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Article

Reacting to Unfairness: Group Identity and Dishonest Behavior

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Abstract: We experimentally investigate whether individuals are more likely to engage in dishonest behavior after having experienced unfairness perpetrated by an individual with a salient group identity. Two individuals 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 individuals 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.

Keywords: group identity; fairness; dishonesty

1. Introduction

The general press often reports episodes of dishonest behavior: overstated value of claims to insurance companies, consumers led to fraud through misadvice, intellectual property theft and tax evasion, to name a few. These are only a few examples of dishonest actions that impose huge losses to society [1]. Given the economic relevance of such behaviors, 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 section. However, individuals can also opt to behave dishonestly as a reaction to decisions made by other individuals. When employees perceive decisions to be unfair, they become more willing to engage in dishonest behavior, viewed as a way to balance perceived unfairness [2]. An employee might be unable to sanction an unfair supervisor and attempt to restore fairness by increasing dishonest behavior outside organizational borders.

Organizations are communities of individuals that rely on the establishment of a culture that regulates social interactions. Managers can promote the diffusion of 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 [3]. However, there are also potential drawbacks to high levels of organizational identification. First, the establishment of a strong group identity might promote tolerance for unfair behavior to not undermine the positive perception of the group to which they belong. Second, modularity in the organizational structure might encourage the development of "local" identities with different values and goals. Therefore, between-unit decisions might not be equally embraced across the organization. The establishment of diverse group identities

within the same organization might promote the diffusion of negative externalities associated with unfair decisions made by a supervisor belonging to a different unit. It is hard to justify unpopular decisions made by a supervisor with different values and goals; therefore, dishonest behavior is likely to emerge to restore fairness outside organizational borders.

As these examples suggest, organizational identification might promote dishonest behavior at the society's cost, when corporate culture is not equally shared within subunits and divisions. In our study, we specifically investigate the decision to react dishonestly after experiencing a supervisor's unfair action and the extent to which this decision is mediated by group identity. We depict the typical organizational context in which employees cannot react against the unfair supervisor, but they can engage in dishonest behavior against society, such as by not buying a bus ticket. We address how one's decision to behave dishonestly (e.g., taking advantage from misreporting) is driven by unfair decisions made by an individual 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 another individual. Individuals might engage in dishonest behavior 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/he might feel the need to restore fairness. Since she/he has no power to restore fairness by directly punishing the counterpart, she/he might increase her dishonest behavior outside organizational borders.

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 dictators allocate unfairly even when they agree on which is the fair allocation [4,5] and that the act of exerting effort elicits a shared view of fairness in the proportionality principle [6]. 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 labeled 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 minimal group paradigm of Tajfel et al. [7]. This way, we investigate recipients' degree of dishonest reactions to dictators' decisions when group identity varies.

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

In addition to highlighting a novel mechanism underlying dishonest behavior, our study is of practical relevance to organizations characterized by a decentralized structure. For example, organizations that fail to develop a shared corporate culture across divisions might create the basis for negative externalities on society: employees who cannot tolerate decisions made by a supervisor from a division they find hard to identify with might be willing to engage in dishonest behavior outside organizational borders to restore fairness. For these organizations, it might be preferable to promote the diffusion of one identity by favoring the interaction between employees from different units and subgroups.

2. Relevant Literature and Hypotheses

For being substantially costly to organizations and society, 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 [8]: people cheat only when the expected benefits of dishonest behavior (e.g., saving money) outweigh its expected costs (e.g., being caught). Experimental evidence shows that the decision to behave dishonestly to maximize earnings is, in fact, influenced by contexts poor in monetary or reputation sanctions (see [9,10], among others). However, recent research in economics has shown that dishonest behavior is not only driven by expected consequences [11–14], but also by history and context [15–17].

