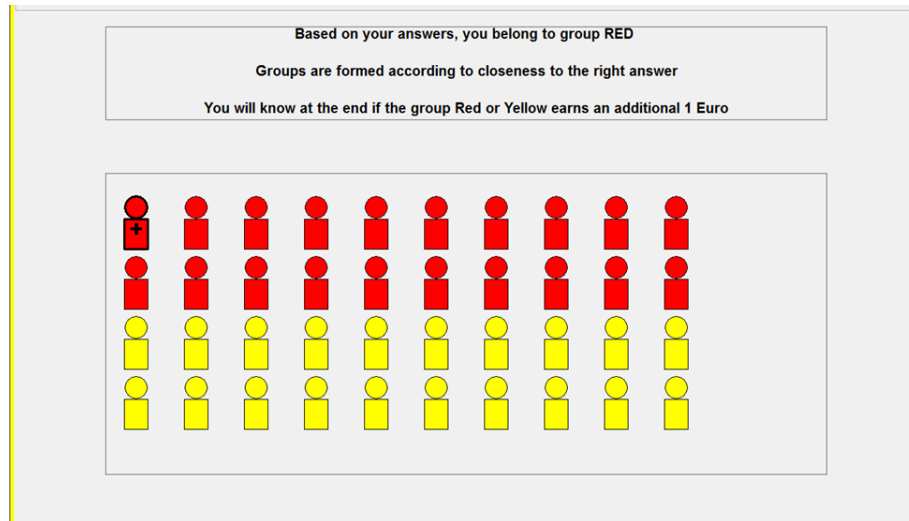Figure 6: Group Identity: Group Assignment.

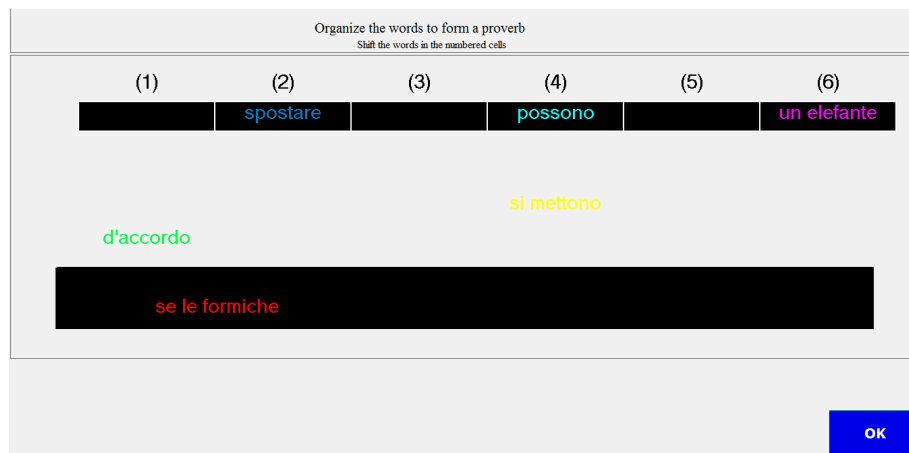Figure 7: Group Identity: Proverb task.

Figure 8: Dictator Game.

You earned 3 Euro in the slider task.

The other earned 3 Euro in the slider task.

Thus, together you earned 6 Euro

You are of the group YELLOW

The other is of the group YELLOW

Choose the amount you allocate to yourself

5

This is the amount that goes to the other

1

OK

Figure 9: Dishonesty task.

Which is the last digit of your last call?

Check your mobile phone to answer

You will earn the value you report x Euro 0,50

0   1   2   3   4   5   6   7   8   9

C Instructions (translated)

You are now taking part in an economic experiment which has been financed by various foundations for research purposes. Please read carefully the instructions that we have distributed to you. During the experiment you will have the opportunity to earn a sum of money that will depend on your actions, your decisions, the other participants' decisions and some random factors. You will receive this sum of money at the end of the experiment. You will earn anyway €3 for showing up to the experiment.