Employees are routinely affected by distributive decisions made by other individuals who work for the same organization. They work to obtain a wage that best reflects their effort. However, when a supervisor's choice is perceived as unfair, employees may try to restore fairness by indulging in dishonest behavior that harms others. This is especially true when the employee has no power to react by directly punishing the unfair supervisor. For example, [18] shows that when employees experience unjustified wage cuts, they engage in inventory theft. According to [19], 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 [20]. Other studies [15,21–23] report that individuals pay attention to 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. [24] 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. [25] investigate deception as a reciprocity device when individuals experience unkind actions from their counterparts in a dictator game. Houser et al. [16] investigate the decision to cheat after individuals participate in a dictator game. In their experiment, cheating is costly to the experimenter. Our study builds on the setting of Houser et al. [16]. We investigate the decision to engage in dishonest behavior that is costly to the experimenter. Differently from Houser et al. [16], we do not endow participants with windfall money, but we ask them to exert effort as in the case of employees. This way, we mimic the situation in which the least powerful employees are not able to react to unfairness by directly punishing the unfair supervisor, but their dishonest behavior is unlikely to be detected outside the organization while being costly to society.

We add to this stream of research by examining how a salient group identity affects the extent of tolerance for unfair actions. Whether group identity mediates dishonest behavior as a reaction to unfairness has not been previously investigated. A recent experimental study suggests that, in the context of communication games, group identity mediates deception [26]. However, deception is not considered as a device to restore fairness. Employees might be more willing to tolerate unfair decisions when they are made by a supervisor from the same group. This intuition, motivating our research, originates in Social Identity Theory (SIT) [7,27], 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 [3,28,29]. A bunch of experimental studies show that individuals tend to cooperate more when interacting with others sharing the same group identity (ingroup) [30–32]. In contrast, when interacting with members of other groups (outgroup), individuals display less cooperation [33,34], coordination [35,36] and other-regarding preferences [37]. 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 [38].

Studies by Kollock [39], Goette [40] and Chen and Li [37] find that individuals tolerate ingroup unfairness more than the outgroup one. In contrast, [31,34] and Weng and Carlsson [32] find that ingroup unfairness breeds stronger punishment than outgroup unfairness. Similar to these studies, we investigate situations in which tolerance for unfair decisions might be mediated by group identity. However, our focus is not on reactions against the unfair counterpart, such as second-party punishment, but on a type of reaction that creates negative externalities outside organizational borders: fairness-restorative dishonest behavior.

As a measure of fairness of one's behavior, we refer to the proportionality between the amount contributed in the real-effort Dictator Game (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 [41–43] and of the accountability principle [44]. In the following, we refer to this concept of fairness as the proportionality principle.

To outline our predictions, we exploit the similarities between the experiment by Houser et al. [16] and our baseline condition in which group identity is absent. In light of the finding by [16], we predict that individuals are more likely to indulge in dishonest behavior when one'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 one's unfair behavior to determine an increase in another's dishonest behavior. Concerning the conditions in which group identity is made salient, we expect the relationship observed in the baseline condition to be strengthened by conflicting group identities (OUT). Violations of norms from an outgroup member are difficult to tolerate and justify [37].

Prediction 1. OUT-group:

Compared to the baseline, the stronger the violation of the proportionality principle by an outgroup individual, the higher the likelihood to engage in fairness-restorative dishonest behavior.

When individuals share the same group identity (IN), we expect to observe a different pattern. In order to preserve positive beliefs about their group identity and, thus, to avoid cognitive costs associated to self-concept updating, individuals may interpret unfair decisions made by a group member as not unfair. 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 [45]. This leads to the following prediction

Prediction 2. IN-group:

Compared to the baseline, the stronger the violation of the proportionality principle by an ingroup individual, the lower the likelihood to engage in fairness-restorative dishonest behavior.

In the next section, we describe the experimental design we rely upon 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. To this aim, we rely on the Minimal Group Paradigm (MGP) [7]. We implement 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 that allowed them to increase their final earnings.

The experiment was programmed and conducted using z-Tree software [46] at the Cognitive and Experimental Economics Laboratory (CEEL) of the University of Trento. Upon their arrival to the laboratory, participants were randomly allocated to cubicles and asked to privately read the instructions.¹ 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 h and 30 min.

A total of 192 students took part in the experiment: 64 were randomly assigned to the IN condition, 68 to the OUT condition and 60 to the baseline condition (BASE). In all three conditions, half of participants were randomly assigned to the dictator role and the other half to the recipient 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 earnings. The task is a modified version of the real effort slider task of Gill and Prowse [47]. Participants were asked to position a set of sliders at a correct location on the screen, within 240 s. 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 [6]. While Houser et al. [16] endow dictators with windfall money, we designed this task to prime shared perceptions of fairness in proportional distributions. Throughout the study, we refer to the definition of fairness of Konow [44] (i.e., equity [41–43]) 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 the IN and OUT conditions were presented with a task based on the MGP. This task enables making salient a group identity. First, participants were asked to guess a number $\in \{1, 2, \dots, 99\}$ 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.² Second, to strengthen “common fate” feelings, a major constituent of group identity, we asked participants who were assigned the same color to take part in a collective task.³ 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 with the same and the other color groups.

¹ A translated copy of instructions is available in the Appendix.

² 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.

³ In contexts where group identity is imposed on an existing one, as happens in the laboratory, the salience that commonly-categorized individuals are homogeneously treated helps identification [48].

Answers were reported both on a 1–7 Likert scale and in a task similar to that adopted by Sani et al. [49], in which participants were asked to assess the degree of perceived connection with their group and with the other group, by moving the circle I toward the circle other. The outcomes of this check provide support to the effectiveness of the group identity manipulation, overall.⁴

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 that 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 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/himself and the other the sum that they generated in the earnings stage, which was also of common knowledge to 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 [4,50], although they recognize that proportional claims are the fair ones [5]. Therefore, by claiming non-proportional shares 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. As 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 that resembles the one investigated here.⁵ This task is inspired by Krupka and Weber [51] and helps us assess whether the effort task was effective at priming fairness perceptions in the proportionality principle.

Finally, we provided participants with a self-report task apt at eliciting dishonest behavior via untruthful reports (dishonesty task). Previous studies elicited dishonest behavior by looking at self-reported task score [12,52] or at outcomes of a random event [9,10,16,53]. We elicited dishonest behavior with a novel method similar to that of Gill et al. [54]. They asked subjects to report the last digit of their best friend's number. We asked to self-report the last digit of the last call they made, knowing 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 [17].

⁴ The distance between the position of the circle I and the circle other is significantly smaller in the ingroup condition than in the outgroup condition (Wilcoxon-rank sum test, p -value <0.001). Furthermore, individuals reported a positive attitude towards their own group, with an overall score of 3.760, on a scale ranging from 1 to 7.

⁵ In the hypothetical scenario, a fictional Subject A obtains €1 in Stage 1, and Subject B obtains €5. Participants are then asked to evaluate the appropriateness of each of the 7 possible allocations of the €6 between the two subjects. Participants are informed that at the end of the experiment, one of the seven answers would be randomly selected, and they would be paid €1 if their answer is the same as that given by the majority of participants in the session.

⁶ The exact payoff rule was presented only in the screen of the computer concomitant with the task.

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.