It is prohibited to communicate with the other participants during the experiment. If you violate this rule, we shall have to exclude you from the experiment and from all payments. Should you have any questions please raise your hand: a lab assistant will come to your place.

During the experiment your earning will be calculated in tokens. At the end of the experiment the total amount of tokens you have earned will be converted into real money at the following rate:

$$\text{1 token} = 1 \text{ €}$$

You are free to leave the experiment if you want to, however you will not receive any sum of money.

During the experiment you will have the opportunity of making choices that will influence both your earning and that of other participants. The choices made by each subject will be totally anonymous.
Anonymity will be maintained both during and after the experiment: all the money you will earn will be privately paid in another room when the experiment will be over.

General overview

Please read carefully the description of the situation you are about to face. You and other fifteen people are participating in the experimental session.

The experiment is made of four stages. All tasks will be computerized. After completing each stage, the next stage instructions will appear on the screen of your computer. As is the case in all economics experiments, we will always provide you true information that never deceives you in any way.

Slider Task

In the first stage you will have the opportunity to earn a portion of your final earning. After reading the instructions, a white page with six sliders will appear on the screen of your computer. Each slider is initially positioned at 0 and can be moved as far as 100. You can use your mouse or touchscreen to move each slider. Your goal is to position the slider at the value shown on its right. Once you have positioned the slider at the goal value, the value shown on its right will turn from red to green. The current slider position is on the left of the slider. You can readjust the position of each slider as many times as you want. After adjusting the six sliders in each page, a new page with six sliders will appear on the screen of your computer. The total number of pages you will complete within 300 seconds will be the first part of your earning. The second stage instructions will appear on the screen of your computer once the 300 seconds will be over.

Guessing task

After completing the first stage, you will be asked to answer a simple question that will appear on the screen of your computer. You can use your mouse or touchscreen to answer to this question. You will be asked to choose a random number between 1 and 99. To communicate the number you choose you will have to position two sliders: the position of the first slider will be the tens of your number, while the position of the second slider will be the units of your number. Depending on your answers, you will be assigned to the Red group or the Yellow group. The division in groups

will take place according to a similarity/distance criterion with a number randomly chosen by the computer. Participants who will choose the closest numbers to the one randomly chosen by the computer will be assigned to one colour, while participants who will choose the farther numbers to the one randomly chosen by the computer will be assigned to the other colour. The colors will be randomly assigned by the computer to the criterion of similarity and distance.

After communicating the number you have chosen, you will be shown if you have been assigned to the Red or Yellow group on the screen of your computer.

Proverb task

At this stage you will be asked to complete a task together with participants assigned to the same group colour as yours. Particularly, you and the other mates will be shown a series of words and letters. You and your mates will be asked to organize the words and letters to form a proverb. There is no time constraint. However, only the fastest group at completing the proverb will enable all group members to earn an additional amount of money at the end of the experiment.

Feedback

After completing the proverb bask together with your mates, you will be shown on the screen of your computer the total number of pages you have completed in the slider task. Before starting the next stage, the computer will match you with another participant. You will be informed about the group affiliation and your role. Your partner and your role will be randomly chosen by the computer.

Allocation task

In this stage of the experiment you will be asked to complete a task with the partner you have been previously informed of.

First, you and your partner will be shown the sum of the partner's and your earnings from the slider task. Depending on the role you have been randomly assigned, you will be shown the details on your computer screen. If you have been assigned to the role of dictator, you will be asked to decide how to divide the sum of the earnings between you and your partner. Your partner will be shown the amount you will offer at the end of the task. If you have been assigned to the role of recipient, you will have to wait your partner's offer.

Questionnaire

After completing the allocation task, you will be asked to answer to a short questionnaire. You will have the opportunity of earning an additional amount of money for your time.

After answering all questions, you will receive a final feedback about the additional earnings from completing all tasks. At this stage, you will have to wait for a lab assistant who will call your seat number for being paid in the other room.