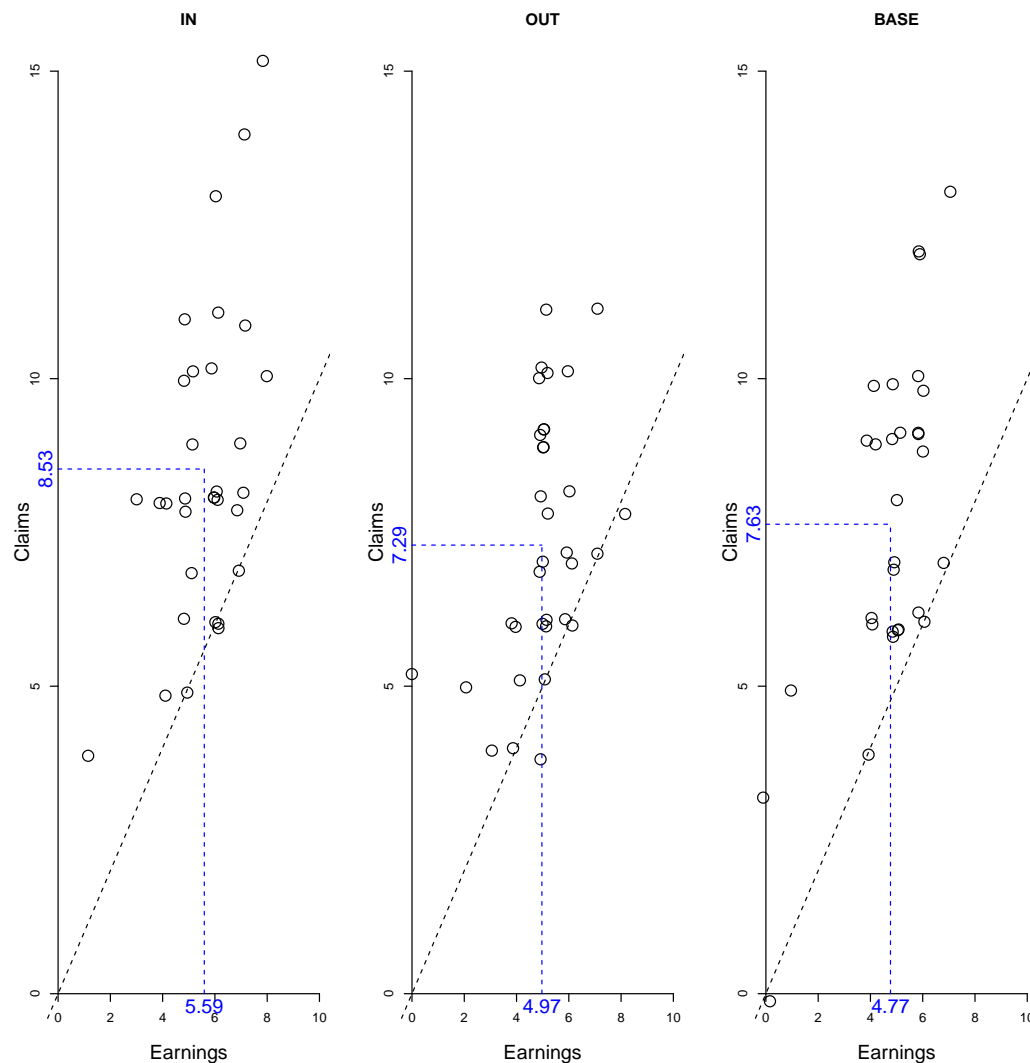


Figure 1. Dictators: contributions and claims. On the x -axis (earnings), the amount earned in the slider task. On the y -axis (claims), the amount claimed in the DG. Points above (below) the 45° line identify claims larger (smaller) than the amount contributed. Average values are reported along the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

As 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.

As a measure of the opportunistic stance of dictators, we compute the share of other's resources 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.⁷

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 generally positive and significantly different 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).

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.

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. This suggests that dictators were not affected by our experimental conditions, in line with previous studies [4]. All dictators decided to take more than what they earned, because they were responsible for the allocation decision. By doing so, they forced all recipients into an experience of unfairness.

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 a dictator game and asked to assess the degree of social acceptability of each potential allocation.

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" (++). The frequency of choice for each of the assessment is reported in the table (Freq %). Similarly, to Krupka and Weber [51], 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.

As the table illustrates, the allocation deemed as the most acceptable is the one reflecting proportionality (1|5), with an average of 0.420 and the highest score of "very

⁷ All dictators and recipients exerted a positive amount of effort, i.e., completed at least one page, in the slider task and, therefore, earned a positive amount.

acceptable" (52.6%). Thus, participants deem the proportional allocation as the most acceptable one. This, corroborates our identification structure, which takes the proportionality rule as the benchmark for fairness considerations.

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

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 labeled "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".

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 ≥ 0.110).

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

4.3. Dishonesty

Figure 2 shows a description of behavior in the dishonesty task embedded in the questionnaire. Larger numbers are associated with 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 upper bound. A series of χ^2 tests confirms that the 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).

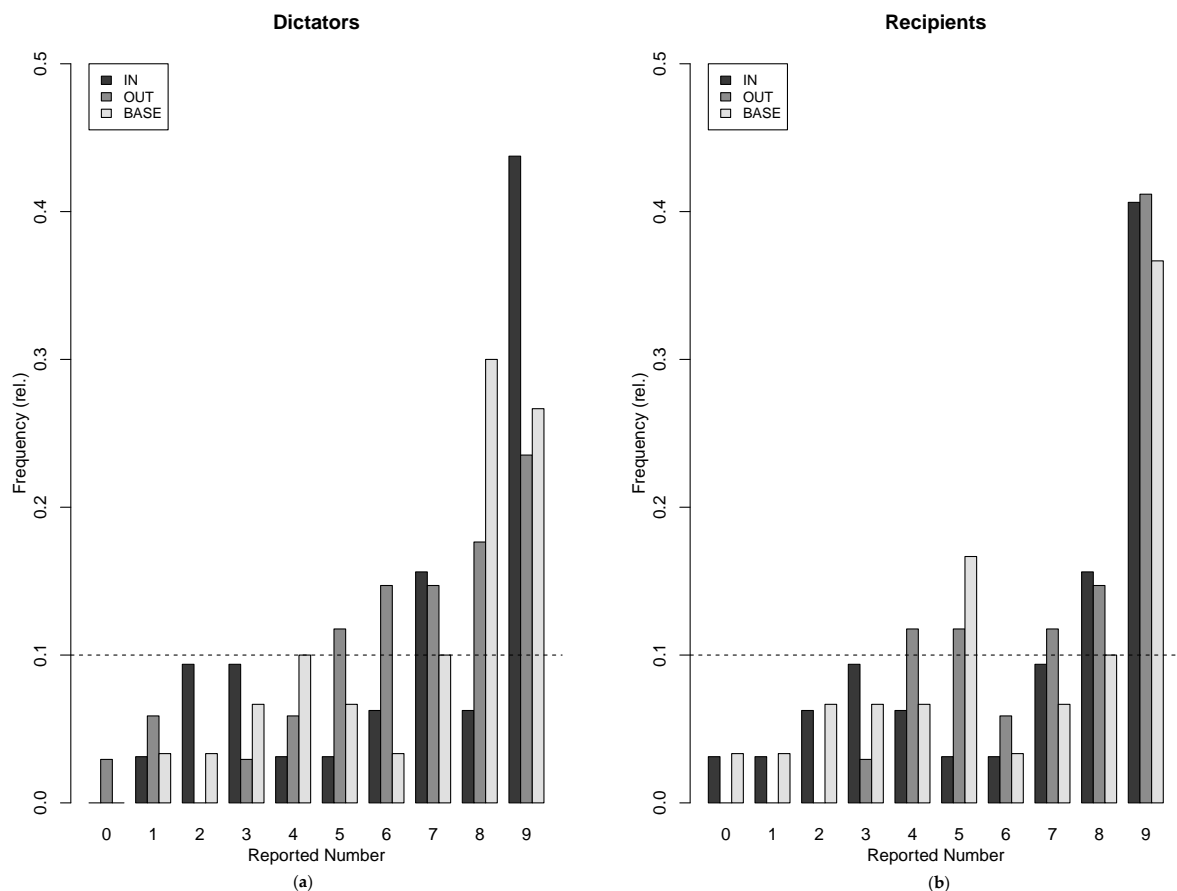


Figure 2. Self-reported numbers. Self-reported last digit number of the last phone call made by dictators (a) and recipients (b), in each of the three experimental conditions separately. The dashed horizontal line provides a reference for the ideal uniform distribution of values. To improve visualization,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

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). When given the opportunity, participants dishonestly manipulate reported numbers to increase their earnings.

4.4. Is Dishonesty Influenced by Unfair Decisions?

Individuals might report dishonestly not only because of low monitoring, but also because they do not tolerate the unfairness experienced. In particular, we predict that recipients' dishonest behavior is affected by the unfair dictator's group identity. To this aim, we look at the relationship between reported values and allocations across group conditions and 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 ≥ 0.113). This suggests that dictators were not affected by the

group identity manipulation.⁸ 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 ≥ 0.581). In contrast, in condition OUT, a positive and marginally significant correlation is observed (p -value = 0.080).