We would also be grateful if you did not discuss the experiment with the other participants outside the laboratory.

D   On-screen Questionnaire

Allocation task

Recipient Please indicate how much you agree with the following statements (1-not at all 7-very much):

- The amount offered by the dictator is fair ☐

- The amount offered by the dictator is fair given the dictator's and my results from the slider task ☐

- The amount offered by the dictator is fair given the effort the dictator and I have exerted in the slider task ☐

- If I had been assigned to the role of dictator, I would have offered the same amount the dictator has offered to me ☐

- If you do not agree with the previous statements, please indicate the amount you would have offered if you had been assigned to the role of dictator ☐

Dictator Please indicate how much you agree with the following statements (1-not at all 7-very much):

- The amount I offered is fair ☐

- The amount I offered is fair given my and the recipient's results from the slider task ☐

- The amount I offered is fair given the effort the recipient and I have exerted in the slider task ☐

- I would have offered a different amount if the initial sum to divide had been different ☐

All

Individual A finds €10 in the street. He decides to share it with a pedestrian. The table below presents a list of the possible choices available to Individual A. How much socially appropriate do you believe is each option?

Individual A	Very socially inappropriate	Socially inappropriate	Socially appropriate	Very socially appropriate
Offers 0, keeps 10				
Offers 2, keeps 8				
Offers 4, keeps 6				
Offers 5, keeps 5				
Offers 6, keeps 4				
Offers 8, keeps 2				
Offers 10, keeps 0				

All

Individual A finds €10 in the street. He meets a friend and decides to share it. The table below presents a list of the possible choices available to Individual A. How much socially appropriate do you believe is each option?

Individual A	Very socially inappropriate	Socially inappropriate	Socially appropriate	Very socially appropriate
Offers 0, keeps 10				
Offers 2, keeps 8				
Offers 4, keeps 6				
Offers 5, keeps 5				
Offers 6, keeps 4				
Offers 8, keeps 2				
Offers 10, keeps 0				

- The offer I made to the recipient was based on the information about the effort that the recipient and I have exerted in the slider task □

- The offer I made to the recipient was based on the information about the recipient's group affiliation □

Group

1. Please indicate how much you agree with the following statements (1-not at all 7-very much):

   - I feel similar to the member of my color group □

   - I identify myself with the members of my color group □

   - I might behave differently with the members of the other color group □

2. Slide the circle "I" towards the circle "Other" to describe how connected you feel to the group you have been assigned.

How do you feel

Recipient Please indicate how much you agree with the following statements (1-not at all 7-very much):

- I feel I have been treated fairly by the dictator □

- I feel I have been treated fairly by the dictator given my result from the slider task □

- I feel I have been treated fairly by the dictator given the effort I exerted in the slider task □

- I was disappointed by the dictator's behavior given that the dictator is a member of my group color □

- I was angry because of the dictator's behavior given that the dictator is a member of my group color□

Dictator Please indicate how much you agree with the following statements (1-not at all 7-very much):

- I feel I have treated fairly the recipient □

- I feel I was selfish at offering to the recipient the amount I chose ☐

- I felt unpleasant at offering to the recipient the amount I chose ☐

- I felt unpleasant at offering the amount I chose given that the recipient is a member of my group ☐

About you

- Department ☐

- Gender ☐

- Age ☐

- Only child ☐

- How big is the place you spent most of your life? ☐ (1:up to 2000 inhabitants abitanti; 2:2000-10000; 3:10000-100000; 4: more than 100000)

- How often do you attend religious events? ☐ (0:Never; 1: sometimes; 2:more than once in a week)

- Do you participate in one of the following organizations as member? (0:Never; 1: sometimes; 2:more than once in a week)

    - Sport club ☐

    - Choir, orchestra ☐

    - Political party ☐

    - NGOs ☐

    - Other organizations ☐

As you spent some time answering this questionnaire, you have now the opportunity to earn an additional sum of money. Wait for the instructions on the screen of your computer.