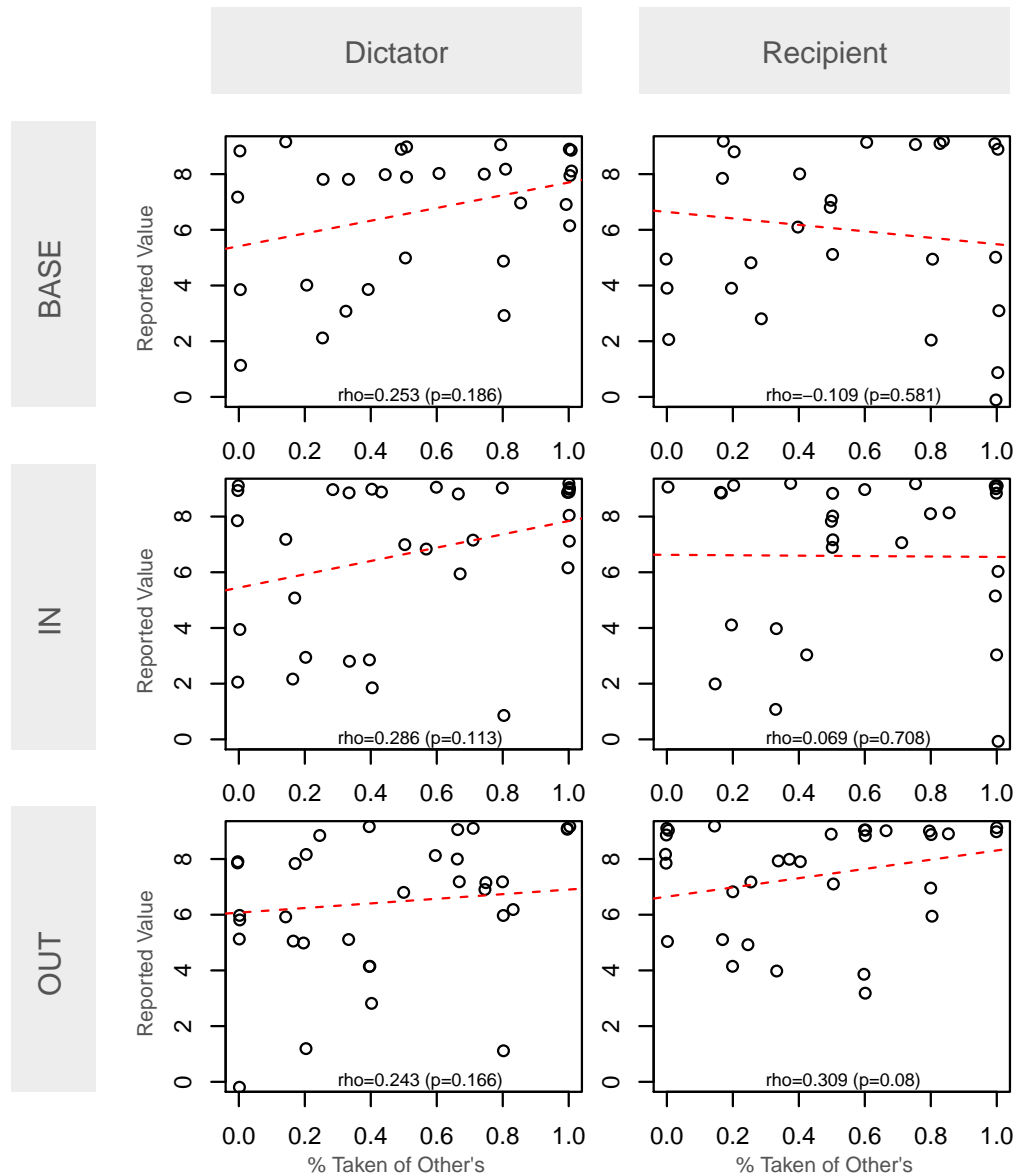


Figure 3. Self-reported numbers and unfairness. On the x -axis, the proportionality index $\phi = \frac{\pi_D - \ell_D}{\ell_R}$. On the y -axis, the value reported in the dishonesty task. For dictators, higher values on the horizontal axis imply more unfairness favoring them. Conversely, for recipients,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

⁸ In Appendix A, a discussion of the results of an ordered probit regression model of dictators' dishonest behavior supports this insight.

To address the causal relationship between unfairness and dishonest behavior given different types of salient group identity, we run a regression model.⁹ Table 4 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.¹⁰ When reports are truthful, the dependent variable and explanatory variables are orthogonal. When this is not the case, we obtain evidence of biased reports.

Table 4. Recipients' self-reported values (ordered probit regression).

	(1) <i>Rep.Value</i>	(2) <i>Rep.Value</i>	(3) <i>Rep.Value</i>
<i>prop.index</i>	0.011 (0.249)	−0.57 (0.543)	0.648 (0.545)
<i>prop.norm</i>	−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)
<i>prop.index</i> × IN		0.427 (0.645)	0.559 (0.667)
<i>prop.index</i> × OUT		1.486 (0.489) *	1.60 (0.769) **
<i>prop.norm</i> × IN		0.352 (0.628)	0.374 (0.639)
<i>prop.norm</i> × OUT		0.837 (0.647)	0.689 (0.659)
<i>report.time</i>			0.00398 (0.007)
<i>female</i>			−0.2689 (0.249)
<i>age</i>			−0.0144 (0.045)
<i>civic.score</i>			0.013 (0.111)
Observations	93	93	93

Standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. An ordered probit regression model is adopted to account for the different attitude individuals display when they report increasingly high values.

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. Similarly, *BASE* captures the baseline condition.

We enrich the model with fairness-related variables: the proportionality index ϕ (*prop.index*, see Table 1) as a measure for experienced unfairness 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 in collective activities, such as political parties and NGOs).

As Table 4 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 Models (2) and (3) show that in condition OUT, a stronger violation of proportionality by the dictator positively impacts on the reported value, relative to the baseline condition. This does not happen in condition IN.¹¹ When directly testing the effect of the interaction in the IN and OUT condition via

⁹ We relied on the randomness of unfair claims by individuals who have been randomly assigned to the dictator role.

¹⁰ We employed an ordered probit model to account for the heterogeneous attitude individuals display when they report increasingly high values. Individuals might care about maintaining a positive view of their self-concept [12] or they might suffer from intrinsic costs when they lie [14]. Reporting average values might allow on to more easily preserve one's own self-concept or manage lying costs than reporting the highest values. Therefore, the ordered probit model allows us to account for conceptual difference between reporting average values, such as four and five (i.e., mild dishonesty), and high values, such as eight and nine (i.e., brazen dishonesty).

¹¹ Results are confirmed by a Tobit model to account for potential censoring in the dependent variable.

a linear hypothesis test, a marginally significant effect is observed for Specification 1 and no significant difference for Specification 2 (χ^2 test, p -value = 0.091 and p -value = 0.114, respectively).

5. Conclusions

In this study, we investigated dishonest behavior as a way to restore fairness when different types of unfair individuals' group identity are salient. We run 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 supervisor, but she/he can react opportunistically outside the organization, without any credible threat of being sanctioned. We find that unfair individuals' 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 [6], 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 [4,5], 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 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.

Our experiment presents some limitations in terms of sample size and statistical significance of some results, but it highlights some interesting behavioral patterns that deserve to be commented on and further explored. Consistent with previous research on dishonest behavior, we find that individuals behave dishonestly to increase their earnings when they are given the opportunity [9,10]. 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 outgroup member. Regression results suggest that group identity enters the way unfairness is tolerated and, thus, moderates fairness-restorative dishonest behavior. Recipients were more willing to engage in dishonest behavior to restore fairness after experiencing unfair decisions made by an outgroup member than after experiencing unfairness from a subject without group affiliation. Contrary to our prediction, unfairness was irrelevant to purge dishonest behavior when recipients received unfair allocations from an ingroup member compared to when recipients received unfair allocations 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? 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 [45]. Recipients interacting with an unfair dictator with a different group identity have no reasons to put themselves in her/his 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 behavior. In contrast, when 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. Future research might further validate the role that mentalizing bias plays on fairness-restorative dishonest behavior when shared group identity is salient.

In contrast with the finding of Houser et al. [16], we did not observe dishonest behavior motivated by unfairness in the baseline. This might explain why we do not find that ingroup recipients engage in

less fairness-restorative dishonest behavior than recipients in the baseline. Our intuition is that the fact that both the recipient and the dictator exerted effort to earn their endowment made salient the idea of asset legitimacy [55] and moderated reactions to unfairness in terms of dishonest behavior. Recipients in the baseline do not perceive unfair allocations deviating from proportionality, since they acknowledge that the dictator is entitled to take a larger portion as a reward for the additional effort 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, but also of other settings in which group membership plays a role, such as the citizen-state relationship. 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 perceptions of unfairness that, in turn, lead individuals to restore fairness through dishonest behavior. In this study, we addressed 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 determining negative externalities on society.

When managers fail to promote interactions among employees from different subunits and divisions, they might promote employees' dishonest decisions that are costly to society: when employees experience unfair decisions imposed by a supervisor from a division with different values and goals, they are likely to perceive unfairness and to correct it by substantially increasing their dishonest behavior outside organizational borders.

Author Contributions: N.D.V. compiled the literature review; N.D.V. and M.P. conceived and designed the experiments; M.P. programmed the experiment; M.P. and N.D.V. conducted the experiments; N.D.V. and M.P. analyzed the data; N.D.V. and M.P. wrote the paper.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Additional Analysis

As for recipients, to address the causal relationship between unfairness and dictators' dishonest behavior given different types of salient group identity, we run a regression model (Table A1). The dependent variable *Reported.value* is given by the integer reported in the dishonesty task. Among explanatory variables, we have dummy variables controlling for group identity conditions: *IN* is equal to one when the dictator belongs to the same group and zero otherwise; *OUT* is equal to one when the dictator belongs to the other group and zero otherwise. *BASE* is the baseline condition.

Table A1. Dictators' self-reported values (ordered probit regression).

	(1) <i>Rep.Value</i>	(2) <i>Rep.Value</i>	(3) <i>Rep.Value</i>
<i>prop.index</i>	0.665 ** (0.299)	0.814 (0.573)	1.039 (0.582) *
<i>prop.norm</i>	−0.218 (0.253)	−0.505 (0.427)	−0.580 (0.437)
<i>IN</i>		−0.0829 (0.782)	−0.293 (0.800)
<i>OUT</i>		−0.147 (0.628)	−0.0833 (0.642)
<i>prop.index</i> × <i>IN</i>		0.150 (0.803)	0.166 (0.818)
<i>prop.index</i> × <i>OUT</i>		−0.428 (0.742)	−0.835 (0.777)
<i>prop.norm</i> × <i>IN</i>		0.290 (0.692)	0.288 (0.711)
<i>prop.norm</i> × <i>OUT</i>		0.433 (0.592)	0.226 (0.608)
<i>report.time</i>			0.00956 (0.00557) *
<i>female</i>			−0.430 (0.239) *
<i>age</i>			−0.0952 (0.0485) **
<i>civic.score</i>			−0.180 (0.102)
Observations	95	95	95

Standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. An ordered probit regression model is adopted to account for the different attitude individuals display when they report increasingly high values.

We enrich the model with fairness-related variables: the proportionality index ϕ (*prop.index*, see Table 1) of 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 A1 shows, we find that group identity does not affect dictators' decision to report dishonestly. In fact, the treatment dummies are not statistically significant. Similarly, we find that higher violations of proportionality predicts higher willingness to report dishonestly, but unconditionally on the group identity conditions. In fact, mirroring Konow [4], we found that, unconditionally on the experimental conditions, on average, dictators allocate to themselves more than what they earned because they have a personal stake in the allocation choice outcome (Table 1). The evidence that higher violations of proportionality principle lead to higher reported values suggests that dictators infer their own type and values from their past choices [56]: the more they have been selfish in the allocation task, the more they are selfish in the dishonesty task. This insight is supported by the evidence that dictators taking more time to report the value are more likely to report higher values: to infer who they are, dictators require more time.

Finally, we find that dictators' dishonest behavior correlates with observable characteristics. Women are less likely to engage in dishonest behavior than men [16,57,58]. The likelihood to engage in dishonest behavior decreases with age since adults find it easier to self-restrain [59].

Appendix B. 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:

$$1 \text{ token} = 1\text{€}$$

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.

Appendix B.1. 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.

Appendix B.2. 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 s will be the first part of your earning. The second stage instructions will appear on the screen of your computer once the 300 s will be over.

Appendix B.3. 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 color, while participants who will choose the farther numbers to the one randomly chosen by the computer will be assigned to the other color. 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.

Appendix B.4. Proverb Task

At this stage you will be asked to complete a task together with participants assigned to the same group color 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.

Appendix B.5. Feedback

After completing the proverb task 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.

Appendix B.6. 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.

Appendix B.7. 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.

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